THOMPSON RIVERS UNIVERSITY

First Nation Government Investing Policy and Community Wellbeing

by

Shawn Blankinship

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

Masters of Business Administration

KAMLOOPS, BRITISH COLUMBIA

APRIL, 2021

Committee Members:

Dr. Laura Lamb (Supervisor)

Dr. Hasnat Dewan

Dr. Randall Kimmel

ABSTRACT

This study provides deeper insight into the relationship between First Nation government investing policy and community wellbeing in Canada, and evaluates how geographic remoteness and population level influence this relationship. Community wellbeing is measured by Census data and investing policy is measured by First Nation government financial statements. This study utilizes descriptive statistics, Pearson correlational analysis, and linear regression. The findings demonstrate that own-source revenue maintain positive associations with most community wellbeing measures. A negative association is identified between most community wellbeing measures and higher ratios of both trust fund assets and tangible capital assets. Transfer revenue from Indigenous organizations have greater community wellbeing outcomes compared to direct transfers from the federal/provincial governments. Geographic remoteness is associated with lower education levels, lower housing conditions, and higher Indigenous language knowledge. These new insights can inform Indigenous leaders as they shape policy development for the benefit of First Nations people.

Keywords: First Nation, Indigenous, community wellbeing, investing, policy, regression, correlation, financial

ACKNOWLEDGEMENTS

I would like to thank Dr. Laura Lamb for providing support, guidance, and supervision throughout this study. Her knowledge and expertise were invaluable throughout the research process and in the writing of this manuscript. I would also like to thank my thesis committee members Dr. Hasnat Dewan and Dr. Randall Kimmel for their insight, feedback, and contribution to this study.

I express my thanks to all of the staff at Thompson Rivers University for providing guidance and assistance through the Masters of Business Administration program and thesis work. I also thank my former professional colleagues from the firms MNP LLP and KPMG LLP for the experience and technical knowledge I gained during my time in accounting public practice.

I also thank my parents, family, friends, and the Ashcroft Indian Band for their support and encouragement throughout the research process. This achievement would not have been possible without all of their support.

TABLE OF CONTENTS

LIST OF TABLES

Introduction

This thesis will provide deeper insight into the relationship between First Nation government investing policy and First Nation community wellbeing in Canada. New insights will be gained to assist community leaders in the development of sound investing policy for local First Nation governments. The insights will be applicable not just to a specific government or organization, but to community leaders, policy makers, and First Nation people across Canada.

The first research objective is to determine the relationship between First Nation government investing policies and First Nation community wellbeing. The second research objective is to evaluate how geographic remoteness and population levels influence this relationship. By utilizing both community demographic data from Statistics Canada and First Nation government financial statements, new insights will be gained to inform First Nation leaders in policy development.

The strengths of this study include the ability to analyze data from over 400 First Nation governments, the high level of detail available in the audited financial statements, the use of clearly defined and objective quantitative measures, and the ability to correlate First Nation government financial indicators with community demographic indices. There has been limited research utilizing First Nation financial statement data when evaluating community wellbeing. This cross-sectional correlation study will fill an important information gap with the goal of providing insight to improve the lives of First Nation people across Canada.

Chapter 1: Literature Review

Due to the uniqueness of this study, a broad literature review has been conducted to tie in multiple disciplines and academic foundations. Key areas of focus include First Nation wellbeing studies in Canada, applicable foreign country studies, the use of ratio analysis in local government, trust fund studies, tangible capital asset studies of First Nations, First Nation business and own-source revenue studies, and other First Nation studies. The following sub-sections provide an overview of the literature for each area of focus, and provide valuable insight into the research of this study.

A key research objective of this thesis is to understand the relationship between First Nation government investing policy and community wellbeing. This literature review lays the academic foundation for this objective by evaluating existing research in the distinct areas of First Nation government investing policy and First Nation community wellbeing. The literature has strong insights in the factors affecting First Nations wellbeing. These insights can be used to develop hypotheses that can be tested empirically in this manuscript. Likewise, the current literature evaluating own-source revenue, tangible capital assets, and trust funds provide a framework for how these investing activities may impact First Nation communities. This manuscript then expands on the existing literature to statistically test the relationship between these investing policies and First Nation community wellbeing. The other literature topics also provide insights from international studies, issues around local economic development, and the effects of land/property regimes in Canadian First Nation communities. The topics in this thesis are a natural extension of the existing literature.

Foreign Country Studies of Local Government

Local governments around the world often address similar issues and concerns, many of which are shared with Canada's First Nation governments. By evaluating foreign country studies of local government, the shared issues can provide insight and possible policy solutions for First Nation governments in Canada. Literature will be reviewed from Russian, Chinese, and Japanese studies.

Eugenievna & Yakovlevna (2014) evaluated municipal financing policy in Russia's far north communities. A common theme surfaced that many of these communities received significantly less own-source revenue compared to their more southern and urban municipal counterparts. This resulted in less autonomy, and the inability to implement their own long-

term investing policies. Critical investing decisions would then be made by federal/regional government officials without a direct understanding of the local needs. Key capital expenditures noted in this study include housing, municipal infrastructure, and communal services. An exception to federal/regional reliance was communities with strong business activities within their municipalities. The local business was able to provide additional municipal revenue in the forms of taxation and land lease fees (from municipal owned land).

There are notable similarities between Russia's far north municipalities and remote First Nation communities in Canada. Both have a strong reliance on federal/regional revenue transfers, and both are responsible for key capital infrastructure. Eugenievna & Yakovlevna (2014) demonstrate that communities with a stronger business presence are in a better financial position to provide much needed capital investment within their communities. For Canada's First Nation communities, the local government is often a key player in local business activities. Due to the similarities between Canada's First Nation communities and those municipalities noted in this Russian study, many of the findings from Eugenievna & Yakovlevna have relevance when evaluating First Nation governments in Canada.

Su & Tao (2017) studied the economic development of local Chinese governments, and how they developed over the past several decades. This study notes that many local governments in China started as business owners (state owned), and would thus be motivated to give preferential treatment to their own businesses. In the 2000's, many local Chinese governments made a transformation from business owners to tax collectors. Three main sources of local government revenue came from land lease fees, sales tax, and business tax (Su & Tao). The local Chinese governments often had exclusive rights to the local land, a situation that is mirrored by many First Nation communities in Canada. Utilizing local land for development purposes became a strong source of revenue for local Chinese governments. It is possible that a similar strategy could be utilized by Canadian First Nations. Success in this area has already been seen by communities such as the Westbank First Nation (WFN), where commercial development on its lands has provided a strong source of funding for economic development. According to the WFN website, over 450 businesses operate on WFN lands, along with numerous residential developments (Westbank First Nation, 2020). Su & Tao's study suggests that providing taxation and land-use autonomy to local governments can lead to innovation in developing local economies and obtaining needed

revenue sources for local government. This principle of tax autonomy and greater self-determination over lands can also be applied to Canadian First Nation governments in their pursuit to improve the lives of their First Nations people.

Shirai (2005) evaluates the relationship between local governments in Japan and the federal Japanese government. This study finds that local Japanese governments do not have sufficient autonomy in establishing a local tax base. The tax structure in Japan makes local governments reliant on federal transfers. This has led to inequitable transfer payments based on federally controlled transfer metrics. An issue noted in this study is how low-income governments receive a higher portion of transfers, which has led to waste and inefficient spending. This also leaves other governments with a lower proportion of federal transfers. The issue of inequitable transfer payments also exists for First Nation governments in Canada.

Herrmann-Pillath & Xingyuan (2004) studied the fiscal arrangements of Chinese local governments and the impact of land usage on the government's finances. This study found that investment financing often came from non-budget sources. A key non-budget source noted in the study includes the use of public lands. Local governments in China often have exclusive rights to the use of public lands, and can receive revenues via rent, lease, property tax, and capital gains on non-agricultural land (Herrmann-Pillath & Xingyuan, 2004). Note that due to the communist environment in China, collective land ownership has been the de facto norm in the past. Property rights have developed over the past several decades in China, and provided a new source of revenue for local Chinese governments. There are several parallels when considering local First Nation governments in Canada. First Nation land (reserve land) is often controlled by the First Nation government, albeit in trust via the federal government. Note that some exceptions can exist, where certificates of possession are granted to individual First Nation members. The study of Chinese local government suggests that the development of sound legal property rights can provide significant own-source revenue for local government. This same principle could be applied to Canadian First Nation governments through the development of a formal property rights system for reserve lands. Such a system is already present in some First Nations communities, such as the Westbank First Nation (2020).

De Soto (2000) discusses capital and private property ownership and the common difficulties when developing nations try to implement legal systems of private property. In the absence of a legal private property system, informal and extralegal systems will already be in place. Even if informal private property arrangements do not have legal authority, they can often have the social consensus of the people involved. De Soto emphasizes the need to closely consider these informal systems when attempting to implement private property reforms. This situation is applicable to many First Nation communities across Canada when private property rights on reserve lands are not currently in place. While legal reform would be required to implement private property rights in many First Nation communities, de Soto stresses that this type of reform must be led through political reform. Local political leadership is a prerequisite for the successful transition to a formal and legally recognized system of private property. Local Indigenous leaders must play a critical role if private property systems are to be implemented in First Nation communities across Canada.

Li et al. (2019) evaluated the strategy of co-production in local Chinese communities. This study defines co-production as a cooperative approach to provide public goods and services, with an emphasis on grassroots participation in this service delivery. The formal structure of how this takes place varies, and often includes several entities such as community organizations, non-profit organizations (NPO), private business, or local/regional government to name a few. This study found that most of the government funded co-production was towards infrastructure projects (such as public housing or sewage upgrades). Key benefits of a co-production approach can include items such as hearing local suggestions via local community organizations, the ability to gain consensus at the local level prior to starting major projects, the ability to harness volunteers to complete the projects, and a unique blending of private, public, and NPO entities to complete projects. This type of approach may be appropriate for First Nations communities in Canada, many of whom seek to gain stronger local representation in key infrastructure projects.

Many of Canada's First Nation communities seek to gain greater independence from the federal and provincial governments, and strive for the goals of self-determination and greater autonomy. The international studies demonstrate that these concerns of Canadian First Nations are shared with communities around the world. Many of the policy solutions observed around the world can be applied to Canada's First Nation communities to improve

their wellbeing. Common themes that have been explored are finding methods to bolster own-source revenue to reduce reliance on centralized governments, increasing taxation flexibility at the local level to allow innovative tax policy to meet local governments' revenue requirements, and developing co-production capacity to provide a greater voice for local communities in infrastructure and development projects.

Financial Indicator Analysis in Local Government

Formal methods to evaluate local government financial performance and policy implementation have long been used within governments. This section reviews common financial analysis techniques that can provide meaningful insight for policy makers and local leaders.

Rivenbark & Roenigk (2011) developed a model to make municipal financial statements more applicable for policy decision making. Two key steps are involved in this model, and include utilizing ratio analysis to determine relationships between financial figures and using comparative analysis either over time or between different governments. Rivenbark & Roenigk (2011) identify a capital asset condition ratio, which can be interpreted as the degree of government investment in capital assets. This provides a link between a capital asset financial indicator and an investing policy. Rivenbark & Roenigk (2011) also identify a dependency financial indicator that measures the extent of dependence on federal/regional governments. These are examples of direct links between financial indicators and the underlying policies in play within local government.

Groves et al. (1981) utilized a technique called indicator analysis. This technique takes data from a variety of sources, including financial statements, census demographics data, and census economic data. This technique analyzes the data via ratios and indices, and then compares these ratios/indices amongst each other to identify relationships. These relationships can then be compared amoung multiple local governments. As outlined by Groves et al. (1981), legislative policies can have a multitude of goals. Some may relate to revenue growth, expanded public expenditures, or replenishment of public capital assets to name a few. Many of these policies have relating financial indicators, which can be used as a measure of the underlying policy.

These studies demonstrate that financial indicator analysis and comparative analysis can provide valuable insight into the operations and effectiveness of municipal governments.

This insight can now be applied to Canada's First Nation communities, as First Nation government financial statements started being prepared and became publicly available in 2014.

Trust Fund Studies

Trust funds can be used by governments to smooth income over time, but require a strong governance structure to be effective. This section evaluates how trust funds can be utilized by governments to provide an inter-generational benefit over the long-term.

Angelo et al. (2016) study the use of intergenerational trust funds by Pacific island nations. These trust funds are often funded by foreign nations or private donors. The goal of these trust funds is to provide a stable source of income for the Pacific island governments that will last over the long-term. While the situation for the Pacific island nations is unique, there are some similarities with Canadian First Nation governments. Both governments seek to provide a stable long-term income, and use a trust fund structure to accomplish the task. For these trust funds to be successful, four core principles were discussed (Angelo et al., 2016). First is to establish a strong legal structure, second is to establish competent management, third is to develop clearly defined investment policy and oversight, and fourth is to set up a strong accountability system, such as requiring third-party audits. As many First Nation communities are utilizing intergenerational trust funds, these four principles should be followed to ensure that the trust funds continue to provide value for the First Nation communities.

Rodon et al. (2018) study revenue allocation strategies of impact benefit agreements (IBAs) on community development in Canadian First Nation communities. IBAs are a common mechanism for local First Nation governments to receive financial benefits from natural resource development on their lands. IBAs are common within mining, forestry, and other natural resource agreements made with First Nation governments. This type of revenue is often unevenly disbursed, so there is a desire to provide a more even distribution of the benefit over multiple years. Trust funds can be an effective structure for accomplishing this. Rodon et al. (2018) discuss how trust funds can provide inter-generational equity, and can provide a buffer between the funds and the local government (if the trust governance is set up appropriately). This can provide a much more sustainable approach, and avoids the bust-boom cycle present in many natural resource industries. A disadvantage of trust funds is that

not all the funds are spent immediately, which may limit the ability to address the immediate needs of the community. Rodon et al.'s study suggests that First Nations utilizing trusts funds may have a more stable level of community wellbeing.

Trust funds have been used by Canadian First Nation communities to normalize income from impact benefit agreements and land claim settlements. Similar trust structures have been used internationally by several Pacific island nations. These trust structures can be effective tools to smooth income over multiple years, and provide a benefit to future generations. In order for these trust funds to be successful, several principles must be in place, and include a sound legal structure, competent management, strong investment policy, and strong accountability.

First Nation Wellbeing Studies

Numerous studies have been conducted that assess the wellbeing of First Nations people in Canada, and evaluate wellbeing from a holistic perspective. The traditional measures of employment, income, education, and housing are evaluated. An expanded array of factors is also considered, which include indicators for health, social capital, and connection to traditional culture. The importance of these factors is reviewed, along with common research methodologies in First Nation wellbeing studies.

A common methodology used in First Nations wellbeing studies research is regression analysis. Hossain & Lamb (2012) utilize regression analysis when evaluating the impact of social capital on Aboriginal employment income. Another method discussed by Peck (2013) is the utilization of predicted endogenous subgroups. Establishing meaningful subgroups can allow the researcher to avoid the "average treatment effect" (Peck, 2013, p. 232) and provide a deeper understanding of statistical relationships that are unique to given subgroups.

The existing body of wellbeing research of Aboriginal populations indicate strong links between education levels and outcomes such as income and employment. Hossain & Lamb (2012) found support for a causal link indicating that good health and social capital have an impact on employment income of the Canadian Aboriginal population. This insight can provide policy makers with new strategies for closing the income gap for Aboriginal peoples. An Australian study of urban Aboriginal populations found that successful social outcomes are interlinked with outcomes in other areas (Reeve & Bradford, 2014). This suggests that a holistic approach is required to increase the social wellbeing of Aboriginal peoples.

Hossain and Lamb (2019A) evaluated the relationship between cultural attachment and psychological wellbeing for Canadian Indigenous people, and found a strong relationship between these two variables. This correlation was particularly notable for Indigenous populations living in rural areas. Cultural attachment was measured by knowledge of Indigenous language and level of involvement in traditional activities. This provides an indication that Indigenous culture plays an important role for the wellbeing of rural Indigenous peoples. Hossain and Lamb (2019B) also found statistically significant relationships between economic security and Indigenous psychological wellbeing. The key factors of economic security used in the study include employment, food security, and the state of residential housing. This demonstrates that meeting physiological needs is important in ensuring Indigenous wellbeing.

Axelsson et al. (2016) consider Indigenous wellbeing in the context of the colonial past that Indigenous peoples had to endure. Issues such as self-determination and autonomy are emphasized. A very practical issue brought up by Axelsson is the lack of data available for many Indigenous populations. This limits the ability of policy makers and community leaders to make informed decisions for Indigenous populations.

Kant et al. (2014) conducted a case study of two Canadian First Nation communities, and found that overall wellbeing is very complex and is impacted by numerous factors. While traditional economic factors (such as employment or income) do have an impact on wellbeing, other factors such as social ties, cultural attachment, and connection with traditional land are also essential to the wellbeing of First Nations communities. This emphasizes that First Nation wellbeing must take a holistic approach to improve the lives of First Nations people.

Finlay et al. (2010) discuss an approach utilized by the organization Mamow-Sha-way-gi-kay-win, a charitable organization that seeks to build partnerships between First Nation communities, government organizations, and private charitable donors. Two key principles of this organization are to establish long-term commitments and to actively encourage learning between First Nation communities. The long-term focus allows for measurable metrics to be observed over time, and provides a feedback mechanism to determine if specific goals are met. The learning between First Nations encourages community members who have successfully achieved goals in their community to be involved in the goal setting

for similar projects in newly identified First Nation communities. This allows for the sharing of knowledge, and the building of new networks that can improve the likelihood of success.

The concept of wellbeing for First Nation communities is very complex, and is influenced by many varying factors. The studies reviewed demonstrate that a holistic approach is required to properly understand wellbeing from a First Nations perspective. The traditional wellbeing factors of income, employment, educational attainment, and housing are important, but these cannot be the only considerations. Existing research of Canada's Indigenous population has shown strong relationships between wellbeing and cultural attachment, traditional land usage, and self-determination. This study considers a unique approach, and seeks to better understand the relationship between First Nation government investing policy and its impact on community wellbeing. By better understanding the many factors of wellbeing, policy makers will have more tools and insight to improve the conditions for their communities.

First Nation Tangible Capital Asset (TCA) Studies

First Nation governments are often responsible for key capital infrastructure within their communities, and include such items as water/sewer infrastructure, housing, government/community buildings, or business owned capital assets to name a few. The following studies evaluate how capital asset investment can impact local First Nation communities, and common issues that can affect capital asset policy.

Clatworthy (2009) identifies a key distinction of on-reserve First Nation housing – the reality that most First Nation communities' housing is collectively owned and does not mirror a free real estate market. A significant portion of on-reserve housing is owned by the local First Nation government. As a de facto landlord for its members, these governments are responsible for providing housing units that meet the needs of the community. Clatworthy (2009) discusses that further capital investment in housing is required to bring the housing standard of First Nations communities up to the national average. Note that this study was based on 2001 housing data. In 2001, the total percentage of housing requiring major repairs was 36.0% (Clatworthy, 2009). In 2016, the percentage of housing requiring major repairs was reported as 39.5% (Indigenous Services Canada, 2019). Note that both sources utilized housing metrics as reported by Statistics Canada. This trend is concerning, as housing conditions play an important role in Indigenous wellbeing.

Mignone & Henley (2009) studied the impact of information and communications technology (ICT) on social capital in Canadian First Nation communities. The study finds that access to broadband internet has a positive effect on First Nations, particularly in the areas of business opportunities, education, employment, income, and health. Some First Nations have created and invested in regional telecommunication companies that provide ICT services, such as internet and telephone. The investment would often take the form of a corporation, and would be operated as a government business entity (GBE or Nation owned business that operates independently from the Nation government). Mignone & Henley (2009) found that ICT investment in remote communities significantly increased the potential benefit to the community.

O'Gorman & Penner (2018) studied the impact of water infrastructure spending on First Nation wellbeing. This study found a number of First Nation communities where members do not have access to residential running water and flush toilets. This study found that on-reserve First Nations without running water or flush toilets were four times more likely to report an illness. This study also found that those required to haul water were 63% more likely to report missing school or work due to a waterborne illness (O'Gorman & Penner, 2018). This suggests that higher levels of TCA indicators would be positively correlated with higher education, workforce, and income levels.

First Nation governments are tasked with providing capital infrastructure for their communities. Some of the major categories of TCAs are water/sewer infrastructure, community/government buildings, social housing, or capital assets of Nation owned businesses (excluding GBEs). The studies reviewed demonstrate that this capital infrastructure is crucial for the continued wellbeing of First Nation communities. This infrastructure is particularly important for remote communities that may not be able to rely on infrastructure from other levels of government or private utility companies. It follows that higher levels of capital infrastructure would provide a higher degree of wellbeing for First Nation communities.

First Nation Business and Own-Source Revenue Studies

First Nation governments have the ability to generate own-source revenue, which often comes in the form of Nation owned businesses. The following studies evaluate the impact

that own-source revenue can have on First Nation communities, and how specific social outcomes may be affected.

Boyd & Trosper (2010) conducted a case study of two forestry joint ventures (JVs) that were pursued by two different First Nations in British Columbia. The JVs were with non-Aboriginal for-profit companies. Two items noted in this study were the impact of the JV on local First Nation employment and training/education. Both First Nations studied found significant employment opportunities for local First Nation members. One JV had 100% First Nation employees, while the other maintained 30% First Nation employees. While both JVs did provide some educational opportunities, the benefit was not significant and was not ongoing. These businesses generally preferred to hire employees that already had the required education.

Richards & Krass (2015) published a commentary on how First Nations spend their own source revenue. This commentary concluded by stating that a "disturbing result of our analysis is the large incremental impact of own-source revenue on band administration in general." (Richards & Krass, 2015, p. 9). This seems to imply an increase in general administration expenses. Upon further review of what was included in this band administration expense, this includes spending on band owned businesses (such as cost of sales or general business expenses) that are not development corporations (Richards & Krass, 2015). Effectively, this means that there are business expenses included in this study's definition of band administration in general. It is expected that business expenses would increase when own-source revenue is present. The conclusion reached by Richards & Krass could be misleading for readers. This demonstrates the importance of closely evaluating the source and definition of all statistical figures.

Simpson et al. (2007) studied methods to close the economic gap for First Nations in northern Manitoba. Two key findings were that long-term employment was not always achieved due to the short-term nature of some resource development industries, and the lack of relevant skills found in the local First Nation workforce. This suggests that economic development activities can only increase the workforce and income indices when relevant education levels are already present within a community. An emphasis is put on the "already present" aspect of the education levels. Simpson et al. (2007) stress the need for a long-term

educational plan that is part of a larger capacity development strategy. This emphasizes the importance of education for successful increases to the workforce and income indices.

Dylan et al. (2013) conducted a case study of Moose Cree First Nation (MCFN), located in northern Ontario. MCFN entered into agreements with De Beers for a mining operation, and with Ontario Power Generation for the redevelopment of power dams. The study conducted a series of interviews with local community members and leaders. Out of the 17 individuals interviewed, 14 were in favour of the resource development agreements. A key reason cited in the study was employment opportunities, especially for the youth of the community. The assumption that many of the community members had was that the economic development would generate employment and income opportunities for community members. This suggests that greater business activities would result in higher workforce and income indices.

Vining & Richards (2016) evaluated the relationship between own-source income and the community wellbeing index (per Statistics Canada). The study found a modest correlation between these two variables. While a statistical correlation was found, it was not substantial. Other factors that were discussed to improve community wellbeing included better organization and funding for key services such as education (Vining & Richards, 2016). Mahoney (2018) evaluated an educational fund settlement, and noted a link between educational funding and increased employment prospects. By enabling First Nation members to pursue higher education, this can result in more meaningful employment and income potential.

First Nation governments can seek out business development opportunities as an additional source of revenue, and to provide its members with employment and training opportunities. The additional revenue can be used to provide needed services within the community that in turn boost the community's wellbeing. Likewise, new employment opportunities for Nation members can provide numerous personal and social benefits within the community. The studies reviewed demonstrate that business development has the potential to improve conditions within the community, particularly when training opportunities are provided along with employment.

Other First Nations Studies

The issues of land management, property rights, and economic leakage can significantly impact the wellbeing of First Nation communities. Another important factor impacting First Nation wellbeing is knowledge of Indigenous language. The following studies highlight these topics and how they relate to Canadian First Nation communities.

Fligg & Robinson (2020) reviewed the relationship between First Nation land management regimes and community wellbeing. The three regimes discussed are the Indian Act land management (IALM), the First Nations land management (FNLM), and self-government land management (SGLM). A common difficulty cited for the IALM is the inability to use land as leverage when obtaining financing. Without the land, many commercial financial institutions will not provide financing to First Nation governments, or to members who would otherwise be able to obtain financing against home equity. This greater availability of financing could be used to finance possible entrepreneurial activities, and thus boost the local economy. FNLM and SGLM provide provisions that allow for such financing. Fligg & Robinson (2020) found that communities using the IALM regime had on average the lowest community wellbeing index.

Mirzaei et al. (2020) studied the impact of economic leakage from First Nation communities in Saskatchewan. The study found that the economic leakage rates for the First Nation economies studied is 90% - meaning that 90% of all good and services purchased by First Nations members and governments were spent off of the reserve. This leakage compounds due to a multiplier effect; a local business would often require support services and provide local employment. This multiplier effect is provided off of the reserve, and supports the surrounding regional economy instead of the local First Nation community. Mirzaei et al. (2020) provide a list of recommendations to prevent this economic leakage. Some of the items discussed are to develop local entrepreneurship to promote local economic development, to seek out strategic partnerships to foster business development, and to establish final consumer businesses on reserve.

The system of land management has been shown to impact the wellbeing of the First Nation communities. Communities using the Indian Act land management system have the lowest average community wellbeing. Another issue affecting First Nation wellbeing is economic leakage, where economic and business opportunities are lost within First Nation

communities. This occurs when a large portion of goods/services are purchased outside of the local community, and thus results in lost business and employment opportunities for Nation members. Establishing strong local businesses and initiating land management reforms may be able to boost local First Nation wellbeing.

Jewell (2016) evaluates the perceptions of urban Indigenous people in Canada towards the importance of Indigenous language. Jewell conducted a multiple linear regression with the importance of language as the dependent variable. The study found that language exposure in the home and outside the home maintained the strongest link to perceptions of the importance of Indigenous language. This link is intuitive, and Jewell provided statistical evidence of this connection. While exposure to language resulted in a positive relation, higher education levels resulted in a negative relation as demonstrated by the negative coefficient. This latter finding is unexpected and is somewhat troubling. It is important not to jump to a causal conclusion regarding this connection, as the dynamics of the relationship are likely very complex. Regardless, Jewell provides greater insight into how urban Indigenous people in Canada perceive the importance of Indigenous language and the factors that influence this perception.

McIvor & Ball (2019) consider Indigenous language revitalization policies in Canada and provide international examples of how non-dominant languages have been successfully incorporated into formal educational institutions. This paper notes that there is no national infrastructure in place to support Indigenous language within formal educational institutions. While there are local examples of Indigenous language immersion schools, these institutions often have to create the infrastructure and curriculum solely at a local level. McIvor & Ball propose the creation of an Indigenous led organization that networks First Nation communities together to share knowledge and resources to facilitate new and successful language renewal programs. This organization could also present a united voice to the federal and provincial governments in Canada to promote Indigenous language renewal across the country.

Gomashie (2019) studied the language revitalization efforts of the Kanien’keha and Mohawk peoples in Canada. Gomashie emphasizes the importance of Indigenous language to Indigenous identify, particularly as language is a facet for cultural heritage, traditions, philosophies, and worldviews. An important issue to consider is why knowledge of

Indigenous languages is currently low in many communities. The residential school system in Canada forced many Indigenous children from their homes, and also forced the dominant culture onto these Indigenous children. Gomashie discusses how Indigenous children would be punished for practicing their traditional culture, or for speaking their Indigenous language. Historically, education systems in Canada were used to forcibly destroy knowledge of Indigenous language amoung younger generations. The residential school system forced an involuntary loss of Indigenous language on the First Nations people across Canada in a very brutal manner. Due to this, there are multiple generations of First Nations people that could not learn their native languages. Even though the residential school system has ceased operating, the cultural damage has already been done. A key question brought up by Gomashie is: how can Indigenous languages be renewed when entire generations of Indigenous people have little or no knowledge of the native languages?

Gomashie discusses the Kanien'keha's school immersion program, where elementary and secondary schools are taught in a bilingual method of English and Kanien'keha. This program has been very successful at increasing the number of fluent people who can speak Kanien'keha, especially amoung the younger generation. Children are often apt to learn languages at young ages, and the bilingual school provides an environment for the younger generation to actively use the language. This allows for a very rich passing on of Kanien'keha cultural identity to new generations. Implementing these types of programs now are important, as many fluent Indigenous language speakers are elderly. Utilizing their knowledge of the language now is very important for the survival and renewal of Indigenous language.

Literature Review – Concluding Statements

This chapter has reviewed key First Nations studies relating to investing policies, community wellbeing, own-source revenue, and economic development. This provides a strong framework for understanding the factors impacting Canada's Indigenous population, and for developing the hypotheses outlined in the following chapter. By building upon the existing research, this study will take a new approach by evaluating the relationship between First Nation government investing policies and demographic wellbeing measures. Several studies about the role of Indigenous language to cultural identify have been reviewed, which demonstrate the importance of Indigenous language to First Nations wellbeing.

Foreign country studies were also reviewed, and demonstrate that many of the issues faced by Canadian First Nation governments have also arisen in other parts of the world. By studying how these issues were addressed elsewhere, First Nation policy can be better informed to meet and overcome these common challenges. Finally, this section evaluated the various land management systems used in Canada's First Nations, and the issue of economic leakage. Land usage is often an important component of economic development and potential own-source revenue, which is a key subject evaluated in this manuscript. Likewise, policies that boost entrepreneurial activities and business development within First Nation communities are expected to have a meaningful relationship with community wellbeing. These relationships will be closely evaluated, as outlined in the hypotheses in the following chapter.

Chapter 2: Methodology and Hypotheses

As the methodologies are discussed, it is helpful to recall the research objectives of this thesis. As stated in the introduction, the objectives are to determine the relationship between First Nation government investing policies and First Nation community wellbeing, and to evaluate how geographic remoteness and population levels influence this relationship. This section discusses the quantitative analysis that will be utilized, and the data sources used. The key topics discussed are definitions, population definition, data sources, financial indicator categories, subgroups used in comparative analysis, descriptive statistics and comparative analysis, Pearson correlation analysis and hypotheses, and multiple linear regression.

Definitions

For ease of discussion, Table 1 provides definitions for terms used throughout this manuscript. The comparative analysis evaluates communities based on geographic remoteness and population level, so the following definitions will be important for the reader. Note that Indigenous Services Canada (n.d.b) classifies each First Nation community in a geography zone from 1 to 4. These geography zones are used to establish geographic categories in this study. Definitions are also provided in reference to the financial indicators.

Table 1: Terms and Definitions

Term	Definition
Geographically close	Refer to communities in geography zone 1, or within 50km of a service centre with year-round road access
Geographically medium	Refers to communities in geography zone 2, or between 50km and 350km of a service centre with year-round road access
Geographically remote	Refers to communities in geography zone 3 (community located over 350km to service centre with year-round road access) or geography zone 4 (no year-round road access to a service centre)
Small population	Community with a population less than or equal to 200
Medium population	Community with a population between 201 and 999
Large population	Community with a population greater than or equal to 1,000
Financial indicators	Financial figures from the First Nation government financial statements, and can include both ratios and capita measures
Ratios	Accounting ratios (e.g. gross business revenue/total revenue)
Capita measures	Indicators measured on a per capita basis (e.g. gross business revenue/community population). For the sake of brevity, this manuscript refers to per capita measures as capita measures.
Statistical significance	Statistical significance is assessed at the 5% level

Throughout this study, statistical significance is evaluated at the 5% level. This threshold level is widely used in the academic disciplines being studied to guard against making conclusions that are due to chance. Vining & Richards (2016) report statistical significance at the 5% level when conducting regression analysis on First Nation community wellbeing. Hossain & Lamb (2012) report findings at the 5% level when conducting an instrumental variable ordered probit study evaluating Aboriginal employment income. Likewise, O'Gorman & Penner (2018) present regression results of the effects of water infrastructure on health and social measures in First Nation communities at the 5% level. Aligned with the academic practice as noted in the existing literature, this manuscript presents statistical test results using the 5% threshold for statistical significance.

Population Definition

The population evaluated in this study is First Nation communities in Canada that maintain a distinct land-based territory with at least 50 people living on this land-based territory. For purposes of this study, this is defined as First Nation communities that have specific land set aside as either reserve land or crown land designated for use of the First Nation members. This can be measured by evaluating the registered population levels per Indigenous Services Canada (ISC), which provides a breakdown of the community population living "on own reserve" or "on own crown land." An example of this for the Ashcroft Indian Band can be found via the ISC website (n.d.d). The number of First Nations listed on the ISC website is 637. Of these First Nations, 583 have at least 50 people living "on own reserve," or "on own crown land" as per the ISC registry information. Of these, 446 First Nations have usable demographic data (from Statistics Canada) and financial data (audited financial statements).

The validity of the Census data relies on adequate responses from community members. Communities with very small populations are more prone to data quality issues. While response rates to the Census are generally high, some non-responsiveness does exist. To avoid these Census data quality issues, communities with populations less than 50 will be excluded. This population definition allows for access to both distinct and correlatable Census demographic data and financial statement data for a large number of First Nation communities.

This study evaluates 446 First Nation communities in total. See Table 2 for a breakdown of the number of communities by population level and geographic remoteness.

Table 2: Number of First Nation Communities in Study

	Geographically Close	Geographically Medium	Geographically Remote	Subtotal by Population
Small Population	32	65	19	116
Medium Population	76	119	46	241
Large Population	41	34	14	89
Subtotal by Geography	149	218	79	446 (Total)

Note that that the total number of communities with viable data is reduced for certain financial indicators and a demographic index due to specific data quality issues. The specific financial indicators and demographic index affected are listed below. Refer to Appendix A for definitions of the financial indicators, and Appendix B for the definition of the demographic index affected. The tangible capital asset (TCA) financial indicators evaluate 407 communities, as First Nations with qualified financial statements relating to TCA were excluded. Government business entity (GBE) net income and equity financial indicators evaluate 408 communities, as First Nations with incomplete GBE information were excluded. All other GBE financial indicators evaluated 371 communities, as First Nations with incomplete GBE information were excluded. The income index evaluates 303 communities, as Statistics Canada did not disclose income data for small and some medium population communities due to data quality issues. If no income data was available, these communities were excluded from the income index.

Data Source – 2016 First Nation Audited Financial Statements

The federal government of Canada introduced the First Nations Financial Transparency Act (FNFTA) in 2013, which required most First Nation governments to submit audited financial statements to Indigenous and Northern Affairs Canada (the federal ministry that has since been split into Crown-Indigenous Relations and Northern Affairs Canada and Indigenous Services Canada). The First Nation financial statements would then be published on the federal ministry's website for the public's access. This legislation is still on the books as of 2021, but the government of Prime Minister Justin Trudeau ceased enforcing the compliance measures of the FNFTA in 2015 (Indigenous Services Canada, n.d.c).

Brock & Migone (2018) have conducted a review of the financial capacity of First Nations for the period of 2014 to 2017. Even though First Nation governments are not required to submit their audited financial statements, many First Nation governments continue to do so. The percentage of First Nation financial statements available on the Indigenous Services Canada website for the 2016 fiscal year is 93% (Brock & Migone, 2018). Not only this, the quality of these financial statements remains high. Brock & Migone (2018) provide a breakdown of the financial statement audit opinions as follows: 70% unqualified (clean), 25% qualified (often for minor issues), and 5% adverse or denial (serious issues). The high submission rate and high quality of the financial statements make for a valuable dataset.

The audited financial statements are available from ISC's website in PDF format. The financial data will be input from the PDF financial statements into a standardized financial statement template in Microsoft Excel. The data from the Excel template will then be input into a Microsoft Access database. Access queries and reports allow for ease of data validation, handling, and analysis. Inputting PDF financial statements manually into an Excel template requires a significant amount of data entry. Several procedures will be followed during the data entry phase to minimize the risk of entry errors. First, the full set of financial statements for each First Nation will be entered. The Statement of Financial Position (similar to a Balance Sheet) must balance according to accounting guidelines. This provides a proof to avoid error. Second, each major section of the financial statement has a subtotal amount. These subtotals are present on the PDF financial statements, as well as in the Excel template via formula-based subtotals. A proof can be obtained as data is entered by verifying that the subtotals in the Excel template agree to the PDF financial statements. Any difference would represent a line-item data entry error. The above proofs include verifying that the Statement of Financial Position is balanced, and that each major section of the financial statements subtotal correctly. The third procedure will be to conduct similar proofs in the Microsoft Excel template, just prior to importing from Excel into the Access database. The fourth procedure will be to conduct similar proofs after the financial data has been imported into Microsoft Access. This will check for possible data conversion errors.

Data Source – 2016 Census of First Nation Communities

Indigenous Services Canada (ISC) provides publicly available demographic data for each First Nation community. This data was collected by Statistics Canada during the 2016 Census, and was prepared for ISC. ISC provides demographic data in tabular format that is accessible via their website (Indigenous Services Canada, n.d.a). This data will be copied into an Excel standardized template that will then be imported into the Access database. The demographic categories used in this study include education, income, workforce, housing, and language. This data will be used to develop the demographic indices and general Nation wellness index as described in Appendix B. Community population levels will also be collected from the Census information. The First Nation registry information is also presented on the ISC website, and will be input into the Access database. These datasets include geographic zone and registered population figures.

Indigenous Services Canada (2019) utilizes a community wellbeing index (CWI) that evaluates the wellbeing of First Nation communities over time, and bases the CWI on the data sources of education, income, workforce, and housing. The methodology used by ISC to calculate the CWI differs slightly from the index used in this study. The differences exist because this study is cross-sectional (one year of data), while ISC's calculation is for longitudinal evaluation (multiple years of data). Another key difference is that this study includes one more dataset – knowledge of Indigenous language. In addition to language, this measure is indicative of general cultural knowledge that is passed on within a First Nation community. This measure adds a unique Indigenous perspective to community wellness. The index used in this study will be referred to as the Nation wellness index (NWI). Note that the NWI is calculated by taking the arithmetic average of the education, income, workforce, housing, and language subindices. This method assumes that each subindex maintains an equal weight and are substitutable. This assumption may introduce a bias if a given subindex maintains on average a lower value compared to the other subindices. While an element of bias may be present with this method, evaluating a general Nation wellness index provides meaningful insight to this study.

Categories of Financial Indicators

The financial indicators are derived from the audited financial statements of the First Nation governments. As previously discussed, the financial statements have been entered

into a standardized financial template that allows comparability between the Nations. To provide meaningful analysis, key financial indicators will be reviewed. The financial indicators evaluated will be accounting ratios (e.g. earned revenue / total revenue), and capita measures (e.g. earned revenue / community population). Refer to Appendix A for a full list of the financial indicators to be evaluated.

The financial indicators in Appendix A are grouped by the common investing activities of business, government business entity (e.g. Nation owned business that operate independently), trust funds, tangible capital assets, and other. Evaluating financial indicators demonstrate what a government has been spending its resources on. The financial indicators are a quantifiable measure of what investing policies the government is implementing. Effectively, the financial indicator is an indication of an underlying policy.

This study evaluates the investing policies of First Nation governments, and looks to specific financial indicators to measure the presence of underlying investing policies. A benefit of this approach is that proposed investing policies can be substantiated with audited financial indicators. For example, a First Nation government may propose to invest in and boost Nation owned business activities. The efficacy of this policy can be evaluated by measuring the gross business sales ratio or the government business entity asset ratio to name a few. If the financial indicator is contrary to the expected results, the First Nation leadership has the information to take corrective action.

Subgroup Matrix Based on Population and Geographic Remoteness

As discussed in the literature review, utilizing meaningful subgroups of a population can provide deeper insight into the statistical relationships of each subgroup. This research design will provide more relevant information for policy makers addressing specific community needs. This study will review nine subcategories, which are based on a matrix between population level and geographic zone. This approach will isolate the variable effects of population and geographic remoteness in the correlational analysis. Refer to Table 3 for a summary and labels of the subgroups. Note that the subgroup labels use a mnemonic abbreviation with the first letter representing the community population of small, medium or large. The second letter represents the community geographic zone of close, medium, or remote. Refer to Appendix C for further details and definitions.

Table 3: Summary and Mnemonic Labels of Subgroups

	Geographically Close	Geographically Medium	Geographically Remote
Small Population	SC	SM	SR
Medium Population	MC	MM	MR
Large Population	LC	LM	LR

Descriptive Statistics and Comparative Analysis

Key descriptive statistics will be reviewed to better understand the First Nation communities evaluated in this study. Descriptive statistics of both financial indicators (as per Appendix A) and demographic indices (as per Appendix B) will be reviewed. Comparative analysis will also be conducted between subgroups (as per Table 3). This methodology follows the techniques identified by Rivenbark & Roenigk (2011) and Groves et al. (1981).

The descriptive statistics that will be evaluated include the mean, median, standard deviation, coefficient of variation, and range. These descriptive statistics will be evaluated for the population as a whole, for the three subgroupings of population, for the three subgroupings of geographic remoteness, and for each subgroup discussed in Table 3. Also, the difference in the descriptive statistics will be evaluated between each subgrouping/subgroup and the rest of the population (the total population excluding the subgrouping/subgroup being evaluated). The information gained from this analysis will provide a deeper understanding of the financial/demographic realities of the First Nation communities and will highlight key differences found between the subgroups. When the mean for a specific subgrouping/subgroup varies by 50% from the total population mean and the coefficient of variation for the subgrouping/subgroup is less than 1.50, a t-test statistic will be performed. Additional t-tests will be performed if relating trends have been identified. The t-test will be between a given subgrouping/subgroup and the rest of the population. This will determine if the difference is statistically significant.

Pearson Correlation Coefficient (r) Analysis and Hypotheses

A Pearson correlation coefficient (r) analysis will be calculated between each financial indicator from Appendix A, and each demographic index from Appendix B. R will also be evaluated amongst the demographic indices outlined in Appendix B. These correlation coefficients will be calculated for the total population and for each subgroup as described in

Appendix C. Prior to calculating r, the expected level of correlation for each instance will be hypothesized. This method can provide support for existing expectations, and uncover unsupported expectations that exist in the current body of research. Five steps will be taken in the development and testing of the hypotheses. It is important that causal conclusions are not made from this analysis, as this study utilizes observational data. Also note that the hypothesis testing using Pearson correlational analysis maintains the weakness of not controlling for the effects of other impactful variables. This weakness will be addressed in Chapter 5 through multiple linear regression, where nine independent variables are evaluated. Key differences noted between the Pearson correlational analysis and multiple linear regression will be evaluated in Chapter 6 of this manuscript.

First, this study will develop a hypothesis of the expected correlation between each financial indicator category and each demographic index. Correlational hypotheses will also be developed between the demographic indices. The hypotheses will be based on research reviewed in the literature review and on the professional experience of the author (refer to Appendix T). The expectation will state whether a statistically significant correlation is expected or not at the 5% level. Note that all statistically significant correlations are expected to be positive. Second, the study will calculate r between each financial indicator from Appendix A and each demographic index from Appendix B, and determine if a statistically significant correlation exists at the 5% level. Third, this study will calculate r amongst the demographic indices from Appendix B, and determine if a statistically significant correlation exists at the 5% level. Fourth, this study will further investigate each correlational instance from steps 2 and 3 that is statistically significant and has an r value less than -0.40 or greater than 0.40. The study will review a scatterplot of each relevant correlational instance and determine if outliers exist or if a non-linear pattern exists. Fifth, the study will determine if the hypothesized correlations agree with the results and will present the findings.

The methodologies outlined in this section provide a twofold benefit. First is evaluating the statistical significance of the correlation between investing policies and demographic indices, and second is identifying if certain subgroups have stronger/weaker correlations. This twofold benefit will provide relevant and actionable information for policy makers and community leaders when addressing the needs of local communities. Table 4 provides a summary of the correlational hypotheses between the demographic indices.

Table 4: Demographic Indices Correlational Hypotheses

Demographic Index	Notes and References
Education	Simpson et al. (2007) suggests a statistically significant correlation between the education index and the income/workforce indices. Mahoney (2018) suggests a statistically significant correlation between the education index and the income/workforce indices. Hossain & Lamb (2012) suggest a statistically significant correlation between the education index and the income/workforce indices.
Housing	The housing index and income index are expected to maintain a statistically significant correlation, as additional income could be used to improve the state of residential housing.
Workforce	Simpson et al. (2007) suggests a statistically significant correlation between the education index and the income/workforce indices. Mahoney (2018) suggests a statistically significant correlation between the education index and the income/workforce indices. Hossain & Lamb (2012) suggest a statistically significant correlation between the education index and the income/workforce indices.
Income	Simpson et al. (2007) suggests a statistically significant correlation between the education index and the income/workforce indices. Mahoney (2018) suggests a statistically significant correlation between the education index and the income/workforce indices. Hossain & Lamb (2012) suggest a statistically significant correlation between the education index and the income/workforce indices. The housing index and income index are expected to maintain a statistically significant correlation, as higher income could be spent on residential housing.
Language	No predetermined hypotheses are present for the language index.
Nation wellness index (NWI)	As the NWI is comprised of the above sub-indices, a statistically significant correlation is expected with the other sub-indices.

Table 5 provides a summary of the correlational hypotheses between the financial indicators and the demographic indices. It also discusses the link between the financial indicators and the underlying investing policies. Refer to Appendix A for a detailed listing of the financial indicators in each category. References are given to articles discussed in the literature review. The references here provide support for the expected hypotheses in the Pearson correlational analysis.

Table 5: Underlying Investment Policies by Financial Indicator Category and Correlational Hypotheses

Category of Financial Indicator	Underlying Investment Policies, Notes, and References
Business activities	The business activity financial indicators measure items such as gross business sales, business and economic development expenses, and total investment assets. These indicators measure how active a First Nation government is in the business environment. Deciding to engage in business activities requires a conscious choice by First Nation leaders, and is a policy-based decision. Eugenievna & Yakovlevna (2014) suggest a statistically significant correlation between business activities and the housing index. Boyd & Trosper (2010) suggest a statistically significant correlation between business activities and the income/workforce indices, and a statistically significant correlation between business activities and the education index. Dylan et al. (2013) suggest a statistically significant correlation between business activities and the income/workforce indices. Mirzaei et al. (2020) suggest a statistically significant correlation between business activities and the income/workforce indices. Based on the previous indices, a statistically significant correlation between business activity and the Nation wellness index is expected. A statistically insignificant correlation is expected with the language index.
Government business entity (GBE) activities	GBE activity indicators measure items such as the level of GBE assets, GBE equity, GBE revenue, GBE expenses, and GBE net income. GBEs can take on several different activities, such as for-profit businesses, local utility service providers, NPO service delivery, etc. A commonality of GBEs is that these entities operate independently from the First Nation government, and would have autonomous governance of its operations. There is some overlap between the business activity and GBE activity references, as well as with the TCA activities. Mirzaei et al. (2020) suggest a statistically significant correlation between GBE activities and the income/workforce indices. Mignone & Henley (2009) suggest a statistically significant correlation between GBE activities and the education index, the income index, and the workforce index. Eugenievna & Yakovlevna (2014) suggest a statistically significant correlation between GBE activities and the housing index. Boyd & Trosper (2010) suggest a statistically significant correlation between GBE activities and the income/workforce indices, and a statistically significant correlation between GBE activities and the education index. Dylan et al. (2013) suggest a statistically significant correlation between GBE activities and the income/workforce indices. Based on the previous indices, a statistically significant correlation between GBE activities and the Nation wellness index is expected. A statistically insignificant correlation is expected with the language index.

Trust activities	Trust activity financial indicators measure the level of trust fund assets and trust fund revenue received in the year. Many First Nation communities set up trust funds to hold income from impact benefit agreements (e.g. income from natural resource extraction) or treaty settlements. These sources of revenue are non-regular, and the trust funds provide a mechanism to spread out the benefit of these revenues over time in a more stable manner. Choosing to set aside these funds is a policy decision made by the local community, and can be measured by the level of assets and trust revenue received. Rodon et al. (2018) suggest that a statistically significant correlation exists between trust activities and the Nation wellness index. While a statistically significant correlation is expected for the Nation wellness index, the relation with the specific demographic sub-indices is not predetermined.
Tangible capital asset (TCA) activities	TCA activity financial indicators measure the total level of TCA investment and capital cash flows. Common types of TCAs include housing, water/sewer infrastructure, community buildings, automotive/equipment, or TCAs of First Nation businesses (not including GBEs) to name a few. The level of investment made in TCAs can vary by community, and is determined by the TCA policies decided by the local leaders and policy makers. Mignone & Henley (2009) suggest a statistically significant correlation between TCA activities and the education index, income index, and workforce index. Clatworthy (2009) suggests a statistically significant correlation between TCA activities and the housing index. O'Gorman & Penner (2018) suggest a statistically significant correlation between TCA activities and the education index, income index, and workforce index. Based on the previous indices, a statistically significant correlation between TCA activities and the Nation wellness index is expected. A statistically insignificant correlation is expected with the language index.
Other activities – revenue sources	The other activities section includes revenues by source. The financial indicators "earned revenue" and "earned & other revenue" include revenues from business income, royalties, taxes, etc. As such, these financial indicators will follow similar hypotheses to the business activity indicators. Vining & Richards (2016) suggest a statistically significant correlation between earned revenue and earned & other revenue and the Nation wellness index. Many First Nations have federal/provincial transfer revenue as a large component of the government's revenue. Some First Nations also receive a portion of transfer revenue from a Tribal Government or other First Nation entity. It is generally expected that higher transfer revenues would result in more local services, capital investment, etc. As such, it can be reasoned that a higher level of transfer revenue would have a statistically significant correlation with all of the demographic indices (except the language index).

Table 6 summarizes the hypothesized correlations as outlines in Tables 4 and 5. Note that the other activities indicators are not included – refer to Table 5 for details. The language

index is also not included, as no statistically significant correlation is expected. Based on the discussions in Table 4, the workforce and income indices expect to have a statistically significant relationship, as well as between the income and housing indices. Based on this, a statistically significant relationship is expected between the workforce and housing indices. In a similar manner, the education index is expected to maintain a statistically significant relationship with the workforce and income indices. It follows that a statistically significant relationship would also exist between the education and housing indices. Note that all of the expected statistically significant correlations in Table 4 to 6 expect positive correlations.

Table 6: Correlation Hypotheses Summary

	Education	Housing	Workforce	Income	NWI
Education	n/a				
Housing	Statistically significant	n/a			
Workforce	Statistically significant	Statistically significant	n/a		
Income	Statistically significant	Statistically significant	Statistically significant	n/a	
NWI	Statistically significant	Statistically significant	Statistically significant	Statistically significant	n/a
Business	Statistically significant	Statistically significant	Statistically significant	Statistically significant	Statistically significant
GBE	Statistically significant	Statistically significant	Statistically significant	Statistically significant	Statistically significant
Trust	Not statistically significant	Not statistically significant	Not statistically significant	Not statistically significant	Statistically significant
TCA	Statistically significant	Statistically significant	Statistically significant	Statistically significant	Statistically significant

Multiple Linear Regression

A multiple linear regression analysis will be conducted to evaluate the relation of key variables with the demographic indices. As each demographic index is expected to have distinct relationships with the independent variables, each demographic index will be evaluated via multiple linear regression. The demographic indices evaluate the education index, workforce index, language index, housing index, income index, and Nation wellness index.

Nine independent variables will be utilized when conducting the multiple linear regression. These variables consist of financial indicators that were utilized in the correlational analysis, community population level, and level of geographic remoteness. Refer to Table 8 for a detailed listing of the independent variables that will be utilized in this analysis. Special care had to be taken when selecting the financial indicators to avoid the problem of multicollinearity. Avoiding this problem was accomplished by strategically selecting financial indicators from varying investing categories, and choosing between financial ratio and capita indicators. A variance inflation factor test will be conducted to determine the degree of multicollinearity amoung the independent variables. Table 7 presents the linear regression models that will be evaluated, and the dependent variables that will be reviewed.

Table 7: Linear Regression Models

Dependent Variable	Regression Model
Education Index (E)	$E= \beta_{0E} + \beta_{1E}X_1 + \beta_{2E}X_2 + \beta_{3E}X_3 + \beta_{4E}X_4 + \beta_{5E}X_5 + \beta_{6E}X_6 + \beta_{7E}X_7 + \beta_{8E}X_8 + \beta_{9E}X_9 + \varepsilon$
Workforce Index (W)	$W= \beta_{0W} + \beta_{1W}X_1 + \beta_{2W}X_2 + \beta_{3W}X_3 + \beta_{4W}X_4 + \beta_{5W}X_5 + \beta_{6W}X_6 + \beta_{7W}X_7 + \beta_{8W}X_8 + \beta_{9W}X_9 + \varepsilon$
Language Index (L)	$L= \beta_{0L} + \beta_{1L}X_1 + \beta_{2L}X_2 + \beta_{3L}X_3 + \beta_{4L}X_4 + \beta_{5L}X_5 + \beta_{6L}X_6 + \beta_{7L}X_7 + \beta_{8L}X_8 + \beta_{9L}X_9 + \varepsilon$
Housing Index (H)	$H= \beta_{0H} + \beta_{1H}X_1 + \beta_{2H}X_2 + \beta_{3H}X_3 + \beta_{4H}X_4 + \beta_{5H}X_5 + \beta_{6H}X_6 + \beta_{7H}X_7 + \beta_{8H}X_8 + \beta_{9H}X_9 + \varepsilon$
Income Index (I)	$I= \beta_{0I} + \beta_{1I}X_1 + \beta_{2I}X_2 + \beta_{3I}X_3 + \beta_{4I}X_4 + \beta_{5I}X_5 + \beta_{6I}X_6 + \beta_{7I}X_7 + \beta_{8I}X_8 + \beta_{9I}X_9 + \varepsilon$
Nation Wellness Index (N)	$N= \beta_{0N} + \beta_{1N}X_1 + \beta_{2N}X_2 + \beta_{3N}X_3 + \beta_{4N}X_4 + \beta_{5N}X_5 + \beta_{6N}X_6 + \beta_{7N}X_7 + \beta_{8N}X_8 + \beta_{9N}X_9 + \varepsilon$

Table 8: Description of Independent Variables

Variable Category	Variable Name	Description of the Variable
Financial	Earned & other revenue ratio (X_1)	(Earned revenue + other revenue) / total revenue [1]
	Federal & provincial revenue capita (X_2)	(Federal revenue + provincial revenue) / community population [1, 2]
	Tribal Gov't and other First Nation entity revenue capita (X_3)	(Tribal government revenue + revenue from other FN entities) / community population [1, 2]
	GBE expense capita (X_4)	Expenses in government business entities / community population [2, 3]
	Trust fund asset ratio (X_5)	Trust funds assets / total financial assets [1]
	TCA assets ratio (X_6)	Tangible capital assets / total assets [1]
Population level	Community population (X_7)	Population of people living on First Nation's reserve land or associated Crown land. Population figures are as per the 2016 Census.
Geographic	Geographically medium differential (X_8)	If First Nation community is geographically medium then 1; otherwise 0 [4]
	Geographically remote differential (X_9)	If First Nation community is geographically remote then 1; otherwise 0 [4]

Notes:
1. Financial information to calculate the financial figures are taken from the audited 2016 First Nation financial statements. Refer to Appendix A for further details about how each financial ratio and capita measure if calculated.
2. Community population is based off of the population of people living on the First Nation's reserve land or associated Crown land. These figures are taken from the 2016 Census, which are prepared by Statistics Canada.
3. Government business entity (GBE) figures are disclosed in the notes of the financial statements. The expense in GBEs conveys the total expenses incurred in the First Nation's GBEs for the year.
4. Indigenous Services Canada rates the level of geographic remoteness for each First Nation community from zones 1-4. Refer to Appendix C for detailed definitions of these zones, and the geographic definitions used in this study.

Methodologies and Hypotheses – Concluding Statements

This chapter has reviewed the type of research to be conducted throughout this manuscript and how the research questions will be addressed. The following chapter evaluates the descriptive statistics and provides a detailed comparative analysis between the major subgroups of First Nation communities.

Chapter 3: Descriptive Statistics and Comparative Analysis

This chapter summarizes the descriptive statistics analysis of the demographic indices and financial indicators for First Nation communities across Canada. Usable data is available for 446 First Nation communities. The demographic indices are based on the 2016 Census data as prepared by Statistics Canada. The financial indicators are based on the 2016 First Nation government audited financial statements. A goal of this analysis is to identify trends and patterns in the data as related to population level, geographic remoteness, and the subgroups as defined in Appendix C.

The first section presents descriptive statistics of the total population and provides a useful overview for all First Nation communities across Canada. This information is presented in Tables 10 - 15. The second section provides a comparative analysis by population subgrouping. As per Table 1, small populations have 200 or fewer people, medium populations have between 201-999 people, and large populations have 1,000 or more people. This information is presented in Tables 16 - 22. The third section provides a comparative analysis by geographic remoteness subgrouping. The three categories of geographic remoteness are close, medium, and remote. Refer to Table 1 for more detailed definitions. This information is presented in Tables 23 - 29.

Statistical analysis has been conducted to better understand the trends found in these tables. When the mean of a specific subgrouping/subgroup varies by 50% from the total population mean and the coefficient of variation for the subgrouping/subgroup is less than 1.50, a t-test statistic will be performed. Additional t-tests will be performed if relating trends have been identified. This t-test will be between a given subgrouping/subgroup and the rest of the population (total population excluding the subgrouping/subgroup being compared). The t-test takes into consideration the means, standard deviation, and number of observations to determine statistical significance. Detailed analysis of trends and t-test results are presented in Appendices G for trends by population and geographic remoteness subgroupings. The median values are also presented and discussed.

Throughout the discussion, references will be made to the matrix of subgroups as described in Table 3. This provides a more in-depth analysis of the nine subgroups, and can supplement the information presented in Tables 10-29. For the sake of brevity and flow, the data tables and detailed analysis for the matrix subgroups is presented in the Appendices.

Refer to Table 9 for a listing of Appendices relating to the subgroups, along with other appendices relevant to this chapter.

Table 9: Appendices Relating to Descriptive Statistics and Comparative Analysis Chapter

Appendix	Appendix Description
Appendix A	Provides a summary of the financial indicators being analyzed.
Appendix B	Provides details about how the demographic indices are calculated.
Appendix C	Provides details about the subgroups analyzed in this study.
Appendices D & E	Provides the summary descriptive statistics (mean, median, standard deviation, coefficient of variation, and range) of the demographic indices and financial indicators respectively broken down by subgroup. Total population stats are also presented. The data is presented via tables and graphs.
Appendix F	Provides details for the t-test statistic performed.
Appendices G, H, & I	Provides descriptive statistics detailed analysis and t-test statistic results for the following respectively: demographic indices and financial indicators by population and geography subcategories, demographic indices by subgroup, and financial indicators by subgroup.

Details about the demographic indices can be found in Appendix B. The demographic indices of education, workforce, language, housing, and income are evaluated. Also, a composite Nation wellness index (NWI) is evaluated. The NWI is a combined average of the demographic indices previously mentioned. For further information regarding the financial indicators, refer to Appendix A. Both accounting ratios and per-capita measures are reviewed. The categories of financial indicators include business activity, government business entity (GBE) activity, trust fund activity, tangible capital asset activity, and other activity.

General trends are discussed in the body of this section. The detailed trend analysis and t-test results in Appendices G, H, and I provide an in-depth analysis of the patterns identified, as well as the t-test results to determine if a statistically significant difference is identified. These appendices make reference to appendices D, E, and F if the reader would like to delve into further detail. The general discussion in the body of this section provides a high-level commentary on the overall trends that are present within the demographic indices and financial indicators. References have been left out of the discussion section for ease of

reading. If the reader would like further details about items in the discussion section, refer to the corresponding appendices for further analysis.

Descriptive Statistics of All Communities

This section reviews the descriptive statistics for all of the communities. The demographic indices and financial indicators are presented in tabular format and includes Tables 10-15. A brief discussion of these figures is also presented. Note that more detailed discussion will be provided in subsequent sections as comparative information will be considered between the differing population and geographic remoteness groupings.

Table 10: Descriptive Statistics of All Communities - Business Activity Indicators

Financial Indicator	Mean	Median	SD	CV	Min	Max
Investment Asset Ratio	0.28	0.18	0.40	1.44	- 0.64	6.10
Investment Asset Capita	14,306	2,098	48,980	3.42	-132,161	586,110
Gross Business Sales Ratio	0.10	0.00	0.16	1.65	-	0.77
Gross Business Sales Capita	4,436	0.00	10,893	2.46	-	108,670
Business and Ec Dev Expense Ratio	0.13	0.06	0.16	1.19	-	0.74
Business and Ec Dev Expense Capita	5,251	1,572	9,800	1.87	-	77,479

The key figures from Table 10 indicate that the percentage of mean gross business sales compared to total Nation revenue is 10%, and that the mean gross business sales per capita is $4,436. Note that there is a large variation in these figures between Nations, as demonstrated by the high coefficient of variation. Even greater variation is present when considering the amount of investment assets held by First Nations. This variation is caused largely by a small number of outlier Nations that maintain a significantly higher amount of investment assets and other business activities. Note that the median values are much lower compared to the mean values for all of the business activity indicators. The reader will notice negative minimum values for investment asset ratio/capita, as well as similar negative values in other affected financial indicators in subsequent tables. This largely relates to negative values of investments in Nation owned businesses that are government business entities/partnerships. These businesses have likely showed multiple years of losses, resulting

in the investment having a negative value. This is due to the modified equity method of reporting for the investment. Note that the existence of negative value investments is rare amoung the First Nation financial statements reviewed in this study, and as such has a minimal impact on the analysis in this study. The financial dataset was not winsorized, as identifying outliers can provide meaningful insight into the First Nations being reviewed.

Table 11: Descriptive Statistics of All Communities – Government Business Entity (GBE) Indicators

Financial Indicator	Mean	Median	SD	CV	Min	Max
GBE Asset Ratio	0.38	0.06	0.80	2.11	- 0.03	7.86
GBE Asset Capita	14,481	854	59,570	4.11	- 510	751,189
GBE Liabilities Ratio	0.69	0.02	3.51	5.07	-	45.76
GBE Liabilities Capita	8,714	280	30,013	3.44	-	328,243
GBE Equity Ratio	0.10	0.00	0.38	3.86	- 2.13	5.70
GBE Equity Capita	7,113	24	39,001	5.00	-132,319	578,398
GBE Revenue Ratio	0.26	0.01	0.64	2.47	- 0.63	6.46
GBE Revenue Capita	10,398	253	55,710	5.36	- 21,963	805,879
GBE Expense Ratio	0.29	0.02	0.83	2.87	- 0.00	10.86
GBE Expense Capita	9,362	303	48,619	5.19	- 47	819,095
GBE Net Income Ratio	0.51	0.00	9.01	17.50	- 69.74	132.41
GBE Net Income Capita	941	0	14,135	15.00	- 21,966	278,482

Government business entities (GBEs) are Nation owned businesses that operate at arms-length from the First Nation government. These can take the form of for-profit businesses, not-for-profit entities, or partnerships to name a few. The mean GBE indicators demonstrate large variation between First Nations, as indicated by a very high coefficient of variation for all GBE financial indicators. While some Nations carry out significant GBE activities, many have no GBE activities. This follows a similar pattern as the business activity financial indicators, in that a few outlier Nations inflate the means upward. The median values are much lower than the mean values for all GBE indicators. It is important to remember this and not generalize GBE figures across all Nations.

Table 12: Descriptive Statistics of All Communities - Trust Indicators

Financial Indicator	Mean	Median	SD	CV	Min	Max
Trust Fund Asset Ratio	0.10	0.01	0.20	1.95	- 0.04	0.95
Trust Fund Asset Capita	6,279	84	35,566	5.66	-	652,801
Trust Revenue Ratio	0.03	0.00	0.07	2.65	- 0.04	0.56
Trust Revenue Capita	868	0	3,363	3.87	- 865	49,057

The trust indicators demonstrate a relatively low amount of trust activities compared to total financial activities of First Nations. Nations have a mean of 0.10 of trust assets compared to total First Nation assets, and the mean of total revenues derived from trust sources is 3%. Note also that a large variation exists between Nations, as indicated by the high coefficient of variation. The median values for all trust financial indicators are significantly lower than the mean values.

Table 13: Descriptive Statistics of All Communities - Tangible Capital Asset (TCA) Indicators

Financial Indicator	Mean	Median	SD	CV	Min	Max
TCA Ratio	0.65	0.71	0.23	0.35	0.01	1.25
TCA Capita	44,600	34,008	38,167	0.86	93	392,461
Gross Cash Inflow Capital Ratio	0.08	0.00	0.24	2.95	-	1.00
Gross Cash Inflow Capital Capita	91	0	556	6.13	-	9,624
Gross Cash Outflow Capital Ratio	0.53	0.57	0.31	0.58	-	1.00
Gross Cash Outflow Capital Capita	- 4,232	-1,937	6,694	- 1.58	- 49,267	-
Net Cashflows Capital Ratio	- 5.26	0.01	252.71	- 48.00	-3,784	2,758
Net Cashflows Capital Capita	- 4,141	-1,796	6,721	- 1.62	- 49,267	7,549

The tangible capital asset (TCA) mean ratio indicates that Nations have on average 65% of their assets invested in TCA. This ratio is fairly consistent across First Nations, as demonstrated by a relatively low coefficient of variation. Note also that the mean value of TCA per capita is $44,600. Most of the capital cash flow financial indicators largely have

high coefficients of variation and significant differences between the mean and median values. Note that the TCA ratio and capita indicators maintain a relatively low standard deviation, and that the mean and median values are similar.

Table 14: Descriptive Statistics of All Communities - Other Indicators

Financial Indicator	Mean	Median	SD	CV	Min	Max
Long Term Debt Ratio	0.52	0.57	0.27	0.52	-	0.98
Long Term Debt Capita	11,563	7,394	16,389	1.42	-	141,752
Net Cashflows Operating Ratio	2.09	0.97	359.78	172.32	-5,292.26	4,611.18
Net Cashflows Operating Capita	4,445	2,214	8,949	2.01	- 19,844	87,532
Gross Cash Inflows Investing Ratio	0.30	0.03	0.39	1.30	-	1.00
Gross Cash Inflows Investing Capita	2,317	0	11,901	5.14	-	141,805
Gross Cash Outflows Investing Ratio	0.14	0.00	0.25	1.75	-	1.00
Gross Cash Outflows Investing Capita	- 2,972	-16	12,838	- 4.32	- 142,249	-
Net Cashflows Investing Ratio	14.67	0.00	187.91	12.81	- 196.16	2,961.65
Net Cashflows Investing Capita	- 655	0	6,367	- 9.73	- 59,882	32,893
Earned Revenue Ratio	0.20	0.15	0.20	1.02	- 0.44	0.86
Earned Revenue Capita	7,982	3,262	14,615	1.83	- 13,313	143,219
Earned And Other Revenue Ratio	0.34	0.30	0.22	0.66	- 0.59	1.00
Earned And Other Revenue Capita	13,286	6,991	21,782	1.64	- 19,140	258,109
Federal and Provincial Revenue Ratio	0.57	0.59	0.23	0.40	-	1.56
Federal and Provincial Revenue Capita	16,392	14,244	12,135	0.74	-	127,652
Tribal Gov't & Other FN Entity Revenue Ratio	0.07	0.03	0.11	1.63	-	0.87
Tribal Gov't & Other FN Entity Revenue Capita	1,966	659	4,577	2.33	-	72,722

The mean long-term debt capita measure of First Nations governments is $11,563. Variation between Nations does exist as demonstrated by the coefficient of variation of 1.42 and a lower median value of $7,394. The cash flow indicators in Table 14 maintain very high coefficients of variation, and as such will not be further evaluated.

The First Nation government financial statements would generally indicate earned income separately on the audited financial statements. However, some First Nations would label such income as other revenue. While other revenue could include miscellaneous items, the larger amounts in other income often relate to some type of earned income such as royalties, businesses, or taxation to name a few. As such, the “earned revenue” and “earned revenue and other revenue” are considered together in this discussion. The average mean of earned and other revenue (compared to total Nation revenue) is 34%, while the percentage of federal & provincial transfer revenue is 57%. The mean of transfer revenue from Tribal Governments and other First Nation entities is 7%. Note that the coefficient of variation is relatively lower for these financial indicators compared to other indicators previously discussed. Likewise, the median values for earned & other revenue ratio, federal & provincial transfer revenue ratio, and federal & provincial transfer revenue capita are very similar to the mean values.

Table 15: Descriptive Statistics of All Communities - Demographic Indices

Demographic Index	Mean	Median	SD	CV	Min	Max
Education Index	45.10	46.22	14.54	0.32	3.65	100.00
Workforce Index	55.94	55.84	13.20	0.24	13.51	100.00
Language Index	28.70	22.76	24.28	0.85	-	100.00
Housing Index	63.11	63.12	18.14	0.29	5.71	100.00
Income Index	31.01	28.49	10.31	0.33	17.30	100.00
Nation Wellness Index (NWI)	64.92	65.47	11.53	0.18	32.26	100.00

Table 15 presents the demographic indices for First Nations across Canada. Refer to Appendix B for detailed definitions of how each index is calculated. Note that the range between min and max for most of these indices is quite large – while the NWI has the lowest range. The language index has by far the lowest index level. This indicates a low level of Indigenous language knowledge amoung individuals living in First Nation communities. The mean and median values for all of the demographic indices are very similar.

Descriptive Statistics by Population

This section reviews the descriptive statistics by population level (small, medium, and large). This provides a useful comparative analysis between the population subgroupings. This information is presented in Tables 16 - 22. Discussion is provided following each table, and focuses on the trends found in the comparative analysis. Detailed analysis and t-test statistical analysis have been conducted in Appendix G. The t-test provides statistical evidence for statistically significant relations. For the sake of brevity and flow, the discussion in the body of this section will focus on high level trends. Refer to Appendix G for further analysis.

Table 16: Descriptive Statistics by Population - Business Activity Indicators

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
Investment Asset Ratio	Small	0.30	0.14	0.61	2.08	- 0.30	6.10
	Medium	0.26	0.16	0.30	1.17	- 0.64	0.99
	Large	0.32	0.29	0.27	0.85	-	0.96
Investment Asset Capita	Small	26,992	2,401	85,240	3.16	- 132,161	586,110
	Medium	10,883	1,796	28,002	2.57	- 2,064	251,895
	Large	7,042	2,358	14,156	2.01	-	95,693
Gross Business Sales Ratio	Small	0.09	0.00	0.17	1.80	-	0.75
	Medium	0.10	0.00	0.16	1.62	-	0.77
	Large	0.10	0.03	0.16	1.54	-	0.68
Gross Business Sales Capita	Small	6,365	0	15,510	2.44	-	108,670
	Medium	4,008	0	9,271	2.31	-	77,464
	Large	3,079	436	6,632	2.15	-	37,531
Business and Ec Dev Expense Ratio	Small	0.14	0.06	0.17	1.20	-	0.70
	Medium	0.14	0.07	0.16	1.19	-	0.74
	Large	0.11	0.06	0.13	1.16	-	0.70
Business and Ec Dev Expense Capita	Small	7,911	2,175	13,777	1.74	-	77,479
	Medium	4,867	1,427	8,428	1.73	-	56,122
	Large	2,820	1,019	5,310	1.88	-	41,668

The investment asset ratio and capita measure demonstrate differing patterns between the subgroupings. The mean ratio indicates that large population communities have a slightly

higher ratio. Note that the variation amoung small population communities is quite high as indicated by the coefficient of variation of 2.08. Due to this, a statistically significant difference cannot be established. When evaluating the mean capita value, the measure is much lower for large populations ($7.0K) compared to small populations ($27K). Note that the median measures for investment asset capita are significantly lower. A small number of Nations maintain a very high investment asset capita measure, resulting in higher mean values. The difference between the means and median values for investment asset ratio are less compared to the capita measure, particularly for large population communities.

Business activity mean values are higher on a per capita basis for communities with small populations. The business activity indicators demonstrate that communities with smaller populations generate higher business revenue on a per capita basis. Note, however, that the business activity ratios between the subgroupings are very similar. A small number of Nations maintain high values for these financial indicators, which results in higher mean values.

Table 17: Descriptive Statistics by Population - Government Business Entity (GBE) Indicators

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
GBE Asset Ratio	Small	0.34	0.00	0.99	2.92	-	7.86
	Medium	0.39	0.08	0.81	2.06	-0.03	7.73
	Large	0.40	0.23	0.45	1.15	-	1.67
GBE Asset Capita	Small	28,437	3	107,390	3.78	-	751,189
	Medium	10,680	854	31,151	2.92	-510	284,081
	Large	6,939	2,174	10,621	1.53	-	53,305
GBE Liabilities Ratio	Small	0.88	0.00	4.78	5.42	-	45.76
	Medium	0.73	0.02	3.43	4.69	-	33.99
	Large	0.34	0.10	0.67	1.96	-	3.27
GBE Liabilities Capita	Small	14,927	65	43,138	2.89	-	328,243
	Medium	7,686	262	27,302	3.55	-	245,667
	Large	3,542	808	6,068	1.71	-	35,312
GBE Equity Ratio	Small	0.15	0.00	0.61	4.18	-0.44	5.70
	Medium	0.08	0.00	0.22	2.77	-0.78	1.34
	Large	0.09	0.03	0.31	3.56	-2.13	0.78
GBE Equity Capita	Small	15,095	0	73,310	4.86	-132,319	578,398
	Medium	4,720	21	14,612	3.10	-19,911	101,374
	Large	3,356	862	7,221	2.15	-19,115	30,976
GBE Revenue Ratio	Small	0.25	0.00	0.75	3.06	-0.63	5.64
	Medium	0.28	0.01	0.66	2.41	-0.01	6.46
	Large	0.22	0.08	0.32	1.45	-	1.86
GBE Revenue Capita	Small	21,683	0	106,400	4.91	-21,963	805,879
	Medium	7,252	263	17,680	2.44	-121	113,136
	Large	4,497	1,283	7,980	1.77	-	49,031
GBE Expense Ratio	Small	0.30	0.00	0.89	2.96	-	5.78
	Medium	0.31	0.02	0.93	3.01	-	10.86
	Large	0.22	0.09	0.32	1.43	-	1.90
GBE Expense Capita	Small	18,375	0	92,493	5.03	-	819,095
	Medium	6,849	290	16,543	2.42	-47	104,832
	Large	4,650	1,477	8,124	1.75	-	48,386
GBE Net Income Ratio	Small	1.66	0.00	13.15	7.91	-6.61	132.41
	Medium	0.11	0.00	8.00	71.86	-69.74	72.85
	Large	0.13	0.00	3.19	24.14	-17.35	20.10
GBE Net Income Capita	Small	3,052	0	27,544	9.02	-21,966	278,482
	Medium	344	0	2,474	7.18	-20,022	11,247
	Large	-147	0	2,297	-15.62	-18,934	3,125

There are no consistent patterns present within the mean ratios, and the level of variation between the population groupings is low. The mean capita measures, however, show a lower level of GBE activity for large populations. Note that the level of variation within each subgrouping is high, as indicated by high coefficients of variation. A distinct trend emerges from the median values. The median value for all GBE indicators (except net income indicators) are higher for large populations. This demonstrates that a higher proportion of large population communities maintain GBE activities. Note that for small and medium population communities, the mean values are higher and the median values are lower.

Table 18: Descriptive Statistics by Population - Trust Indicators

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
Trust Fund Asset Ratio	Small	0.09	0.01	0.16	1.89	-0.04	0.78
	Medium	0.10	0.01	0.20	1.92	-	0.88
	Large	0.12	0.00	0.23	2.01	-	0.95
Trust Fund Asset Capita	Small	5,281	248	21,893	4.15	-	188,636
	Medium	7,115	81	44,836	6.30	-	652,801
	Large	5,315	32	16,837	3.17	-	119,369
Trust Revenue Ratio	Small	0.02	0.00	0.07	2.80	-	0.35
	Medium	0.03	0.00	0.07	2.46	-0.00	0.56
	Large	0.02	0.00	0.07	3.15	-0.04	0.48
Trust Revenue Capita	Small	1,231	0	5,262	4.27	-	49,057
	Medium	822	0	2,452	2.98	-77	21,173
	Large	521	0	2,078	3.99	-865	16,009

No statistically significant differences between are noted in the mean trust indicators between the population subgroupings. The amounts are very similar between the subgroupings, except for the mean of trust revenue capita. Note that the median values for all of the trust activity indicators are 0 or nearly 0 for both ratio and capita measures. This demonstrates that many Nations maintain little or not trust activities.

Table 19: Descriptive Statistics by Population - Tangible Capital Asset (TCA) Indicators

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
TCA Ratio	Small	0.62	0.69	0.24	0.39	0.06	1.25
	Medium	0.67	0.73	0.22	0.33	0.01	0.97
	Large	0.63	0.70	0.23	0.36	0.13	0.97
TCA Capita	Small	65,400	49,737	56,151	0.86	1,234	392,461
	Medium	42,116	34,272	29,288	0.70	93	185,478
	Large	26,712	22,460	15,548	0.58	404	108,198
Gross Cash Inflow Capital Ratio	Small	0.15	0.00	0.32	2.15	-	1.00
	Medium	0.07	0.00	0.22	3.19	-	1.00
	Large	0.04	0.00	0.16	3.70	-	0.91
Gross Cash Inflow Capital Capita	Small	189	0	1,025	5.43	-	9,624
	Medium	58	0	251	4.36	-	3,008
	Large	64	0	298	4.67	-	2,529
Gross Cash Outflow Capital Ratio	Small	0.51	0.51	0.33	0.65	-	1.00
	Medium	0.54	0.58	0.31	0.58	-	1.00
	Large	0.55	0.59	0.27	0.48	0.03	0.97
Gross Cash Outflow Capital Capita	Small	-5,729	-2,004	8,781	-1.53	-49,267	-
	Medium	-4,077	-1,991	6,245	-1.53	-44,725	-
	Large	-2,881	-1,702	4,331	-1.50	-32,243	-13
Net Cashflows Capital Ratio	Small	1.93	0.00	16.45	8.52	-57.07	107.04
	Medium	1.26	-0.05	32.81	25.98	-175.92	351.78
	Large	-30.91	0.12	553.13	-17.89	-3,784.15	2,758.03
Net Cashflows Capital Capita	Small	-5,540	-1,721	8,883	-1.60	-49,267	7,549
	Medium	-4,020	-1,982	6,248	-1.55	-44,725	271
	Large	-2,817	-1,702	4,333	-1.54	-31,992	938

The level of tangible capital assets (TCA) is fairly consistent between the population subgroupings when evaluating the ratios. However, distinct patterns emerge on a per capita basis. Communities with smaller populations have a much higher TCA per capita for both mean and median measures. The cumulative TCA mean and median per capita is much lower for large populations. The mean cumulative TCA per capita is much higher for small populations that are geographically medium and remote (Appendix E, Figure A59). Some difference is expected due to differences in economies of scale for providing services (as

each community requires a set amount of fixed assets to function). However, the degree of difference for both mean and median capita measures is substantial.

Note the sharp distinction in cumulative TCA capita between the population subgroupings. Means for small populations are $65,400, medium populations are $42,166, and large populations are $26,712. A similar pattern emerges from the year's gross cash outflows from capital capita measure. Note that the per capita amount of cumulative TCA is even lower for large population communities that are geographically remote. Appendix E, Figure A59 shows that large population communities that are geographically remote (LR) have a mean per capita cumulative TCA of $25,672. This is the lowest of all the subgroups. Note that the TCA ratio and the gross cash outflow capital ratio median measures are very similar to the mean values. The TCA capita median values are also quite similar, although small population communities do maintain a higher degree of difference between the mean and median.

Table 20: Descriptive Statistics by Population - Other Indicators (Part 1)

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
Long Term Debt Ratio	Small	0.43	0.43	0.31	0.71	-	0.98
	Medium	0.53	0.57	0.26	0.50	-	0.97
	Large	0.63	0.68	0.20	0.32	-	0.95
Long Term Debt Capita	Small	15,143	8,012	24,054	1.59	-	141,752
	Medium	10,429	7,038	12,739	1.22	-	109,917
	Large	9,969	7,542	11,685	1.17	-	72,105
Net Cashflows Operating Ratio	Small	-0.83	0.87	18.74	-22.62	-107.51	110.42
	Medium	-3.02	1.07	37.37	-12.39	-313.19	127.76
	Large	19.50	0.40	803.48	41.19	-5,292.26	4,611.18
Net Cashflows Operating Capita	Small	8,920	3,726	14,498	1.63	-12,401	87,532
	Medium	3,360	2,158	5,346	1.59	-11,154	37,146
	Large	1,552	1,352	3,775	2.43	-19,844	18,561
Gross Cash Inflows Investing Ratio	Small	0.34	0.03	0.43	1.24	-	1.00
	Medium	0.28	0.02	0.39	1.37	-	1.00
	Large	0.32	0.12	0.37	1.18	-	1.00
Gross Cash Inflows Investing Capita	Small	2,533	0	10,699	4.22	-	103,514
	Medium	2,647	0	14,214	5.37	-	141,805
	Large	1,142	87	3,721	3.26	-	22,980
Gross Cash Outflows Investing Ratio	Small	0.18	0.00	0.30	1.65	-	0.99
	Medium	0.12	0.00	0.23	1.87	-	1.00
	Large	0.14	0.03	0.22	1.56	-	0.93
Gross Cash Outflows Investing Capita	Small	-4,697	-13	14,795	-3.15	-126,494	-
	Medium	-2,869	-5	13,981	-4.87	-142,249	-
	Large	-1,002	-85	2,541	-2.54	-14,611	-
Net Cashflows Investing Ratio	Small	0.82	0.00	22.69	27.67	-107.53	216.16
	Medium	4.69	0.00	38.18	8.14	-37.54	521.57
	Large	59.47	0.00	412.59	6.94	-196.16	2,961.65
Net Cashflows Investing Capita	Small	-2,164	-3	9,758	-4.51	-59,882	32,893
	Medium	-222	0	4,982	-22.47	-43,078	22,521
	Large	140	0	2,948	21.04	-7,524	22,980

The long-term debt mean ratio (relative to total liabilities) increases with larger populations. On a mean per capita basis, smaller populations have a higher capita measure. The mean and median values for long term debt ratio are very similar. The mean and median values for long term debt capita are very different for small populations, with a lessening difference for higher population levels. No other distinctive patterns appear regarding long-term debt amoung the subgroups. When evaluating net cash flows from operating on a per capita basis, we can see that the capita measures vary significantly. This is demonstrated by the high coefficient of variation.

Table 21: Descriptive Statistics by Population - Other Indicators (Part 2)

Financial Indicator	Population	Mean	Median	SD	CV	Min	Max
Earned Revenue Ratio	Small	0.20	0.14	0.22	1.09	-0.44	0.86
	Medium	0.20	0.15	0.20	1.02	-0.28	0.79
	Large	0.20	0.16	0.18	0.91	-0.00	0.73
Earned Revenue Capita	Small	12,423	4,513	21,886	1.76	-13,313	143,219
	Medium	7,014	3,173	11,557	1.65	-8,775	77,464
	Large	4,814	2,395	7,150	1.49	-55	40,042
Earned And Other Revenue Ratio	Small	0.36	0.36	0.23	0.63	-0.25	0.91
	Medium	0.33	0.29	0.23	0.69	-0.59	1.00
	Large	0.33	0.27	0.20	0.61	-0.08	0.89
Earned And Other Revenue Capita	Small	20,720	10,603	27,296	1.32	-19,140	171,477
	Medium	11,508	6,290	20,645	1.79	-13,971	258,109
	Large	8,411	5,088	12,558	1.49	-1,088	100,299
Federal and Provincial Revenue Ratio	Small	0.53	0.53	0.23	0.44	0.04	1.15
	Medium	0.57	0.60	0.23	0.40	-	1.56
	Large	0.60	0.63	0.21	0.35	0.11	1.08
Federal and Provincial Revenue Capita	Small	22,662	18,312	17,986	0.79	1,510	127,652
	Medium	14,780	14,045	8,077	0.55	-	53,507
	Large	12,584	12,238	8,393	0.67	362	71,270
Tribal Gov't & Other FN Entity Revenue Ratio	Small	0.08	0.04	0.12	1.46	-	0.87
	Medium	0.07	0.03	0.11	1.64	-	0.69
	Large	0.05	0.02	0.09	1.92	-	0.57

Tribal Gov't & Other FN Entity Revenue Capita	Small	3,491	1,382	7,533	2.16	-	72,722
	Medium	1,578	651	2,797	1.77	-	30,430
	Large	1,029	364	2,465	2.40	-	20,022

The revenue ratios are very consistent between most of the population subgroupings for both mean and median measures. The revenue per capita measures do show a different pattern; all mean revenue sources per capita are higher for smaller populations. The median revenue indicators per capita follow a similar pattern, but the difference between the population subgroupings is lessened. This results in larger population communities receiving less revenue per capita, which could limit the ability of the local governments to provide necessary services. Note that some of this difference likely relates to differences in economies of scale between small and large populations. Small populations are on average more remote than large population communities, which could result in higher costs and a relating high level of transfer revenue from third-party funders.

When we evaluate earned revenue & other revenue on a per capita basis, a similar pattern emerges. Small population communities have a higher mean capita measure of $20,720, while large populations are $8,411. This indicates that earned and other revenue does not scale up with increases in population. The federal and provincial transfer mean payments on a per capita basis are much higher for small population communities at $22,662, while large populations are $12,584. The per capita mean federal/provincial transfers can be as much as double for small population communities compared to large population communities. While some difference was expected, this degree of difference is unexpected. While the median value differences between the subgroupings for these capita measures are not as drastic, a similar pattern does exist.

First Nation government transfers includes transfers from Tribal Governments and other First Nation entities. Small population communities maintain a higher per capita mean measure of $3,491, while large are $1,029. Note that the mean ratio measure is higher for small populations at 0.08, while large populations are 0.05. This demonstrate that small population communities maintain a higher level of Indigenous entity transfer revenue. The median values follow a similar pattern, but the overall median values are lower compared to the mean.

Table 22: Descriptive Statistics by Population - Demographic Indices

Index	Population	Mean	Median	SD	CV	Min	Max
Education Index	Small	50.2	50.1	14.3	0.28	12.8	100.0
	Medium	43.5	44.3	13.8	0.32	3.7	70.6
	Large	42.8	40.4	15.3	0.36	13.5	75.5
Workforce Index	Small	62.3	61.9	13.8	0.22	30.4	100.0
	Medium	55.5	56.1	11.9	0.21	13.5	91.9
	Large	48.7	48.8	11.7	0.24	20.6	82.7
Language Index	Small	20.1	15.5	18.0	0.90	-	79.2
	Medium	29.2	24.4	23.8	0.81	-	99.3
	Large	38.7	34.1	28.6	0.74	-	100.0
Housing Index	Small	67.8	66.7	19.2	0.28	25.0	100.0
	Medium	61.3	61.4	17.0	0.28	5.7	100.0
	Large	61.8	60.7	18.7	0.30	17.5	98.7
Income Index	Small	-	-	-	-	-	-
	Medium	30.9	29.1	9.5	0.31	17.3	100.0
	Large	31.3	27.9	12.0	0.38	17.9	92.8
Nation Wellness Index	Small	70.7	70.9	12.2	0.17	40.5	100.0
	Medium	62.8	63.1	10.1	0.16	32.3	93.6
	Large	63.1	62.6	11.8	0.19	38.5	98.9

The mean and median values for the demographic indices are very similar. Due to this, only the mean values will be discussed. The education index is higher for small populations at 50.2, compared to the rest of the communities (all communities excluding the small population communities) at 43.3. Small population communities have a higher workforce index of 62.3, with the rest of the communities at 53.7. The language index for large populations is 38.7, with the rest of the communities at 26.2. The housing index is moderately higher for small population communities at 67.8, with the rest of the communities at 61.4. All of these differences of means are statistically significant as per the t-tests in Appendix G. No income data is available for small populations due to data quality issues. Population at the medium and large level have nearly equal income index measures.

The Nation wellness index (NWI) provides an overall measure for a Nation's wellness based on the previously discussed indices. The NWI of the total population is 64.9. The NWI is higher for small population communities with a mean of 70.7, compared to the rest of the

communities at 62.9. This difference is statistically significant per the t-tests in Appendix G. As per Appendix E, Figure A111, the medium population subgroups are fairly constant with the total population mean. However, a distinct pattern emerges for large populations. Large populations that are geographically remote have a NWI of 68.2, large populations that are geographically medium are 58.7, and large populations that are geographically remote are 58.5. This shows that large populations that are geographically close are slightly above the total population index, while large populations that are geographically medium or remote have the lowest NWI.

Descriptive Statistics by Geographic Remoteness

This section reviews the descriptive statistics by geographic remoteness level (close, medium, and remote). This provides a useful comparative analysis between the geographic remoteness subgroupings. This information is presented in Tables 23-29. Discussion is provided following each table, and focuses on the trends found in the comparative analysis between geographic zones. Detailed analysis and t-test statistical analysis has been conducted in Appendix G. The t-tests provide statistical evidence for statistically significant relations. For the sake of brevity and flow, the discussion in the body of this section will focus on high level trends.

Table 23: Descriptive Statistics by Geographic Remoteness - Business Activity Indicators

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
Investment Asset Ratio	Close	0.32	0.21	0.56	1.73	-0.30	6.10
	Medium	0.25	0.17	0.29	1.15	-0.64	1.07
	Remote	0.27	0.15	0.30	1.12	-0.05	0.99
Investment Asset Capita	Close	13,289	2,415	39,378	2.96	-16,536	414,320
	Medium	15,668	2,017	57,301	3.66	-132,161	586,110
	Remote	12,468	1,925	39,993	3.21	-168	332,939
Gross Business Sales Ratio	Close	0.13	0.01	0.20	1.54	-	0.77
	Medium	0.10	0.00	0.15	1.54	-	0.68
	Remote	0.05	0.00	0.11	2.13	-	0.48
Gross Business Sales Capita	Close	6,836	120	15,694	2.30	-	108,670
	Medium	3,537	0	7,396	2.09	-	51,131
	Remote	2,388	0	6,323	2.65	-	37,240
Business and Ec Dev Expense Ratio	Close	0.16	0.06	0.19	1.20	-	0.74
	Medium	0.14	0.08	0.15	1.08	-	0.65
	Remote	0.08	0.03	0.11	1.41	-	0.51
Business and Ec Dev Expense Capita	Close	6,602	1,376	12,977	1.97	-	77,479
	Medium	4,950	1,936	7,733	1.56	-	48,929
	Remote	3,532	554	7,437	2.11	-	45,262

The mean and median business activity financial indicators demonstrate that geographically close communities earn a higher percentage of their total revenue from business activities. The mean of business and economic development expenses is also higher for geographically close communities, while the median values do not follow this pattern. A similar pattern emerges on a per capita basis. A distinct trend is present for both investment asset capita and business and economic development expense capita, in that the median values are significantly lower than the mean values.

Table 24: Descriptive Statistics by Geographic Remoteness – GBE Indicators

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
GBE (government business entity) Asset Ratio	Close	0.31	0.10	0.43	1.39	-0.03	2.03
	Medium	0.44	0.06	1.03	2.34	-0.00	7.86
	Remote	0.36	0.01	0.60	1.68	-	3.09
GBE Asset Capita	Close	8,100	1,222	18,318	2.26	-510	159,756
	Medium	17,516	607	64,304	3.67	-	751,189
	Remote	19,237	39	94,935	4.93	-	717,494
GBE Liabilities Ratio	Close	0.35	0.03	0.80	2.30	-	5.42
	Medium	1.07	0.01	4.91	4.58	-	45.76
	Remote	0.25	0.01	0.43	1.72	-	1.88
GBE Liabilities Capita	Close	4,366	323	10,297	2.36	-	88,534
	Medium	12,492	337	39,909	3.19	-	328,243
	Remote	6,431	74	20,166	3.14	-	139,096
GBE Equity Ratio	Close	0.11	0.01	0.33	3.10	-2.13	1.23
	Medium	0.09	0.00	0.43	4.86	-0.47	5.70
	Remote	0.10	0.00	0.26	2.52	-0.18	1.34
GBE Equity Capita	Close	5,914	580	16,599	2.81	-19,115	132,138
	Medium	6,004	0	34,938	5.82	-132,319	422,947
	Remote	12,942	4	71,131	5.50	-4,803	578,398
GBE Revenue Ratio	Close	0.20	0.02	0.40	1.97	-0.01	2.74
	Medium	0.32	0.02	0.79	2.47	-0.63	6.46
	Remote	0.17	0.00	0.48	2.76	-	3.38
GBE Revenue Capita	Close	5,195	284	12,245	2.36	-121	97,549
	Medium	12,703	459	61,577	4.85	-21,963	805,879
	Remote	14,821	0	87,575	5.91	-	661,988
GBE Expense Ratio	Close	0.21	0.02	0.46	2.13	-	3.16
	Medium	0.37	0.01	1.02	2.79	-0.00	10.86
	Remote	0.20	0.00	0.77	3.79	-	5.78
GBE Expense Capita	Close	4,656	333	11,402	2.45	-	92,054
	Medium	12,553	380	62,190	4.95	-47	819,095
	Remote	9,794	23	50,940	5.20	-	383,506
GBE Net Income Ratio	Close	0.16	0.00	9.01	57.64	-69.74	72.85
	Medium	0.70	0.00	10.00	14.32	-44.78	132.41
	Remote	0.71	0.00	5.12	7.17	-9.69	40.09
GBE Net Income Capita	Close	668	0	3,522	5.27	-18,934	25,781
	Medium	-22	0	3,319	-147.57	-21,966	11,247
	Remote	4,404	0	34,021	7.72	-2,742	278,482

GBE activity means per capita amoung small population communities are divided sharply by geographic remoteness. GBE activity means are higher for all indicators for small populations that are geographically medium and remote (refer to Appendix E, Figures A25 – A47). Another distinction for small populations that are geographically close is that even though their overall GBE activity is low, the equity balance of the GBEs is quite high. It is important to note that many of the GBE financial indicators maintain very high coefficients of variation. Also, the median values for most GBE indicators for all geographic subgroupings are significantly lower than the mean values; most of the median indicators hold a value of zero. The results from the t-tests as per Appendix G and I demonstrate non-statistically significant results between the geographic subgroupings.

Table 25: Descriptive Statistics by Geographic Remoteness - Trust Indicators

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
Trust Fund Asset Ratio	Close	0.09	0.01	0.19	2.04	-0.04	0.95
	Medium	0.12	0.01	0.21	1.74	-	0.88
	Remote	0.07	0.00	0.18	2.63	-	0.86
Trust Fund Asset Capita	Close	5,382	113	21,325	3.96	-	188,636
	Medium	4,606	95	14,327	3.11	-	134,055
	Remote	12,588	30	75,717	6.02	-	652,801
Trust Revenue Ratio	Close	0.02	0.00	0.07	3.07	-0.04	0.48
	Medium	0.04	0.00	0.08	2.19	-0.00	0.56
	Remote	0.01	0.00	0.04	4.48	-	0.31
Trust Revenue Capita	Close	522	0	1,933	3.71	-865	16,009
	Medium	1,332	0	4,451	3.34	-77	49,057
	Remote	240	0	1,044	4.35	-	8,411

The mean trust activity indicators demonstrate that geographically remote communities do not utilize trusts as much as other geographical locations. Mean trust revenues on a ratio and per capita basis are much lower for geographically remote communities. The mean trust fund asset ratio is lowest for geographically remote communities. While the mean trust fund asset capita is higher for geographically remote communities, this is due to a significant outlier. Note that trust revenue makes up a small percentage of total revenue for most First Nations. The median values for all trust indicators are very low with a near zero value. This

is caused by a large number of Nations that maintain no trust activities, while a small number of Nations maintain high levels of trust activities.

Table 26: Descriptive Statistics by Geographic Remoteness - Tangible Capital Asset (TCA) Indicators

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
Tangible Capita Asset (TCA) Ratio	Close	0.60	0.64	0.24	0.39	0.06	1.25
	Medium	0.68	0.73	0.22	0.32	0.01	0.97
	Remote	0.67	0.76	0.23	0.34	0.04	0.95
TCA Capita	Close	37,314	29,012	29,854	0.80	404	192,798
	Medium	45,237	35,266	32,648	0.72	156	207,214
	Remote	58,521	42,469	60,725	1.04	93	392,461
Gross Cash Inflow Capital Ratio	Close	0.09	0.00	0.26	2.77	-	1.00
	Medium	0.08	0.00	0.23	2.99	-	1.00
	Remote	0.06	0.00	0.20	3.47	-	0.89
Gross Cash Inflow Capital Capita	Close	150	0	873	5.83	-	9,624
	Medium	74	0	304	4.09	-	3,008
	Remote	14	0	59	4.12	-	379
Gross Cash Outflow Capital Ratio	Close	0.53	0.61	0.32	0.61	-	1.00
	Medium	0.52	0.52	0.30	0.58	-	1.00
	Remote	0.59	0.66	0.31	0.52	-	1.00
Gross Cash Outflow Capital Capita	Close	-3,412	-1,944	5,213	-1.53	-32,243	-
	Medium	-4,667	-1,855	7,318	-1.57	-44,725	-
	Remote	-4,647	-2,229	7,403	-1.59	-49,267	-
Net Cashflows Capital Ratio	Close	1.90	0.00	22.91	12.08	-87.84	177.59
	Medium	-13.72	-0.18	355.71	-25.92	-3,784.15	2,758.03
	Remote	6.19	0.18	47.14	7.61	-56.34	351.78
Net Cashflows Capital Capita	Close	-3,262	-1,746	5,299	-1.62	-31,992	7,549
	Medium	-4,593	-1,796	7,319	-1.59	-44,725	1,333
	Remote	-4,632	-2,229	7,402	-1.60	-49,267	-

The level of mean tangible capital assets (TCA) is fairly consistent between the geographic subgroupings when evaluating the ratios. However, distinct patterns emerge on a mean per capita basis. Close communities maintain a mean TCA capita measure of $37,314, while remote communities are at $58,521. A similar pattern is present for the median values;

however, the median values are lower for each subgrouping. This makes intuitive sense, as the cost of building or purchasing TCA would be higher in more remote locations. Most of the capital cash flow financial indicators maintain very high coefficients of variation, which results in the inability to establish statistically significant differences. The median value for TCA ratio and gross cash outflow capital ratio are very similar to the mean values.

Table 27: Descriptive Statistics by Geographic Remoteness - Other Indicators (Part 1)

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
Long Term Debt Ratio	Close	0.55	0.62	0.27	0.49	-	0.95
	Medium	0.53	0.57	0.27	0.50	-	0.97
	Remote	0.45	0.46	0.28	0.63	-	0.98
Long Term Debt Capita	Close	11,339	7,887	15,386	1.36	-	134,586
	Medium	11,738	7,500	14,849	1.26	-	88,407
	Remote	11,503	6,205	21,670	1.88	-	141,752
Net Cashflows Operating Ratio	Close	-2.01	0.79	30.29	-15.10	-281.75	110.42
	Medium	9.65	1.27	512.53	53.11	-5,292.26	4,611.18
	Remote	-11.27	-0.17	49.82	-4.42	-313.19	26.20
Net Cashflows Operating Capita	Close	3,867	2,156	7,121	1.84	-6,510	48,409
	Medium	4,885	2,472	10,172	2.08	-19,844	87,532
	Remote	4,324	1,537	8,462	1.96	-12,401	43,819
Gross Cash Inflows Investing Ratio	Close	0.34	0.05	0.42	1.24	-	1.00
	Medium	0.28	0.02	0.38	1.34	-	1.00
	Remote	0.30	0.08	0.38	1.29	-	1.00
Gross Cash Inflows Investing Capita	Close	2,828	3	14,676	5.19	-	141,805
	Medium	2,531	2	11,861	4.69	-	121,728
	Remote	763	0	2,201	2.88	-	12,667
Gross Cash Outflows Investing Ratio	Close	0.18	0.01	0.29	1.66	-	1.00
	Medium	0.15	0.01	0.25	1.60	-	0.93
	Remote	0.05	0.00	0.13	2.49	-	0.90
Gross Cash Outflows Investing Capita	Close	-3,999	-41	16,534	-4.13	-142,249	-
	Medium	-3,063	-41	11,857	-3.87	-110,458	-
	Remote	-784	0	4,862	-6.20	-43,078	-
Net Cashflows Investing Ratio	Close	2.57	0.00	21.28	8.29	-107.53	154.51
	Medium	25.42	0.00	265.15	10.43	-196.16	2,961.65
	Remote	7.61	0.00	59.62	7.83	-10.79	521.57
Net Cashflows Investing Capita	Close	-1,171	0	5,126	-4.38	-32,993	7,555
	Medium	-531	0	7,374	-13.88	-59,882	32,893
	Remote	-21	0	5,400	-260.82	-43,078	12,175

The long-term debt (LTD) indicators are very consistent amoung the geographic subgroupings for both the mean and median measures. The mean and median values are very similar for the LTD ratio. The LTD capita median values are lower than the mean values. No other distinctive patterns appear amoung the other financial indicators that are statistically significant. Note that the high coefficients of variation for these other financial indicators result in statistically insignificant relationships.

Table 28: Descriptive Statistics by Geographic Remoteness - Other Indicators (Part 2)

Financial Indicator	Geographic Zone	Mean	Median	SD	CV	Min	Max
Earned Revenue Ratio	Close	0.28	0.22	0.24	0.84	-0.22	0.86
	Medium	0.17	0.14	0.16	0.94	-0.28	0.75
	Remote	0.11	0.04	0.17	1.52	-0.44	0.73
Earned Revenue Capita	Close	11,130	4,172	17,998	1.62	-3,330	125,403
	Medium	6,211	3,635	8,367	1.35	-8,775	48,251
	Remote	6,932	1,068	19,502	2.81	-13,313	143,219
Earned And Other Revenue Ratio	Close	0.41	0.40	0.23	0.57	-0.27	1.00
	Medium	0.32	0.30	0.20	0.65	-0.59	0.87
	Remote	0.26	0.19	0.21	0.82	-0.16	0.99
Earned And Other Revenue Capita	Close	14,552	7,206	19,210	1.32	-5,388	132,086
	Medium	11,911	6,967	15,862	1.33	-19,140	100,299
	Remote	14,694	5,918	36,006	2.45	-4,014	258,109
Federal and Provincial Revenue Ratio	Close	0.51	0.52	0.22	0.43	-	1.18
	Medium	0.57	0.59	0.22	0.38	0.00	1.56
	Remote	0.67	0.73	0.24	0.35	0.00	1.11
Federal and Provincial Revenue Capita	Close	13,720	12,445	9,818	0.72	-	71,270
	Medium	16,905	14,835	11,684	0.69	44	94,492
	Remote	20,014	17,840	15,805	0.79	441	127,652
Tribal Gov't & Other FN Entity Revenue Ratio	Close	0.06	0.02	0.09	1.59	-	0.57
	Medium	0.08	0.03	0.11	1.51	-	0.68
	Remote	0.07	0.03	0.13	2.00	-	0.87
Tribal Gov't & Other FN Entity Revenue Capita	Close	1,403	369	2,475	1.76	-	20,022
	Medium	2,123	755	3,214	1.51	-	23,166
	Remote	2,595	703	8,836	3.40	-	72,722

The mean earned and other revenue ratio is higher for geographically close communities at 0.41, while remote communities are 0.26. The median values are very similar. The mean and median capita measure shows more consistency between the geographic subgroupings, although the median values are much lower than the mean values. Refer to Appendix E, Figures A81 – A84 for a further breakdown by subgroup. Mean transfer revenue (both ratios and capita measures) from the federal/provincial government are higher for geographically remote communities. This is expected as Indigenous Services Canada provides supplemental funds for remote communities due to the higher costs of more remote locations. The median for this ratio value is very similar to the mean. The median for this capita measure is slightly lower than the mean. Refer to Appendix E, Figures A85 – A88 for a further breakdown by subgroup.

A common theme amoung the revenue source indicators are that geographically remote and medium communities with large populations have lower per capita revenue (refer to Appendix E, Figures A81 – A92). Having lower revenue from every source presents a problem when these First Nation governments are required to provide many essential services to their community members.

Table 29: Descriptive Statistics by Geographic Remoteness - Demographic Indices

Index	Geographic Zone	Mean	Median	SD	CV	Min	Max
Education Index	Close	51.7	53.6	11.9	0.23	23.7	81.3
	Medium	45.2	45.9	13.1	0.29	8.9	100.0
	Remote	32.4	30.3	14.6	0.45	3.7	75.1
Workforce Index	Close	57.4	57.8	12.0	0.21	13.5	90.2
	Medium	54.5	54.1	13.8	0.25	20.6	100.0
	Remote	57.3	56.2	13.6	0.24	26.5	100.0
Language Index	Close	17.9	12.5	18.3	1.02	-	98.5
	Medium	28.1	25.0	19.9	0.71	-	99.3
	Remote	50.7	47.8	30.2	0.60	-	100.0
Housing Index	Close	70.2	71.4	16.7	0.24	28.6	100.0
	Medium	62.2	61.9	17.7	0.28	5.7	100.0
	Remote	52.0	50.4	15.8	0.30	14.3	100.0
Income Index	Close	34.2	33.5	10.9	0.32	17.3	92.8
	Medium	29.4	27.0	9.7	0.33	17.3	100.0
	Remote	28.9	26.5	9.3	0.32	17.6	56.3
Nation Wellness Index	Close	66.5	66.8	9.9	0.15	43.3	98.9
	Medium	64.0	63.8	12.3	0.19	32.3	100.0
	Remote	64.4	62.6	12.0	0.19	42.5	97.5

The mean and median values for the demographic indices are very similar. Due to this, only the mean values will be discussed. The education index has significant differences based on geographic remoteness. It is worthwhile analyzing the subgroup matrix for the education index, as very distinct patterns emerge. Refer to Appendix D, Figures A1 – A2. Note that the education index for the total population is 45.1 Geographically remote communities with medium populations have an education index of 28.6, and geographically remote communities with large populations have an education index of 25.8. This significantly lower level of educational attainment is concerning, and raises question as to why these two subgroups are so much lower.

The language index indicates significant differences based on geographic remoteness. Similar to the education index, it is worthwhile evaluating the subgroup matrix. Refer to Appendix D, Figures A5 – A6. Note that the language index for the total population is 28.7. Geographically remote communities with medium populations have a language index of

52.4, and geographically remote communities with large populations have a language index of 64.5. It makes intuitive sense that communities that are more geographically remote would have a higher knowledge of Indigenous language, as members in these communities would have less interactions with community outsiders that may speak non-Indigenous languages.

The housing index indicates that geographically close communities have better residential housing conditions. Similar to the education and education and language indices, it is worthwhile evaluating the subgroup matrix in greater detail as distinct patterns emerge. Refer to Appendix D, Figures A7 – A8. Note that the housing index for the total population is 63.1. Geographically remote communities with medium populations have a housing index of 51.2, while geographically remote communities with large populations have a housing index of 43.0. For these communities, approximately half of the residential houses are in need of major repairs. This is very distressing, and indicates that many of these communities have widespread housing issues.

The income index has missing data for small populations. Due to data quality issues, Statistics Canada did not release income information for small population communities. As such, this analysis only evaluates medium and large population communities. Geographically close communities have slightly higher income levels, which slightly declines with more geographically remote communities. Note that the variances between subgroups is not drastic. The workforce index is largely consistent between the geographic subgroupings, as is the Nation wellness index.

Descriptive Statistics and Comparative Analysis – Concluding Statements

This chapter has reviewed the descriptive statistics of the investing financial indicators and community wellbeing demographic indices of First Nation communities. The comparative analysis performed has identified key trends for the total population as a whole, as well as trends between the different population subgroupings and geographic remoteness subgroupings. Both the mean and median values were evaluated. The next chapter evaluates the Pearson correlation coefficients between the investing financial indicators and the demographic indices. The correlation analysis is conducted for the total population as a whole, and by the major subgroups of First Nation communities.

Chapter 4: Pearson Correlation Coefficient (r) Analysis and Hypotheses

This chapter outlines the findings of the correlation analysis between the First Nations financial indicators and the Nation wellness demographic indices. The correlational findings are presented in two sections. The first section reviews the Pearson correlation coefficients (r) amongst the demographic indices. The second section reviews the r between the financial indicators and the demographic indices. The findings are presented in tabular format, with discussion following the tables.

The Methodology and Hypotheses chapter provided the pre-established hypotheses for the correlations that are discussed. The hypotheses proposed whether or not a statistically significant correlation was expected. All expected statistically significant correlations in Tables 4 – 6 expect a positive correlation. This section provides the findings as to whether the hypotheses are supported or not supported based on the correlational analysis at a statistical significance level of 5%. As noted in Chapter 2, a weakness of Pearson correlation analysis is that other impactful variables are not controlled for. This weakness will be addressed in Chapter 5 with the use of multiple linear regression. Several of the hypotheses will be re-evaluated in this multiple linear regression, which evaluates nine independent variables. Key differences between the Pearson correlation analysis and multiple linear regression will be considered in Chapter 6.

This chapter makes reference to several appendices that provide further detail regarding the analysis. Refer to Table 30 for a listing of these appendices.

Table 30: Appendices Relating to Pearson Correlation Chapter

Appendix	Appendix Description
Appendix J	R Results Between Business Activity Indicators and Demographic Indices
Appendix K	R Results Between Government Business Entity (GBE) Activity Indicators and Demographic Indices
Appendix L	R Results Between Trust Activity Indicators and Demographic Indices
Appendix M	R Results Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices
Appendix N	R Results Between Other Activity Indicators and Demographic Indices
Appendix O	Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups
Appendix P	Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population
Appendix Q	Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups
Appendix R	Correlational Instance Scatterplots and Line of Best Fit Graphs

Throughout this section and the appendices noted in Table 30, the following presentation and markings will be used. Numbers presented in red text represent negative correlations, highlighted cells represent r values that are greater than 0.40 or are less than -0.40, and results with an * represent correlational amounts that are statistically significant at the 5% level. Relevant highlighted items in Appendices J – N and Tables 31 – 45 are further evaluated via a scatterplot and line of best fit graph in Appendix R. Statistically significant items in Tables 31 to 45 are also evaluated via a graph in Appendix R. The line of best fit in Appendix R is based on a fractional polynomial calculation.

The following sections present the r results amongst the demographic indices for the total population and subgroups, and the r results between the financial indicators and demographic indices for the total population. The results are presented in tables along with discussion. Appendices J – N provide the financial indicator/demographic indices r results in tabular format for the subgroups. Appendices O – Q provide further analysis, results, and referencing to the correlational instance graphs. Finally, Appendix R provides the correlational instance scatterplots and line of best fit graphs. For the sake of flow and brevity, detailed appendix referencing has been left out of the general discussion. For further analysis and detailed referencing to data charts, tables, and other appendices, refer to Appendices O - Q. This provides ease of reference for readers that seek a more in-depth analysis of a given topic.

R Results and Discussion Amongst Demographic Indices

This section reviews the correlations amongst the demographic indices. Recall that the hypotheses proposed whether or not a correlation is statistically significant and positive. This section will present the results, and discuss whether the findings support the hypotheses. Statistical significance is evaluated at the 5% level. For the sake of brevity, detailed referencing has been left out of this discussion section. Refer to Tables 31 – 40 for the r result summary tables. Refer to Appendix O for further analysis and referencing to the scatterplot and line of best fit graphs.

Table 31: R Summary Between Demographic Indices - Total Population

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.41*	1.00				
Language	-0.54*	-0.23*	1.00			
Housing	0.44*	0.36*	-0.37*	1.00		
Income	0.45*	0.56*	-0.23*	0.50*	1.00	
Nation Wellness	0.51*	0.69*	0.09	0.66*	0.71*	1.00

Table 32: R Summary Between Demographic Indices - Subgroup SC

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.04	1.00				
Language	-0.01	0.38*	1.00			
Housing	-0.07	0.06	-0.29	1.00		
Income	n/a	n/a	n/a	n/a	n/a	
Nation Wellness	0.39*	0.67*	0.44*	0.51*	n/a	1.00

Table 33: R Summary Between Demographic Indices - Subgroup SM

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.23	1.00				
Language	-0.26*	0.04	1.00			
Housing	0.08	0.35*	0.06	1.00		
Income	n/a	n/a	n/a	n/a	n/a	
Nation Wellness	0.43*	0.69*	0.36*	0.75*	n/a	1.00

Table 34: R Summary Between Demographic Indices - Subgroup SR

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.21	1.00				
Language	-0.17	0.08	1.00			
Housing	-0.11	0.24	0.06	1.00		
Income	n/a	n/a	n/a	n/a	n/a	
Nation Wellness	0.34	0.67*	0.58*	0.54*	n/a	1.00

Table 35: R Summary Between Demographic Indices - Subgroup MC

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.43*	1.00				
Language	-0.42*	-0.11	1.00			
Housing	0.50*	0.05	-0.46*	1.00		
Income	0.43*	0.34*	-0.26*	0.50*	1.00	
Nation Wellness	0.71*	0.64*	-0.04	0.63*	0.68*	1.00

Table 36: R Summary Between Demographic Indices - Subgroup MM

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.57*	1.00				
Language	-0.39*	-0.28*	1.00			
Housing	0.39*	0.52*	-0.23*	1.00		
Income	0.34*	0.54*	-0.19*	0.44*	1.00	
Nation Wellness	0.57*	0.74*	0.12	0.75*	0.66*	1.00

Table 37: R Summary Between Demographic Indices - Subgroup MR

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.44*	1.00				
Language	-0.47*	-0.38*	1.00			
Housing	0.22	0.18	-0.31*	1.00		
Income	0.41*	0.54*	-0.01	0.34*	1.00	
Nation Wellness	0.24	0.38*	0.49*	0.34*	0.73*	1.00

Table 38: R Summary Between Demographic Indices - Subgroup LC

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.57*	1.00				
Language	-0.69*	-0.31*	1.00			
Housing	0.67*	0.48*	-0.48*	1.00		
Income	0.59*	0.74*	-0.31	0.56*	1.00	
Nation Wellness	0.60*	0.77*	-0.06	0.72*	0.84*	1.00

Table 39: R Summary Between Demographic Indices - Subgroup LM

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.69*	1.00				
Language	-0.20	-0.03	1.00			
Housing	0.59*	0.54*	-0.16	1.00		
Income	0.44*	0.78*	0.06	0.52*	1.00	
Nation Wellness	0.57*	0.69*	0.58*	0.58*	0.65*	1.00

Table 40: R Summary Between Demographic Indices - Subgroup LR

Index	Education	Workforce	Language	Housing	Income	Nation Wellness
Education	1.00					
Workforce	0.64*	1.00				
Language	-0.54*	-0.48	1.00			
Housing	0.53	0.55*	-0.09	1.00		
Income	0.75*	0.74*	-0.46	0.49	1.00	
Nation Wellness	0.31	0.37	0.51	0.70*	0.37	1.00

The hypothesis expected the education index and workforce index to have statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation of 0.41* for the total population. A positive correlation is notably stronger for communities with large populations (LC, LM, LR). The correlation is weaker for medium populations (MC, MM, MR), but is still statistically significant. The correlation for small population communities is very weak (SC, SM, SR), and is not statistically significant.

The hypothesis expected the education index and income index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation of 0.45* for the total population. Note that no income data is available for small population communities due to data quality issues. Medium population (MC, MM, MR) and large population (LC, LM, LR) communities demonstrate a statistically significant positive correlation. The trend also

emerges where the indices initially rise more steeply and then the correlation levels off as the index levels are higher.

No hypothesis was established regarding the education index and language index. Based on the results of Table 31, the results indicate a negative correlation of -0.54* for the total population. Small population communities demonstrate a weaker correlation, with subgroups SC and SR being not statistically significant. The negative correlation is generally stronger with larger population levels, and is statistically significant for subgroups MC, MM, MR, LC, and LR. This level of negative correlation is surprising to the author, as no correlation was initially expected. The fact that higher levels of formal education is negatively correlated with knowledge of Indigenous language is concerning. This may be an indication that further efforts are required to preserve traditional Indigenous languages within formal education systems. Note, however, that a causal conclusion cannot be made from this analysis. There may be other factors that explain this correlation.

The hypothesis expected the education index and housing index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a statistically significant positive correlation for the total population of 0.44*. Small population communities (SC, SM, SR) have non-statistically significant correlations. Also, geographically remote communities (SR, MR, LR) have non-statistically significant correlations. Medium and large population communities that are geographically close and medium (MC, LC, MM, LM) all have statistically significant positive correlations.

The hypothesis expected the education index and Nation wellness index to have a statistically significant positive correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation of 0.51* for the total population. Communities that are geographically close (SC, MC, LC) and medium (SM, MM, LM) all have statistically significant positive correlations. Note that geographically remote communities (SR, MR, LR) do not maintain a statistically significant correlation.

No hypothesis was established regarding the workforce index and language index. Based on the results of Table 31, the results indicate a statistically significant negative

correlation of -0.23* for the total population. The following subgroups maintain statistically significant correlations: SC, MM, MR, and LC.

The hypothesis expected the workforce index and housing index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a statistically significant positive correlation of 0.36*. Note that approximately half of the subgroups maintain non-statistically significant correlations while the other half maintain statistically significant correlations. Communities with large populations (LC, LM, LR) all have statistically significant positive correlations. Also, all geographically medium (SM, MM, LM) communities have statistically significant positive correlations.

The hypothesis expected the workforce index and income index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation for the total population of 0.56*. Large population communities (LC, LM, LR) have statistically significant positive correlations. Medium populations communities (MC, MM, MR) maintain statistically significant positive correlations, albeit weaker than large populations. No income data is available for small population communities.

The hypothesis expected the workforce index and Nation wellness index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation for the total population of 0.69*. Most of the community subgroups have statistically significant positive correlations, with the exception of large population communities that are geographically remote (LR).

No hypothesis was established regarding the language index and housing index. Based on the results of Table 31, the results indicate a statistically significant negative correlation for the population as a whole of -0.37*. Medium population communities (MC, MM, MR) maintain statistically significant negative correlations, as do large population communities that are geographically close (LC). All other subgroups do not have a statistically significant correlation.

No hypothesis was established regarding the language index and income index. Based on the results of Table 31, the results indicate a statistically significant negative correlation

for the population as a whole of -0.23*. Medium population communities that are geographically close (MC) and medium (MM) maintain statistically significant negative correlations. Note that no income data is available for small population communities. Large population communities do not maintain statistically significant correlations.

The hypothesis expected the language index and Nation wellness index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is not supported for the population as a whole. A non-statistically significant correlation for the total population exists of 0.09. Small population communities (SC, SM, SR) maintain statistically significant positive correlations, as do subgroups MR and LM.

The hypothesis expected the housing index and income index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation for the total population of 0.50*. No income data is available for small population communities. All other community subgroups have a statistically significant positive correlation, except for large population communities that are geographically remote (LR).

The hypothesis expected the housing index and Nation wellness index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation of 0.66*. All of the community subgroups maintain a statistically significant positive correlation.

The hypothesis expected the income index and Nation wellness index to have a statistically significant correlation. Based on the results of Table 31, this hypothesis is supported for the population as a whole. The results indicate a positive correlation of 0.71*. Note that no income data is available for small population communities. All other community subgroups maintain a statistically significant positive correlation, except for large population communities that are geographically remote (LR).

This section has reviewed the correlational results amongst the demographic indices, and presented the results of the relating hypotheses. While some of the hypotheses are not supported, many of the hypotheses are supported by the correlational analysis that demonstrate a statistically significant correlation at the 5% level.

R Results and Discussion Between Financial Indicators and Demographic Indices

This section reviews the correlation results between the financial indicators and the demographic indices. Recall that the hypotheses proposed whether or not a correlation is statistically significant and positive. This section will present the results and discuss whether or not the findings support the hypotheses. Statistical significance is evaluated at the 5% level. For the sake of brevity, detailed referencing has been left out of this discussion section. Refer to Tables 41 – 45 and Appendices J – N for the r summary tables. Refer to Appendices P and Q for further analysis and detailed referencing to the scatterplot and line of best fit graphs.

R Results Between Business/GBE Activity Financial Indicators and Demographic Indices

This subsection reviews the r results between the business/GBE activity indicators and the demographic indices. The r results for the total population are presented in Tables 41 – 42, which is followed by discussion. Supplementary information regarding the subgroup correlational results is provided throughout the discussion section. Note that the r results for the subgroups can be found in Appendices J – K.

Table 41: R Summary Between Business Activity Financial Indicators and Demographic Indices – Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment Asset Ratio	-0.00	0.01	-0.02	0.09	0.21*	0.06
Investment Asset Capita	0.10*	0.16*	-0.08	0.19*	0.27*	0.20*
Gross Business Sales Ratio	0.17*	0.12*	-0.16*	0.14*	0.07	0.08
Gross Business Sales Capita	0.17*	0.18*	-0.16*	0.18*	0.04	0.14*
Business and Ec Dev Expense Ratio	0.21*	0.19*	-0.24*	0.19*	0.04	0.09*
Business and Ec Dev Expense Capita	0.17*	0.23*	-0.20*	0.18*	-0.01	0.13*

Table 42: R Summary Between Government Business Entity (GBE) Activity Financial Indicators and Demographic Indices – Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	-0.01	0.04	-0.02	0.09	0.18*	0.05
GBE Asset Capita	0.01	0.17*	-0.03	0.16*	0.19*	0.17*
GBE Revenue Ratio	-0.01	0.10	-0.01	0.13*	0.22*	0.12*
GBE Revenue Capita	0.01	0.15*	-0.02	0.16*	0.18*	0.17*
GBE Expense Ratio	-0.00	0.07	-0.00	0.11*	0.20*	0.12*
GBE Expense Capita	0.02	0.18*	-0.02	0.16*	0.19*	0.18*
GBE Equity Ratio	-0.01	-0.02	0.02	0.04	0.30*	0.05
GBE Equity Capita	0.01	0.11*	-0.01	0.12*	0.41*	0.14*
GBE Net Income Ratio	-0.06	0.00	0.02	-0.05	-0.08	-0.03
GBE Net Income Capita	-0.02	-0.02	-0.00	0.08	-0.18*	0.04

Education Index

The hypothesis expected the education index to have a statistically significant correlation with the business activity and GBE activity indicators. Based on the results of Tables 41-42, the hypothesis holds true for the business financial indicators but not for the GBE financial indicators. The business activity indicators show statistically significant positive correlation with the education index, particularly with gross business sales ratio/capita (0.17*, 0.17*), and business & economic development expense ratio/capita (0.21*, 0.17*). Curiously, the education index maintains a non-statistically significant correlation with all of the GBE activity indicators. This indicates that business activities that are more closely associated with the Nation government have a stronger relation with the education index, while more arms-length GBE activities have nearly no correlation with the education index.

Note the following statistically significant correlations at the subgroup level. Subgroup SC maintains statistically significant positive correlations for GBE asset, revenue, and expense indicators (both ratio and capita). Subgroup LR also maintains statistically significant positive correlations for GBE revenue and expense capita measures.

Workforce Index

The hypothesis expected the workforce index to have a statistically significant correlation with the business activity and GBE activity indicators. Based on the results of Tables 41-42, this hypothesis is supported for the population as a whole. The results indicate statistically significant positive correlation. The business activity indicators show positive correlations with the workforce index, particularly with gross business sales ratio/capita (0.12*, 0.18*), and business & economic development expense ratio/capita (0.19*, 0.23*). Positive correlations also exist for the GBE activity indicators, but only for the capita indicators of GBE asset capita (0.17*), GBE revenue capita (0.15*), GBE expense capita (0.18*), and GBE equity capita (0.11*). This indicates that per capita GBE activity plays a more significant role in local workforce levels versus the GBE ratios.

Note the following statistically significant correlations at the subgroup level. Subgroup SM maintains a statistically significant correlation for GBE asset capita, GBE revenue ratio/capita, GBE expense ratio/capita, and GBE equity capita. Subgroup MM maintains a statistically significant correlation for investment asset capita, gross business sales ratio/capita, and business & economic development expense ratio/capita.

Language Index

No hypothesis was established regarding the correlation between the language index and the business activity and GBE activity indicators. Based on the results of Tables 41-42, the results indicate statistically significant negative correlations for the business activity indicators and the language index. Business activity indicators show a negative correlation with the language index, particularly with gross business sales ratio/capita (-0.16*, -0.16*), and business & economic development expense ratio/capita (-0.24*, -0.20*). The GBE activity indicators maintain a non-statistically significant correlation with the language index.

Note the following statistically significant correlations relating at the subgroup level. Geographically remote communities with medium or large populations (MR, LR) demonstrate a negative correlation between the business activity indicators and the language index.

Housing Index

The hypothesis expected the housing index to have a statistically significant correlation with the business activity and GBE activity indicators. Based on the results of Tables 41-42, this hypothesis is supported for the population as a whole. Business activity indicators show

statistically significant positive correlations with the housing index, particularly with investment asset capita (0.19*), gross business sales ratio/capita (0.14*, 0.18*), and business & economic development expense ratio/capita (0.19*, 0.18*). The GBE activity indicators show statistically significant positive correlations with the housing index, particularly with GBE asset capita (0.16*), GBE revenue ratio/capita (0.13*, 0.16*), GBE expense ratio/capita (0.11*, 0.16*), and GBE equity capita (0.12*). This indicates a positive correlation between business and GBE activities with the housing index. For the GBE activity indicators, this relationship is stronger with gross revenue and expenses compared to GBE net income or GBE equity. This demonstrates that gross levels of GBE activity may be more significant than net profit levels.

Note the following statistically significant correlations at the subgroup level. Business activity indicators are statistically significant for subgroup SC. Business activity and GBE activity indicators are statistically significant for subgroup MM, particularly the capita indicators. Also, the GBE activity capita measures of GBE revenue and GBE expense are statistically significant for subgroup MR.

Income Index

The hypothesis expected the income index to have a statistically significant correlation with the business activity and GBE activity indicators. Based on the results of Tables 41-42, this hypothesis is supported for the population as a whole. Two of the business activity indicators show a statistically significant positive correlation with the income index, those being investment asset ratio/capita (0.21*, 0.27*). GBE activity indicators show a statistically significant positive correlation with the income index, particularly GBE asset ratio/capita (0.18*, 0.19*), GBE revenue ratio/capita (0.22*, 0.18*), GBE expense ratio/capita (0.20*, 0.19*), and GBE equity ratio/capita (0.30*, 0.41*). Note that the business activity indicators of gross revenue and expenses shows a nearly 0.00 correlation, while the investment asset indicators show a positive correlation. This indicates that cumulative investment asset levels have a stronger relation with income levels when evaluating businesses that have stronger Nation government control. Conversely, note that GBE gross activity levels (revenues and expenses) have positive correlations with the income index. GBE asset levels and equity levels also maintain positive correlations, while GBE net income

does not. This indicates that gross GBE activities may be more important than net GBE income.

Note the following statistically significant correlations at the subgroup level. Medium and large population communities generally show a statistically significant positive correlation between GBE activities and income levels, most commonly for GBE revenue and expense indicators. This correlation often exists even when GBE net income is not correlated. This demonstrates that gross GBE activities hold a stronger correlation that just net GBE income alone. Note also that investment asset ratio/capita maintain a positive correlation for subgroups MC, MM, and LR.

Nation Wellness Index

The hypothesis expected the Nation wellness index to have a statistically significant correlation with the business activity and GBE activity indicators. Based on the results of Table 41-42, this hypothesis is supported for the population as a whole. Business activity indicators have statistically significant positive correlations with the Nation wellness index, particularly investment asset capita (0.20*), gross business sales capita (0.14*), and business & economic development expense ratio/capita (0.09*, 0.13*). GBE activity indicators have statistically significant positive correlations with the Nation wellness index, particularly GBE asset capita (0.17*), GBE revenue ratio/capita (0.12*, 0.17*), GBE expense ratio/capita (0.12*, 0.18*), and GBE equity capita (0.14*). The strongest correlations exist with capita indicators, both for the business activity and GBE activity indicators. Also, the recurring trend exists that GBE gross activity (revenues and expenses) has a stronger relation than GBE net income. This demonstrates that gross GBE activity, particularly on a per capita basis, has the strongest relationship with Nation wellness.

Note the following statistically significant correlations at the subgroup level. The business activity indicators demonstrate a statistically significant positive correlation in subgroups SC and MM. The GBE activity indicators demonstrate a statistically significant positive correlation in subgroups SM and MM. The GBE correlation is notable particularly in the GBE capita measures. The business activity indicators for subgroup LR are distinct, in that there is a statistically significant negative correlation in the business & economic development expense ratio/capita (-0.67*, -0.66*). This appears to relate largely to a negative correlation present between the business activity indicators and the language index

(correspondingly -0.55* and -0.64*). It is important to recall that the number of First Nations in subgroup LR is small, which could result in the outlier First Nations distorting the statistical results.

R Results Between Trust Activity Financial Indicators and Demographic Indices

This subsection reviews the r results between the trust financial indicators and the demographic indices. The r results for the total population are presented in Table 43, which is followed by discussion. Supplementary information regarding the subgroup correlational results is provided throughout the discussion section. Note that the r results for the subgroups can be found in Appendix L. Finally, a stratified population analysis will be conducted to determine if distinct trends exist between First Nations that hold a low, moderate, or high levels of trust fund assets.

Table 43: R Summary Between Trust Activity Financial Indicators and Demographic Indices – Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust Fund Assets Ratio	-0.07	-0.05	-0.01	-0.11*	0.03	-0.11*
Trust Fund Assets Capita	-0.01	0.05	0.00	-0.02	0.04	0.01
Trust Revenue Ratio	-0.07	-0.03	0.03	-0.07	-0.02	-0.06
Trust Revenue Capita	-0.01	0.12*	0.01	0.07	0.03	0.10*

Education Index

The hypothesis expected the education index to have a non-statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis is supported for the population as a whole. The results indicate a non-statistically significant correlation. Note the following statistically significant correlations at the subgroup level. Subgroup MM maintains statistically significant negative correlations with trust fund assets ratio and capita indicators, and subgroup LC maintains statistically significant negative correlations with trust revenue ratio/capita.

Workforce Index

The hypothesis expected the workforce index to have a non-statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis is supported for the population as a whole. The results indicate a non-statistically significant correlation, with the exception of trust revenue capita (0.12*). Note the following statistically significant correlation at the subgroup level. Subgroup SR maintains statistically significant negative correlations for all trust indicators.

Language Index

The hypothesis expected the language index to have a non-statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis is supported for the population as a whole. The results indicate a non-statistically significant correlation. Note the following statistically significant correlations at the subgroup level. Geographically remote communities that have small and large populations (SR, LR) maintain statistically significant negative correlations with trust fund asset capita.

Housing Index

The hypothesis expected the housing index to have a non-statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis is supported for the population as a whole. The results indicate a non-statistically significant correlation, except for the trust fund assets ratio (-0.11*). Note the following statistically significant correlations at the subgroup level. Subgroup SR maintains a statistically significant negative correlation for trust fund assets ratio/capita. Subgroup LC maintains a statistically significant negative correlation for trust fund assets capita and trust revenue ratio/capita.

Income Index

The hypothesis expected the income index to have a non-statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis is supported for the population as a whole. The results indicate a non-statistically significant correlation. Note the following statistically significant correlation. Subgroup LM maintains a statistically significant positive correlation for trust fund asset ratio/capita.

Nation Wellness Index

The hypothesis expected the Nation wellness index to have a statistically significant correlation with the trust activity indicators. Based on the results of Table 43, this hypothesis

is not supported for the population as a whole. The correlations are not statistically significant, except for trust fund assets ratio (-0.11*) and trust revenue capita (0.10*). Note the following statistically significant correlations at the subgroup level. Geographically remote communities with small populations (SR) maintain statistically significant negative correlations with all trust indicators. Geographically remote communities with medium populations (MR) maintain statistically significant positive correlations with trust revenue ratio/capita.

Appendix U – Analysis of Trust Activity by Stratified Group

Appendix U conducts a Pearson correlational analysis between the trust activity indicators and the demographic indices by a stratified grouping. Based on the trust fund activity descriptive statistics (Table 12), there appears to be a large spread amoung First Nations in trust fund asset holdings. To determine if distinct trends are present between Nations with low, moderate, or high levels of trust assets, an analysis of the stratified population will be conducted. The First Nations are stratified on the basis of trust fund assets per capita, which are defined as low trust assets ($0 - $4,999), moderate trust assets ($5,000 - $39,999), and high trust assets ($40,000 or higher). This section will provide a high-level discussion of the analysis. Refer to Appendix U for the detailed analysis.

Very distinct Pearson correlation coefficients are present between the stratified groups. First Nations with a low level of trust assets maintain the lowest correlation between the trust activity financial indicators and the demographic indices. While some statistically significant correlations exist, the r value is very low and range from -0.14 to 0.13. This makes intuitive sense, as low levels of trust assets may not be sufficient to make a strong impact on First Nation communities. A very different trend is present, however, for First Nations with moderate or high levels of trust assets per capita.

Moderate and high trust assets Nations maintain negative and statistically significant correlations between the workforce index and the trust fund assets ratio. Moderate trust assets Nations maintain a correlation of -0.38*, while high trust assets Nations maintain a correlation of -0.55*. These relationships are not intuitive as it indicates a negative correlation between trust fund assets ratio and workforce levels. It is important to not make a causal conclusion about this analysis, as external factors may be the underlying reason for the observed correlation. Note that a higher trust fund assets ratio means that a higher percentage

of the Nation's assets are invested in trust funds. One possible explanation could be that less funds are available to invest in Nation owned business that could provide employment opportunities. Better understanding this negative correlation would be an interesting area for future research.

Moderate and high-level trust assets Nations also maintain negative and statistically significant correlations between the housing index and the trust fund assets ratio. Moderate trust assets Nations maintain a correlation of -0.60*, while high trust assets Nations maintain a correlation of -0.56*. Note that low trust assets Nations maintain a non-statistically significant correlation of -0.06. These relationships are also not intuitive, it indicates that a negative correlation between trust fund assets ratio and the condition of residential housing. Similar to the previous paragraph, it is important not to draw causal conclusions from this analysis. External factors may contribute to this negative correlation, such as having less assets available to invest in tangible capital assets such as community housing. This negative correlation would be an interesting area for future research.

R Results Between Tangible Capital Asset (TCA) Activity Financial Indicators and Demographic Indices

This subsection reviews the r results between the TCA financial indicators and the demographic indices. The r results for the total population are presented in Table 44, which is followed by discussion. Supplementary information regarding the subgroup correlational results are provided throughout the discussion section. Note that the r results for the subgroups can be found in Appendix M.

Table 44: R Summary Between TCA Financial Indicators and Demographic Indices – Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA Assets Ratio	-0.19*	-0.23*	0.17*	-0.19*	-0.43*	-0.22*
TCA Assets Capita	-0.06	0.24*	-0.06	0.06	0.07	0.12*
Gross Cash Outflows from Capital Ratio	-0.08	-0.04	0.12*	-0.05	-0.11	-0.00
Gross Cash Outflows from Capital Capita	0.04	-0.18*	0.03	-0.04	-0.06	-0.09

Education Index

The hypothesis expected the education index to have a statistically significant correlation with the TCA activity indicators. Based on the results of Table 44, this hypothesis is not supported for the population as a whole. The TCA assets ratio actually maintains a statistically significant negative correlation of -0.19*. Note the following statistically significant correlations at the subgroup level. Subgroup LC maintains a statistically significant negative correlation with TCA assets ratio. Subgroup LR maintains a statistically significant negative correlation with gross cash outflows from capital.

Workforce Index

The hypothesis expected the workforce index to have a statistically significant correlation with the TCA activity indicators. Based on the results of Table 44, this hypothesis is not supported due to mixed results from the various financial indicators. The workforce index maintains correlations with TCA assets ratio/capita (-0.23*, 0.24*) and gross cash outflows from capital capita (-0.18*). Note the following statistically significant correlations at the subgroup level. Geographically medium communities with small or medium populations (SM, MM) maintain a statistically significant negative correlation with TCA assets ratio.

Language Index

No hypothesis was expected regarding the language index and its correlation with the TCA activity indicators. Based on the results from Table 44, the results indicate a statistically significant correlation for the population as a whole. The language index maintains correlations with TCA ratio (0.17*) and gross cash outflows from capital ratio (0.12*). The language index follows a different pattern from the other demographic indices. The correlation with TCA asset ratio is positive instead of negative. Note the following statistically significant correlations at the subgroup level. Subgroup SR maintains a statistically significant negative correlation with TCA assets capita, and a statistically significant positive correlation with gross cash outflows from capital capita.

Housing Index

The hypothesis expected the housing index to have a statistically significant correlation with the TCA activity indicators. Based on the results of Table 44, this hypothesis is not supported for the population as a whole. The results are not statistically significant, except for TCA assets ratio (-0.19*). Note the following statistically significant correlations at the subgroup level. Subgroup SC maintains a statistically significant positive correlation with TCA assets capita, while subgroup SR maintains a statistically significant negative correlation with TCA assets capita.

Income Index

The hypothesis expected the income index to have a statistically significant correlation with the TCA activity indicators. Based on the results of Table 44, this hypothesis is not supported for the population as a whole. The results indicate a non-statistically significant correlation, except for one exception regarding the TCA assets ratio. TCA asset ratio maintains a statistically significant negative correlation of -0.43*. The TCA assets ratio follows a similar pattern for most subgroups. Note the following statistically significant correlations at the subgroup level. No income data is available for small populations due to data quality issues. Medium population communities (MC, MM, MR) maintain a statistically significant negative correlation with the TCA asset ratio, while subgroups MC and MM maintain statistically significant positive correlations with the TCA asset capita indicators. The negative correlation with the TCA asset ratio is surprising to the author. This indicates that First Nation governments with a higher percentage of tangible capital assets compared to total assets correlates with lower income levels in those communities. It may be possible that

this negative correlation is more a function of lowered total assets, instead of higher tangible capital assets. This would be an interesting area for further research.

Nation Wellness Index

The hypothesis expected the Nation wellness index to have a statistically significant correlation with the TCA activity indicators. Based on the results of Table 44, this hypothesis is not supported for the population as a whole. The results are mixed based on the specific financial indicator. The Nation wellness index maintains statistically significant correlations for the total population with TCA assets ratio/capita (-0.22*, 0.12*). The results are also mixed amoung the subgroups, with no clearly distinct pattern emerging.

R Results Between Other Financial Indicators and Demographic Indices

This subsection reviews the r results between the other financial indicators and the demographic indices. These financial indicators evaluate revenue by source. The three sources of revenue evaluated are earned & other revenue, federal & provincial transfer revenue, and First Nation sources of transfer revenue. The r results for the total population are presented in Table 45, which is followed by discussion. Supplementary information regarding the subgroup correlational results are provided throughout the discussion section. Note that the r results for the subgroups can be found in Appendix N.

Table 45: R Summary Between Other Financial Indicators and Demographic Indices – Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned and Other Revenue Ratio	0.38*	0.17*	-0.33*	0.31*	0.26*	0.19*
Earned and Other Revenue Capita	0.18*	0.19*	-0.17*	0.14*	0.03	0.14*
Federal and Provincial Revenue Ratio	-0.35*	-0.19*	0.29*	-0.27*	-0.27*	-0.20*
Federal and Provincial Revenue Capita	-0.11*	0.16*	0.00	-0.05	-0.21*	0.03
Tribal Gov't and Other FN Revenue Ratio	0.00	0.05	0.05	-0.02	-0.03	0.06
Tribal Gov't and Other FN Revenue Capita	0.08	0.14*	-0.01	0.00	0.01	0.12*

Education Index

The hypothesis expected the education index to have a statistically significant correlation with the other activity indicators. Based on the results of Table 45, the hypothesis is supported for the population as a whole for earned & other revenue. Statistically significant positive correlations exist for earned & other revenue ratio/capita (0.38*, 0.18*). Statistically significant negative results are present for federal & provincial revenue ratio/capita (-0.35*, -0.11*). This demonstrates that a higher level of earned & other revenue is positively correlated with education levels, while a higher level of federal & provincial transfers is negatively correlated with education levels.

Note the following statistically significant correlations at the subgroup level. Geographically close (SC, MC, and LC) and medium (SM, MM, and LM) populations have statistically significant positive correlations with earned & other revenue ratio. Several of these subgroups also have positive correlations with earned & other revenue capita. Medium

population communities (MC, MM, and MR) have statistically significant negative correlations with federal & provincial revenue ratio. This trend also exists for subgroups SC and LM. This indicates that many of the subgroups show a statistically significant positive correlation between education levels and the higher levels of earned & other revenue, while many of the subgroups show a statistically significant negative correlation between the education levels and the level of federal & provincial transfer revenue.

Workforce Index

The hypothesis expected the workforce index to have a statistically significant correlation with the other activity indicators. Based on the results of Table 45, this hypothesis is supported for the population as a whole for earned & other revenue and for the transfer revenue capita measures. The workforce index maintains the following correlations with the other financial indicators: earned & other revenue ratio/capita (0.17*, 0.19*), federal & provincial revenue ratio/capita (-0.19*, 0.16*), and Tribal government and other First Nation entity revenue capita (0.14*). This demonstrates that earned & other revenue is positively correlated with workforce levels. Also, a higher ratio of federal & provincial transfer revenue is negatively correlated with workforce levels. Converse to the other demographic indices, a higher per capita amount of federal/provincial transfer revenue is positively correlated with workforce levels. Finally, a higher per capita amount of Tribal government and other First Nation entity revenue is positively correlated with workforce levels.

Note the following statistically significant correlations at the subgroup level. Geographically medium communities with small or medium population (SM, MM) demonstrate a statistically significant negative correlation with the federal & provincial revenue ratio. A similar pattern emerges with large population communities that are geographically close or remote (LC, LR). Geographically medium communities with medium populations (MM) and geographically remote communities with large populations (LR) demonstrate a statistically significant positive correlation with earned & other revenue ratio and capita. These general trends with the other financial indicators are similar to correlations found with the education index, although the correlations are not as consistent for the workforce index.

Language Index

No hypothesis was predetermined between the language index and the other activity indicators. Based on the results of Table 45, the correlations are mixed based on the type of

revenue. The language index maintains statistically significant correlations with earned & other revenue ratio/capita (-0.33*, -0.17*) and federal & provincial revenue ratio (0.29*). The language index follows a different pattern from many of the other demographic indices. Higher levels of earned & other revenue are negatively correlated with knowledge of Indigenous language. Also, the federal/provincial revenue ratio is positively correlated with knowledge of Indigenous language. This trend is somewhat unsettling, as it indicates that increased earning activities is correlated with a lower levels of Indigenous language knowledge.

Note the following statistically significant correlations at the subgroup level. Medium population communities that are geographically close and remote (MC, MR) maintain statistically significant positive correlations between Indigenous language knowledge and percentage of federal & provincial. This same pattern exists for large populations that are geographically remote (LR). Medium and large population communities that are geographically close and remote (MC, LC, MR, LR) maintain statistically significant negative correlations between Indigenous language knowledge and percentage of earned & other revenue. The general trends indicate that higher levels of federal & provincial transfer revenue correlate with higher levels of Indigenous language knowledge, while higher levels of earned & other revenue correlate with lower levels of Indigenous language knowledge. Note that these trends only occur for medium and large population communities, and not for small population communities.

Housing Index

The hypothesis expected the housing index to have a statistically significant correlation with the other activity indicators. Based on the results of Table 45, the hypothesis is supported for earned & other revenue only. A statistically significant positive correlation exists for earned & other revenue ratio/capita (0.31*, 0.14*). Note that a statistically significant negative correlation exists for federal & provincial revenue ratio of -0.27*.

Note the following statistically significant correlations at the subgroup level. Large populations that are geographically close and medium (LC, LM) maintain statistically significant negative correlations between the housing index and the federal & provincial revenue ratio. This same pattern exists for medium populations that are geographically close (MC). Medium populations that are geographically close (MC) and medium (MM) maintain

statistically significant positive correlations with earned & other revenue ratio. This same pattern exists for large populations that are geographically close (LC). The general trends indicate that a higher percentage of earned & other revenue is correlated with better housing conditions, while a higher percentage of federal & provincial transfer revenue is correlated with worse housing conditions. Note that these trends only occur for medium and large population communities, and not for small population communities.

Income Index

The hypothesis expected the income index to have a statistically significant correlation with the other activity indicators. Based on the results of Table 45, the hypothesis is not supported. The results are mixed based on the specific financial indicator being evaluated. The income index maintains the statistically significant correlations with earned & other revenue ratio (0.26*) and federal & provincial revenue ratio/capita (-0.27*, -0.21*). This demonstrates that earned & other revenue as a percentage of total revenue is positively correlated with higher income levels. Also, federal & provincial revenue (both ratio and capita) is negatively correlated with income levels.

Note the following statistically significant correlations at the subgroup level. Large population communities that are geographically close and remote (LC, LR) maintain statistically significant positive correlations with earned & other revenue ratio. This pattern is also present with medium population communities that are geographically medium (MM). Medium population communities that are geographically medium (MM) and large population communities that are geographically close/remote (LC, LR) maintain a statistically significant negative correlation with federal & provincial revenue ratio. The general trend indicates that a higher percentage of earned & other revenue is correlated with higher income levels, while a higher percentage of federal/provincial transfer revenue is correlated with lower income levels. Note that no income data is available for small population communities, so no analysis is conducted for small population communities.

Nation Wellness Index

The hypothesis expected the Nation wellness index to have a statistically significant correlation with the other activity indicators. Based on the results of Table 45, this hypothesis is not supported for the population as a whole. The results are mixed based on the type of financial indicator. The Nation wellness index maintains statistically significant correlations for earned & other revenue ratio/capita (0.19*, 0.14*), federal & provincial ratio (-0.20*),

and Tribal government and other First Nation entity revenue capita (0.12*). This demonstrates that earned & other revenue is positively correlated with Nation wellness. Also, a higher percentage of federal & provincial revenue is negatively correlated with Nation wellness. Finally, a higher per capita amount of Tribal government and other First Nation entity revenue is positively correlated with Nation wellness.

Note the following statistically significant correlations at the subgroup level. Medium population communities that are geographically close and medium (MC, MM) maintain statistically significant positive correlations between Nation wellness and percentage of earned & other revenue. This same pattern exists for large populations that are geographically close (LC). The general trend is that a higher percentage of earned & other revenue is correlated with higher levels of Nation wellness.

Pearson Correlation Coefficient (r) Analysis and Hypotheses – Concluding Statements

This chapter has reviewed the r analysis and relating hypotheses between the investing financial indicators. Statistically significant correlations have been identified for the population as a whole, as well as at the subgroup level. The next chapter will present the findings of the multiple linear regression for each of the demographic indices discussed in this manuscript.

Chapter 5: Multiple Linear Regression

The multiple linear regression analysis evaluates the marginal effects of several variables on the demographic indices. As distinct regressions are expected from each demographic index, a separate regression will be conducted for each of the demographic indices of education, workforce, language, housing, income, and Nation wellness.

The independent variables used in each of the regressions will be the same, and consist of several investing financial indicators, as well as community population and geographic remoteness. Multiple linear regression provides further insight by holding each of the independent variables constant within the regression model, which allows the reader to better understand the variable impact of each independent variable more accurately. Refer to Table 7 for the linear regression models and Table 8 for a description of the independent variables. Table 46 presents the results of the multiple linear regression for each of the demographic indices. A variance inflation factor (VIF) test has been conducted to measure the degree of multicollinearity between the independent variables. The mean VIF amoung the independent variables is 1.17, with the highest variable VIF amount being 1.39. This result provides evidence that the degree of multicollinearity is low for the regression models. Note that all r-squared values presented in Table 46 are statistically significant at the 5% level.

The subsequent section provides the regression results table, after which a general discussion highlights the key findings of the regression models.

Multiple Linear Regression Results Table

Table 46: Multiple Linear Regression – Average Marginal Effects of Variables with Demographic Indices

Variable Category	Variable	Education Index (E)	Workforce Index (W)	Language Index (L)	Housing Index (H)	Income Index (I)	Nation Wellness Index (N)
Financial	Earned & other revenue ratio (per 0.1 change in ratio) (X_1)	1.72* (0.30)	0.83* (0.29)	-2.29* (0.44)	1.72* (0.37)	0.49 (0.26)	0.77* (0.26)
	Federal & provincial revenue capita (per $1,000) ($X_2$)	-0.01 (0.05)	0.15* (0.04)	-0.13 (0.09)	0.05 (0.08)	-0.19* (0.09)	0.05 (0.05)
	Tribal Gov't and other FN entity revenue capita (per $1,000) ($X_3$)	0.40* (0.16)	0.37* (0.18)	-0.17 (0.17)	0.18 (0.16)	0.14 (0.27)	0.35* (0.13)
	GBE expense capita (per $1,000) ($X_4$)	-0.01 (0.01)	0.03* (0.02)	0.01* (0.00)	0.04* (0.01)	0.05 (0.06)	0.03* (0.00)
	Trust fund asset ratio (per 0.1 change in ratio) (X_5)	-0.74* (0.31)	-0.19 (0.24)	-0.08 (0.42)	-1.25* (0.46)	-0.17 (0.28)	-0.68* (0.25)
	TCA assets ratio (per 0.1 change in ratio) (X_6)	-0.77* (0.26)	-0.92* (0.26)	1.07* (0.38)	-0.87* (0.36)	-1.69* (0.30)	-0.84* (0.24)
Population level	Community Population (per 100 people) (X_7)	-0.19* (0.07)	-0.36* (0.06)	0.78* (0.15)	-0.09 (0.10)	-0.05 (0.05)	-0.07 (0.05)
Geographic	Geographically medium differential (from geographically close) (X_8)	-4.76* (1.30)	-3.09* (1.22)	9.26* (1.93)	-6.17* (1.72)	-2.59* (1.24)	-1.69 (1.12)
	Geographically remote differential (from geographically close) (X_9)	-16.89* (1.79)	-0.15 (1.76)	30.62* (3.43)	-15.81* (2.19)	-1.90 (1.57)	-1.16 (1.61)
	N	446	446	446	446	303	446
	R-squared	0.34	0.20	0.37	0.22	0.25	0.13
	Mean Variance Inflation Factor (VIF)	1.17	1.17	1.17	1.17	1.17	1.17

Notes:
1. Robust standard errors are reported in parentheses.
2. * indicates significance at the 5% level.

Multiple Linear Regression Results Discussion

This section reviews each demographic index regression, and evaluates the most significant variables affecting each community wellbeing demographic index.

Education Index

The first regression shown in Table 46 evaluates the education index as the dependent variable. This regression maintains an r-squared of 0.34, meaning that this model explains 34% of the dependent variable variation in the regression. All independent variables are statistically significant at the 5% level except for federal & provincial revenue capita and GBE expense capita. The geographic variables have significant coefficient values, which suggests that being located more remotely is associated with a lower education index. On average, geographically remote communities have an education index 16.89 units lower than communities located close to population centres. Also, geographically medium communities have on average an education index 4.76 units lower than communities located close to population centres. The population variable also maintains statistical significance ($p < 0.05$) with a negative coefficient. This implies that a 100 person increase in the population is associated with a decrease of 0.19 in the education index.

Regarding the financial variables, the earned & other revenue ratio has the largest coefficient suggesting that a 0.1 increase in the ratio is associated with the education index increasing by 1.72. When evaluating transfer revenue, the Tribal Government and other First Nation entity capita's coefficient suggests that an increase of $1,000 in this capita spending is associated with a 0.40 increase in the education index. Note that the federal & provincial government capita variable is not statistically significant. The trust fund asset ratio's coefficient suggests that a 0.1 increase in the ratio is associated with a 0.74 decrease in the education index. Likewise, the tangible capital asset (TCA) ratio coefficient suggests that a 0.1 increase in the ratio is associated with a 0.77 decrease in the education index.

Workforce Index

The second regression from Table 46 evaluates the workforce index as the dependent variable. The regression has an r-squared of 0.20, meaning that the model explains 20% of the dependent variable variation in the regression. All of the independent variables are statistically significant at the 5% level except for trust fund asset ratio and the geographically remote differential variable. When evaluating the financial variables, earned & other revenue

ratio has the largest coefficient suggesting that a 0.1 increase in the ratio is associated with the workforce index increasing by 0.83. The Tribal Government & other First Nation entity revenue capita's coefficient suggests than an increase of $1,000 in this capita spending is associated with a 0.37 increase in the workforce index. The federal & provincial revenue capita's coefficient suggests an increase of $1,000 is associated with a 0.15 increase in the workforce index. The TCA ratio coefficient suggests that a 0.1 increase in the ratio is associated with a 0.92 decrease in the workforce index.

The population variable has a negative coefficient, implying that a 100 person increase in the population is associated with a decrease of 0.36 in the workforce index. The geographically remote differential variable does not maintain a statistically significant relation, while the geographically medium differential does. This implies that on average geographically medium communities have a workforce index 3.09 lower than communities located close to population centres.

Language Index

The third regression as shown in Table 46 assesses the language index as the dependent variable. The regression has an r-squared of 0.37, which means that the model explains 37% of the dependent variable variation in the regression. All of the independent variables are statistically significant ($p < 0.05$) except for federal & provincial revenue capita, Tribal Government & other First Nation entity capita, and trust fund asset ratio. The geographic variables have by far the largest coefficients, indicating that greater geographic remoteness is associated with a higher language index. On average, geographically remote communities have a language index 30.62 units higher than communities located close to population centres. Geographically medium communities have, on average, a language index 9.26 higher than communities located close to population centres. The population variable also maintains a positive coefficient, indicating that a 100 increase in population is associated with a 0.78 increase in the language index.

Regarding the financial variables, the earned & other revenue ratio has the largest coefficient, suggesting that a 0.1 increase in this ratio is associated with the language index decreasing by 2.29 units. A decreased level of Indigenous language knowledge with the presence of greater earned & other revenue is somewhat concerning, as Indigenous language

is an important part of Indigenous culture. The TCA ratio coefficient suggests that a 0.1 increase in the ratio is associated with a 1.07 increase in the knowledge index.

Housing Index

The fourth regression shown in Table 46 evaluates the housing index as the dependent variable. The regression has an r-squared of 0.22, meaning that the model explains 22% of the dependent variable variation in the regression. All of the independent variables are statistically significant at the 5% level except for federal & provincial revenue capita, Tribal Government & other First Nation entity capita, and community population. The geographic variables have the largest coefficients, suggesting that being located more remotely is associated with a lower housing index. On average, geographically remote communities have a housing index 15.81 units lower than communities located close to population centres. Geographically medium communities have, on average, a housing index 6.17 units lower than communities located close to population centres. The geographic variable coefficients for the housing index follow a very similar pattern to the education index – both demonstrate that greater geographic remoteness is associated with lower housing and education indices.

When evaluating the financial indicators, the earned & other revenue ratio has the largest coefficient, which suggests that a 0.1 increase in the ratio is associated with the housing index increasing by 1.72. The GBE expense capita coefficient indicates that a $1,000 increase in GBE expense is associated with a 0.04 increase in the housing index. Note that the following two ratios maintain negative coefficients with the housing index. The trust fund asset ratio coefficient is -1.25, indicating that a 0.1 increase in this ratio is associated with a 1.25 decrease in the housing index. Likewise, the TCA ratio coefficient is -0.87, indicating that a 0.1 increase in this ratio is associated with a 0.87 decrease in the housing index.

Income Index

The fifth regression from Table 46 evaluates the income index as the dependent variable. The regression has an r-squared of 0.25, meaning that the model explains 25% of the dependent variable variation in the regression. Note that the number of communities evaluated in this regression is fewer than the other regression models in Table 46. The reason is that no income data was available for small population communities and some medium population communities due to data quality issues noted by Statistics Canada. The independent variables that are statistically significant at the 5% level are federal & provincial

revenue capita, TCA ratio, and the geographic variable for communities that are geographically medium. Geographically medium communities, on average, have an income index 2.59 units lower than communities that are located close to population centres.

All of the statistically significant financial ratio coefficients maintain negative correlations with the income index. The federal & provincial revenue capita coefficient suggests than an increase of $1,000 in this capita spending is associated with a decrease of 0.19 in the income index. The TCA ratio coefficient suggests that a 0.1 increase in this ratio is associated with a decrease in the income index of 1.69.

Nation Wellness Index

The sixth regression from Table 46 evaluates the Nation wellness index (NWI) as the dependent variable. The regression has an r-squared of 0.13, meaning that the model explains 13% of the dependent variable variation in the regression. Note that the NWI is made up of an average of the preceding demographic indices. A key reason why the r-squared is lower for the NWI is the trend that the language index often runs converse to the other indices. These marginal amounts effectively cancel each other out, resulting in a lower r-squared for the NWI regression model. Largely for this reason the community population and geographic variables are not statistically significant for the NWI regression. The independent variables that are statistically significant are earned & other revenue ratio, Tribal Government & other First Nation entity revenue capita, trust fund asset ratio, and TCA ratio.

In regard to the financial indicators, the earned & other revenue ratio has the largest coefficient suggesting that a 0.1 increase in the ratio is associated with the NWI increasing by 0.77 units. The Tribal Government & other First Nation entity capita coefficient suggests than an increase of $1,000 in this capita spending is associated with an increase of 0.35 in the NWI. The following two coefficients demonstrate a negative association. The trust fund asset ratio coefficient suggests that every 0.1 increase in this ratio is associated with a 0.68 decrease in the NWI. Likewise, the TCA ratio coefficient suggests that every 0.1 increase in this ratio is associated with a 0.84 decrease in the NWI.

Relationship of the Language Index with the Nation Wellness Index

The regression results of the Nation wellness index demonstrate a low explanatory power, as evidenced by a low r-squared value of 0.13. To better understand the reasons for this, two additional multiple linear regressions are performed in Appendix S. For brevity, this

section presents the high-level findings of these regressions. For further details and analysis, refer to Appendix S.

The first regression evaluates the Nation wellness index as the dependent variable, and is calculated without the language index. The Nation wellness index without the language index is termed NwoL, and the original Nation wellness index as per Table 46 is termed N. The r-squared of NwoL is 0.35, compared to N at 0.13. This demonstrates that NwoL has higher explanatory power over the dependent variable variation. Most of the financial indicator variables in NwoL have higher beta coefficients compared to N. This supports the argument that the language index often maintains a converse relationship with the financial indicators compared to the other sub-indices in the Nation wellness index. The most significant difference is found when comparing the beta coefficients of the community population and geographic variables. The coefficient of community population for NwoL is -0.36*, compared to -0.07 for N. The geographically medium differential for NwoL is -4.72*, compared to -1.69 for N. Similarly, the geographically remote differential for NwoL is -12.33*, compared to -1.16 for N. This indicates that the presence of the language index in the Nation wellness index reduces the explanatory power of the regression model. It would be beneficial to better understand the factors influencing the level of Indigenous language knowledge. We observe that a statistically significant relationship exists between the language index and the other subindices, as per Table 31. To better understand this relationship, a second regression is conducted with the language index as the dependent variable and includes additional independent variables.

The second regression considers the language index as presented in Table 46, but includes several new independent variables. The additional independent variables are the education index, workforce index, housing index, income index, and the % of population that are registered Indians (term as used by Indigenous Services Canada). This new language regression is termed L2, while the original language index is termed L. As additional independent variables are used in this regression, adjusted r-squared values are reported. The adjusted r-squared of L2 is higher at 0.46, compared to L at 0.35. This demonstrates that L2 explains a higher amount of the dependent variable variation. Of the additional variables, the education index has the largest coefficient and suggests that a 1 unit increase in the education

index is associated with the language index decreasing by 0.46. A 1 unit increase in the income index is associated with a 0.42 increase in the language index. Note that no statistically significant relationship exists between the workforce index and the language index. The coefficient for % of population who are registered Indians is 0.33, which indicates that a 1% increase in this variable is linked to a 0.33 increase in the language index.

The negative relationship between the education index and language index is troubling. While this doesn't necessarily imply a causal connection, this relationship may demonstrate that additional efforts could be taken to incorporate Indigenous language within formal educational institutions. Gomashie (2019) provides a successful example of this by the Kanien'keha First Nation community, where their elementary/secondary school teaches bilingual classes in English and Kanien'keha. The positive relationship between the income index and language index is interesting. This may indicate that higher levels of income may enable resources to be focused towards cultural activities, such as the passing on and preservation of Indigenous language. This would be an interesting area for future research. The positive beta coefficients for both geographic variables are lower in L2 compared to L, indicating that the positive relationship between geographic remoteness and the language index is lessened once the additional independent variables are considered. Also, a positive association exists between the % of registered Indians and knowledge of Indigenous language. This relationship is expected due to the fact that Indigenous people would more likely speak Indigenous languages. The beta coefficients of L2 compared to L are mixed for the financial indicator variables, with some increasing and others decreasing.

By including the additional independent variables, we have a more accurate understanding of the financial, population, and geographic variables' effects on the language index. We observe that the geographic variables have less explanatory power when we consider the additional independent variables of the demographic subindices and % of population that are registered Indians. This increased accuracy is due to the regression model holding each of the independent variables constant when considering the impact of any specific variable. The increased adjusted r-squared value of L2 compared to L demonstrates that the expanded regression of L2 provides greater explanatory power and a more accurate understanding regarding the language index.

Multiple Linear Regression – Concluding Statements

This chapter evaluates six multiple linear regression models, with each model evaluating a demographic index as the dependent variable. Numerous trends and statistically significant independent variable coefficients are identified. The relationship between the language index and the other subindices of the Nation wellness index are also reviewed.

The r-squared values from Table 46 demonstrate the percentage of the dependent variable variation explained in the regression, which range from 0.13 to 0.37. This leads to the question of what accounts for the residual variation for the dependent variables. It is possible that the demographic subindices have an effect on each other to some degree. The literature review also brings up several other possible factors that could account for the residual, such as the level of transportation or information technology infrastructure in the community, proximity to economic development opportunities, development of property rights on reserve lands, level of cultural attachment, or the degree of local input into community decisions to name a few. Including these other variables in the regression models would be ideal, but widespread and reliable data on these factors are often limited. Collecting such data and making them publicly available would be very valuable to better understand the factors affecting First Nation wellbeing.

The next and final chapter provides detailed discussion about the results from this and the preceding chapters, and ties in all of this information in the conclusion. Areas of future research are evaluated, and the closing statements summarize the key findings of this manuscript.

Chapter 6: Conclusion

This manuscript has so far evaluated the results from the descriptive statistics/comparative analysis, correlational analysis, and multiple linear regression analysis. Discussion has been provided about the results of each of these topics within their own chapter. This concluding section brings the key findings of this study together as a whole, and allows for the research methodologies to complement each other. The main topics in this section include the strengths and limitations of the research methodologies, discussion of results, areas for future research, and closing remarks.

Strengths and Limitations of the Research Methodologies

Three research methodologies were employed in this thesis. The first research methodology was the use of descriptive statistics and comparative analysis. Key figures evaluated include the demographic indices and financial investing indicators. These figures were considered for the total population, population subgroupings, geographic remoteness subgroupings, and subgroups as per Table 3. Statistically significant differences were evaluated via t-test statistic comparisons between means, specifically comparing the mean of a subgrouping/subgroup versus the mean of total population excluding the subgrouping/subgroup being evaluated. The strengths and limitations of the descriptive statistics and comparative analysis methodology are reviewed in Table 47.

Table 47: Strengths and Limitations of Descriptive Statistics and Comparative Analysis Methodology

Strengths	Limitations
Highlighting the demographic and financial realities of First Nation communities across Canada at the total population, population subgrouping, geographic subgrouping, and subgroup levels.	The large volume of comparative analysis could result in the researcher and reader getting lost in the data. The challenge is to translate the comparative analysis findings into meaningful conclusions about the relationships and trends identified.
Isolating the effects due to population level and geographic remoteness via comparative analysis.	The high number of hypothesis tests increases the risk of familywise error, resulting in a higher potential for Type 1 error.
Determining when significant differences exist between major subgroupings / subgroups of First Nations in the demographic indices or financial indicators.	The descriptive statistics are static, and do not convey information about relationships between variables (aside from population/ geographic remoteness comparisons).

The second research methodology was to conduct a Pearson correlation coefficient (r) analysis amongst the demographic indices, and between the demographic indices and financial indicators. Hypotheses were developed regarding these correlations, along with further analysis of statistically significant (at the 5% level) correlations via scatterplot and line of best fit graphs. The strengths and limitations of the Pearson correlation coefficient (r) analysis are reviewed in Table 48.

Table 48: Strengths and Limitations of Pearson Correlation Coefficient (r) Analysis

Strengths	Limitations
The ability to evaluate the strength of correlations between demographic indices and investing financial indicators, thus providing deeper insight into the relation between the underlying community wellbeing measures and investing policies.	The large volume of correlations evaluated could result in the research and reader getting lost in the analysis. The challenge is to translate the many r analysis results into meaningful conclusions about the correlations.
The ability to identify if certain subgroups have stronger/weaker correlations, which could help identify if certain investing policies are better suited for specific subgroups of communities.	The high number of hypothesis tests increases the risk of familywise error, resulting in a higher potential for Type 1 error.
The ability to evaluate correlations from a large variety of financial investing indicators.	A component of the r analysis was the development of hypotheses regarding the statistical significance of the correlations. While statistical relationships were often found at the total population level (due to a higher number of community observations), many of the subgroups were statistically insignificant. This resulted in less meaningful findings at the subgroup level.

The third research methodology was multiple linear regression. The dependent variables utilized were the demographic indices of education, workforce, language, housing, income, and Nation wellness. The independent variables consisted of six investing financial indicators used in the correlational analysis, the community population level, and geographically remoteness categorical variables. The strengths and limitations of the multiple linear regression are reviewed in Table 49.

Table 49: Strengths and Limitations of Multiple Linear Regression

Strengths	Limitations
The ability to measure the marginal effects of independent variables in relation to the demographic indices.	Multicollinearity could significantly impact the efficacy of the regression. This occurs when independent variables maintain linear relationships with each other. As many of the investing financial indicators have some linear relationship with each other, only a select few of the investing financial indicators could be used in the regression model.
The regression model's ability to hold the independent variables constant when evaluating the marginal effect of each specific independent variable. This allows for a clearer understanding of the relationship between each independent variable and the demographic index being evaluated.	The potential for the reader to draw causal conclusions based on the observational data used in the study. As this study does not employ an experimental design, it is best to consider the marginal effects between the demographic indices and other variables in a correlational context instead of a causal context.
The ability to present clear and concise results that are intuitive for the reader to understand.	The multiple regressions and number of independent variables increases the risk of familywise error, resulting in a higher potential for Type 1 error.

We have now considered the strengths and limitations of each research methodology in this study. It is important to recognize that a specific methodology's limitations are often supplemented by the strengths of another methodology. For example, both the descriptive statistics and correlational methodologies have the limitation of large volumes of data analysis. This is supplemented by the regression's strength of providing clear and concise results. Also, the regression's use of a limited number of investing financial indicators can be supplemented by the descriptive statistic and correlational methodologies' more comprehensive analysis. This supplemental use of the three research methodologies will be employed in the following section as this study's results are discussed.

Discussion of Results

As we discuss the research results, it is helpful to recall the research objectives of this thesis, which is to determine the relationship between First Nation government investing policies and First Nation community wellbeing and to evaluate how geographic remoteness

and population levels influence this relationship. The investing policies are measured via the investing financial indicators, and community wellbeing by the demographic indices. Geographic remoteness is measured via subgroup comparative analysis and regression categorial variables. Population level is measured via subgroup comparative analysis and a regression continuous variable.

This discussion section first reviews the results by each of the community wellbeing demographic indices. Second, this section reviews the key patterns identified relating to geographic remoteness and population level. Third, this section reviews key patterns identified for each category of investing financial indicators. The results from the multiple regression analysis will be emphasised, while the correlational and descriptive statistics/comparative analysis results will be used to supplement the analysis.

Discussion: Community Wellbeing

Community wellbeing has been measured via the demographic indices. The first community wellbeing measure is the education index. The correlational analysis demonstrates that the education index maintains a positive and statistically significant correlation with businesses more closely controlled by the First Nation government (Table 41), while the more arms-length government business entity (GBE) businesses have a correlation close to 0.00 (Table 42). This pattern is important to consider when educational capacity development strategies are being created. Note that this correlational analysis has the limitation of not considering other variables that may impact the education index levels, and that causal conclusions cannot be made. The regression analysis provides a more robust analysis as it considers all of the variables listed in Table 8. The regression analysis indicates that earned & other revenue ratio has a statistically significant and positive marginal effect with the education index (Table 46). This provides support that earned & other revenue activities can play an important role in educational attainment within First Nation communities.

The regression analysis indicates that community population level has a mildly negative impact on education levels (Table 46). A possible explanation for this would be the significantly lower per capita revenue available to First Nation governments of larger population communities. Mean per capita revenue (from all sources) for large population communities is often less than half of small population communities (Table 21). This could

have significant consequences due to the fact that that First Nation governments are often responsible for providing educational services. The regression analysis indicates that the degree of geographic remoteness maintains a very high and statistically significant impact on education levels (Table 46). Geographically medium communities' education index is on average lower than geographically close by 4.76, while geographically remote communities are on average lower than geographically close by 16.89. This pattern of decreasing education levels in more remote communities is corroborated by the descriptive statistics in Table 29. The statistically significant drop in education levels for geographically remote communities is distressing, as several studies demonstrate that strong education levels are associated with positive social outcomes (Hossain & Lamb, 2012) (Simpson et al., 2007). Possible reasons for this decline in education levels could be a lack of facilities available in remote communities, the lack of partnering opportunities with other school districts or educational institutions, and difficulties in attracting and maintaining education professionals in remote locations.

When conducting the correlational analysis, it was found that the education index maintained a positive and statistically significant correlation with all of the other demographic indices (except the language index) (Table 31). This demonstrates that higher levels of education have statistically significant correlations with workforce levels, residential housing conditions, income levels, and overall Nation wellness. This positive correlation aligns with the existing literature that links educational attainment with other beneficial social outcomes (Hossain & Lamb, 2012) (Simpson et al., 2007). Even so, the statistically significant and negative correlation with the language index is concerning. While other variables may be impacting this correlation, further efforts may be warranted to encourage the use of Indigenous languages within educational institutions.

The second community wellbeing measure is the workforce index. When evaluating per capita business and GBE correlations with the workforce index, statistically significant and positive correlations are observed (Table 41 and Table 42). These results are reinforced by the regression analysis, which indicates a mild positive and statistically significant marginal effect of earned & other revenue ratio on workforce levels (Table 46). Also, per capita transfer payments are associated with a higher workforce index. Note that the variables of Tribal government & other First Nation entities and federal & provincial government are

both capita measures of transfer revenue received by the First Nation. Both variables show the marginal effect per $1,000 of revenue transfer on the demographic indices. It is interesting to note that the marginal effect per $1,000 transfer is 0.37 for funds from Tribal governments & other First Nation entities, compared to 0.15 from the federal & provincial governments (Table 46). This indicates that a stronger marginal benefit to workforce levels is present when greater transfer revenue is controlled by First Nation entities.

Similar to the education index, community population maintains a mildly negative and statistically significant marginal effect on the workforce index (Table 46). The lower mean per capita revenue from business and other sources in higher population communities could limit the economic activity and job availability within these First Nation communities (Table 21). Studying the relationship between per capita revenue and job creation would be an interesting area of future research. The regression analysis demonstrates a unique marginal effect between geographic remoteness and workforce levels (Table 46). Geographically medium communities demonstrate an average 3.09 lower workforce level than close communities, while remote communities show no statistically significant marginal effect.

The third community wellbeing measure is the language index. The language index maintains very different, and often converse, relationships compared to the other indices. The correlational analysis demonstrates a negative and statistically significant correlation between the language index and gross business sales and business expenses (Table 41). However, a nearly 0.00 correlation exists between the language index and all of the government business entity financial indicators (Table 42). While other variables may be impacting this correlation, the dynamics of this relationship would be an interesting area for future research. The regression analysis demonstrates a statistically significant and negative marginal effect of earned & other revenue ratio on the language index (Table 46). This relationship is worrying, as it indicates a loss of an important part of Indigenous culture. While concerning, this relationship does make intuitive sense. Activities involved with earned income often require increased interactions with members outside of the local community, which would require the use of non-Indigenous language.

Appendix S (Figure A739) explored the relationship between the language index and an expanded number of independent variables. The variables with the most notable relationships are as follows. The regression demonstrates that a 1 unit increase in the

education index is associated with a 0.46 unit decrease in the language index. Conversely, a 1 unit increase in the income index is associated with a 0.42 unit increase in the language index. The negative association between the education and language indices is concerning. While this doesn't necessarily imply a causal connection, this may indicate that greater integration of Indigenous language in formal educational institutions could be beneficial. The positive association between the income index and language index is an interesting observation, and may demonstrate that increased income allows for greater resources to be dedicated towards cultural activities such as the renewal and passing on of Indigenous language.

The regression analysis indicates that higher population levels have a statistically significant and positive marginal effect on Indigenous language knowledge levels (Table 46). This result is expected, as a larger number of people could be actively using and passing on the language to younger generations. The regression analysis also demonstrates that geographic remoteness has a statistically significant marginal effect on language levels. Geographically remote communities have on average a language index higher (than geographically close) by 30.62, while geographically medium are higher by 9.26 (Table 46). This is a very significant difference, which also makes intuitive sense. More remote communities would have fewer external interactions, and would have less need for other languages such as English or French.

The fourth community wellbeing measure is the housing index. The correlational analysis demonstrates that both business activities and government business entity activities maintain positive and statistically significant correlations with the housing index (both on a ratio and per capita basis) (Table 41 and Table 42). Note that the GBE activity indicators of gross revenue and gross expenses have stronger correlations than GBE net income. While other variables may be influencing this relationship, this pattern could be insightful when developing business and GBE policies. The regression analysis indicates that the earned & other revenue ratio maintains a statistically significant and positive marginal effect on the housing index (Table 46). The regression result is important, as it demonstrates that a higher earned & other revenue ratio is associated with higher residential housing conditions even when all of the variables from Table 8 are held constant.

Population levels do not impact the housing index in a statistically significant manner (Table 46). Geographic remoteness, however, has a very important and statistically significant marginal effect on the housing index. Geographically medium communities have a housing index lower by 6.17 (compared to close), while geographically remote have an index lower by 15.81 (Table 46). This demonstrates a severe decline in the state of residential housing for communities that are more geographically remote. Table 29 indicates that nearly half (48%) of on-reserve residential houses in geographically remote communities are in need of major repairs. This figure is astounding for a nation as developed as Canada. There are numerous possible explanations for this poor state of residential housing, which are explored below.

Note that cumulative mean TCA capita for remote communities is $58K, which is higher than close communities at $37K (Table 26). Note also that capital gross cash outflows per capita for remote communities is $4.6K, which is higher than close communities at $3.4K (Table 26). These accounting figures, however, may be misleading when we consider what those dollars can actually buy when comparing geographically remote and close communities. Remote communities have the disadvantage of higher costs for goods and services, especially for large and complex assets. In remote locations, it is unlikely that all of the required construction contractors and needed tradespeople will be available locally. This could result in significant travel expenses for the needed contractors/workers to complete a housing project. This applies not just to new residential construction, but also to ongoing maintenance and repairs.

Let us consider an example. A house may be in need of an electric upgrade. In most non-Indigenous communities, a bid could be put out to several local electrical contractors to find the contractor with the best value. In a remote Indigenous community, it is possible that no local electrical contractors are present. Instead, an electrical contractor may be required to fly in or drive several hours to reach the community. This could drastically increase the price of an electrical upgrade, and decrease the pool of contractors that would be willing to make the long journey to the remote community. Regardless, the total cost of conducting the electrical upgrade would be recorded to the capital or housing account. Even though the dollar amount would be larger, the “on-the-ground” benefit of the electrical upgrade would

be the same. This example demonstrates the unique problems that remote communities face when constructing and maintaining capital assets, including residential housing assets.

This problem is not isolated to electrical upgrades, but applies to items such as requirements of skilled labour, the use of specialized building equipment, or the delivery of building supplies. The costs of building and maintaining a large pool of Nation owned residential housing can soon become prohibitively expensive and very difficult to attract the required human capital to complete the work. All the while, the accounting figures indicate that sufficient spending has already been provided to fulfill the housing needs. A possible step in addressing this problem would be to develop a coordinated remote community procurement system to meet the needs of remote community capital assets. Coordinating numerous remote communities' procurement needs could generate sufficient economies of scale to drive down the price of capital asset purchases and maintenance. This would be an interesting area of future research that could result in increased residential housing conditions for remote First Nation communities, and reduce the expenditure requirements for these critical capital assets.

The fifth community wellbeing measure is the income index. Curiously, there is no statistically significant marginal effect of the earned & other revenue ratio on the income index (Table 46). While a statistically significant correlation appears in the correlational analysis (Table 45), this relationship does not appear in the regression once the other independent variables are held constant. This appears to relate to the geographic remoteness variables being held constant, which results in the marginal effect of earned & other revenue ratio on the income index to be statistically insignificant. This lack of a statistically significant marginal effect is even more curious due to the fact that a statistically significant relationship exists between earned & other revenue and the workforce index (Table 46). This would be an interesting area for future research.

Community population level does not maintain a statistically significant relationship with income levels (Table 46). The degree of geographic remoteness maintains a minor impact on income levels (Table 46). When evaluating income levels, it is important to recall that the income amount is denoted in dollars. Note that the purchasing power of these dollars between geographically close and remote communities may not be the same, as costs are often higher in remote locations.

The sixth community wellbeing measure is the Nation wellness index (NWI). Note that this index is a combined average of the previous five demographic indices. Also note that the language index runs converse to the other indices, thus reducing the level of marginal effect or correlation present between the NWI and a given variable. Table 41 and Table 42 demonstrate that positive and statistically significant correlations exist for both business and GBE financial indicators and the NWI. This correlation is reinforced by the more robust regression analysis, which demonstrates that the earned & other revenue ratio maintains a moderately positive and statistically significant marginal effect on the NWI (Table 46). This is due to the fact that a positive and statistically significant marginal effect exists between earned & other revenue ratio and the education index, workforce index, and housing index. Note that the language index maintains a negative and statistically significant marginal effect.

Of particular interest is the observation that Tribal government & other First Nation entity transfer revenue capita maintains a positive and statistically significant marginal effect with the NWI. For every $1,000 increase in this capita measure, the NWI increases by 0.35 (Table 46). Note that the federal & provincial transfer revenue capita measure has no statistically significant effect (Table 46). This is important as it demonstrates that transfer revenues with greater First Nations control may result in stronger community wellbeing outcomes.

Note that there is no statistically significant marginal effect of community population or geographic remoteness with the NWI (Table 46). It is important to remember, however, that this is due to a cancelling out effect amoung the demographic indices that make up the NWI. The language index maintains a positive and statistically significant marginal effect with the community population and geographic remoteness variables, while most of the other indices maintain a negative and statistically significant marginal effect. Even though this results in a statistically insignificant marginal effect at the NWI level, statistically significant relationships do exist for the sub-indices previously discussed.

Appendix S (Figure A736) presents the regression of a recalculated NWI that excludes the language index. This regression was conducted in part due to the low r-squared value in the original NWI regression, and to determine if the explanatory value of the regression was stronger without the language index included. After removing the language index from the

NWI, the r-squared value increased to 0.35 (compared to 0.13 with the language index). The explanatory power of most of the financial variables slightly increased, while the explanatory power of the population and geographic variables increased significantly. This result supports the argument that the language index has a cancelling out effect with the other subindices.

This section has reviewed this study's results relating to community wellbeing and the demographic indices. The next section considers the research results in relation to community population levels and degrees of geographic remoteness.

Discussion: Population Level and Geographic Remoteness

Throughout this study, the results have indicated that community population level and geographic remoteness of First Nations has a statistically significant impact on community wellbeing. The key findings relating to population level and geographic remoteness will be reviewed.

Table 46 demonstrates that higher community population levels have a mild negative and statistically significant marginal effect on the education and workforce indices. Population level, however, has a strong positive and statistically significant marginal effect on the language index. The other demographic indices maintain no statistically significant relation with population levels.

An important trend exists when evaluating revenue per capita (from all sources) by population subgrouping. The following mean amounts are taken from Table 21. Revenue per capita by the population subgroupings (small, medium, and large) for earned & other revenue capita is $20.7K, $11.5K, and $8.4K. Revenue per capita by the population subgroupings for federal & provincial transfer revenue capita is $22.7K, $14.8K, $12.6K. This demonstrates that the revenue per capita available to large population First Nation governments is approximately half compared to small population communities. This may put strains on large population First Nation governments in delivering the required services for their community members. Another significant contrast exists when evaluating the mean cumulative tangible capital asset (TCA) capita by the same population subgroupings, which are $65.4K, $42.1K and $26.7K (Table 19). While some economies of scale could be gained by sharing common TCAs amoung a larger population, this sharp of a contrast between TCA per capita is surprising. This may indicate that large population communities are not receiving sufficient funds to build and maintain community infrastructure. Considering the sharp contrast in per

capita revenue and TCAs, it would be beneficial to conduct a review and determine if this lower level of funding has resulted in a lack of government services or infrastructure in large population First Nation communities. Note that one possible explanation is the fact that large population communities are on average more geographically close. Due to this, third-party funders may provide less funds due to differences in geographic remoteness costs.

Another trend noted by population subgrouping is the degree of per capita business and GBE activities. The following mean figures are taken from Table 16 and Table 17. The financial indicator balances by population subgroupings of small, medium, and large communities are presented as follows: gross business sales capita ($6.4K, $4.0K, $3.1K), business and economic development expense capita ($7.9K, $4.9K, $2.8K), GBE revenue capita ($21.7K, $7.3K, $4.5K), GBE expense capita ($18.4K, $6.8K, $4.7K). This demonstrates that small population communities benefit from greater business activities per person. While there are significant differences noted between the subgroup means, the differences between the median values are significantly less. The regression analysis has demonstrated that earned & other revenue (business activities being a large component) has positive and statistically significant marginal effects on several community wellbeing measures. It follows that increased business and GBE activities in large population communities has the potential to increase the wellbeing of the First Nation communities. A policy directive, then, could be to promote economic development grants and entrepreneurial loans for prospective business activities in large population First Nation communities across Canada.

The mean values in Table 23 and Table 24 demonstrate that there is a greater level of business activity per capita for geographically close communities compared to more remote. However, the reverse trend is true for GBE activities. While these trends appear when evaluating the means, it is important to note that significant variability is present as indicated by a higher standard deviation. Also, the median values are significantly lower than the means for most financial indicators in Table 23 and Table 24. The amount of federal & provincial transfer revenue per capita is higher for remote communities. This is expected, as Indigenous Services Canada provides a higher level of funding due to the higher costs for remote communities.

The regression analysis results from Table 46 demonstrate that the degree of geographic remoteness maintains a statistically significant marginal effect on several of the community wellbeing measures. The differential effect for geographically medium and remote communities (compared to geographically close) for the education index are -4.76 and -16.89. The corresponding differential effects for the housing index are -6.17 and -15.81. Finally, the corresponding differential effects for the language index are 9.26 and 30.62. These regression results indicate that geographic remoteness maintains a statistically significant effect on the education, housing, and language indices even when the other variables from Table 8 are held constant.

A very prominent finding when evaluating population and geographic remoteness is the impact on the community wellbeing measures of education, housing, and language. Appendix D evaluates these indices by subgroup (based on a matrix between population and geographic zone). Table 50 reviews key subgroup figures taken from Appendix D, Figures A1, A5, and A7.

Table 50: Education, Housing, and Language Indices by Affected Subgroup

Community Wellbeing Measure	MR (medium population & geographically remote)	LR (large population & geographically remote)	Total Population
Education Index	28.6	25.8	45.1
Housing Index	51.2	43.0	63.1
Language Index	52.4	64.5	28.7

Table 50 demonstrates that education levels and residential housing conditions for subgroups MR and LR are far lower compared to other First Nation communities. Considering that these communities have large and medium populations, there are a greater number of First Nations people that are impacted by these very low education levels and residential housing conditions. Contrasting to this, however, the level of Indigenous language knowledge is much higher for subgroups MR and LR. This latter observation is positive, as over half of the community members have knowledge of the Indigenous language. Knowledge of Indigenous language is a very critical component of Indigenous culture.

The regression analysis (Table 46) and comparative analysis (Table 16 to Table 29) demonstrate very distinctive demographic indices and financial indicator trends depending on a local community's population level and degree of geographic remoteness. Varying degrees

of community population and geographic remoteness would result in different public service requirements for the communities involved. It makes intuitive sense that distinct policies and financial requirements would be present for these differing population levels and geographic remoteness realities. It would be beneficial to better understand the distinct requirements for the geographically remote communities with large populations (LR) and medium populations (MR). This would be an interesting area for future research.

This section has evaluated the impact that population level and geographic remoteness has on First Nation community wellbeing. Several statistically significant relations have been identified, along with discussion as to the practical implications. The next section considers the impact that investing financial indicators have on First Nation community wellbeing.

Discussion: Financial Investing Indicators

This section reviews the key investing policies of First Nation governments. The first investing policies evaluated relate to business activities, government business entities (GBEs), and earned & other revenue. The regression analysis demonstrates that the earned & other revenue ratio maintains positive and statistically significant marginal effect on the education index, workforce index, housing index, and Nation wellness index. This ratio also maintains a negative and statistically significant marginal effect on the language index (Table 46). The correlational analysis provides greater insight into the relationships associated with the specific types of earned and other income.

The correlational results (Table 41) demonstrate that gross business sales and business/economic development expenses maintain statistically significant correlations with all of the demographic indices mentioned in the above paragraph. The GBE financial indicators, however, show very different patterns (Table 42). All of the GBE indicators maintain a near 0.00 correlation with the education index and language index. Also, only the GBE capita measures maintain statistically significant correlations with the workforce index. A positive and statistically significant correlation exists between most GBE indicators and the Nation wellness index. Recall that GBEs are Nation owned businesses that maintain a more arms-length relationship with the Nation government. Of particular note is that the education index maintains a positive and statistically significant correlation with business activities, versus GBE activities (businesses that operate independently from the First Nation government) with a nearly 0.00 correlation. Note that this correlational analysis does not

consider other possible variables that could be impacting these relationships. However, the very differing correlational patterns highlight that distinct relationships exist between businesses with greater or lesser First Nation government control.

The second investing policy evaluated is trust fund activity. There has been limited mention of trust activity in the discussion section so far – largely due to the fact that almost no statistically significant correlations for the total population were found throughout the study (Table 43). The regression analysis found a negative and statistically significant marginal effect of the trust fund asset ratio on the education index, housing index, and Nation wellness index (Table 46). This negative effect is only minor, but may indicate that allocating resources to trust funds may not provide a major benefit for First Nation communities.

It is important to recall from the literature review chapter that trust funds are often set up to provide a longitudinal benefit for communities (Rodon et al., 2018). This may be the result of large one-time land claim settlements or natural resource royalty payments. The very purpose of a trust fund is to delay the usage of trust fund resources so that the community can benefit over time. As such, the cross-sectional nature of this study may not be the best method to evaluate the efficacy of trust funds for First Nation communities. This would be an interesting area for future research.

A large spread of trust asset levels was noted between First Nations as per Table 12. Due to this, a stratified population analysis was conducted on First Nations that maintain a low, moderate, and high level of trust assets per capita (refer to Appendix U for further details). Weak correlations were found for low trust asset First Nations between trust activities and the demographic subindices. However, much stronger correlations were found for First Nations that maintain moderate and high levels of trust assets. Two notable trends for these stratified groups include statistically significant and negative correlations between the trust fund assets ratio and the workforce/housing indices.

The third investing policy evaluated is tangible capital asset activity. Most of the TCA activity indicators do not maintain statistically significant correlations with the demographic indices (Table 44). The regression analysis demonstrates that the tangible capital asset ratio maintains a negative and statistically significant marginal effect on all of the demographic indices except for the language index (Table 46). This means that First Nations with a higher percentage of TCAs as a percentage of total assets have slightly lower levels of community

wellbeing (except for knowledge of Indigenous language). This result is quite unexpected. This result may be more a function of what other assets the First Nation government is holding, instead of the tangible capital assets themselves. It is important to recall that TCAs consist of a large variety of different assets, such as community buildings, residential housing, equipment, vehicles, water/sewer infrastructure, or assets of Nation owned businesses (excluding GBEs) to name a few. An interesting area for future research would be to evaluate the correlations of the specific asset categories with the community wellbeing measures.

Areas for Future Research

Throughout the course of this study, several areas of future research have been revealed to better understand the relationship between First Nation community wellbeing and First Nation government investing policy. This section reviews several meaningful areas for future research.

First, a positive and statistically significant correlation was found between per capita business/government business entity activities and the workforce index (Table 41 and Table 42). An interesting area of future research would be to study the long-term impact of this type of per capita revenue available to First Nation governments and job creation figures. Questions to consider include whether or not job creation is sustained over the long-term, and whether specific industries are more disposed to new job creation.

Second, the language index demonstrates very distinct relationships with sources of earned revenue. A negative and statistically significant marginal effect was found between earned & other revenue ratio and the language index (Table 46). When evaluating the correlational analysis, corresponding negative and statistically significant correlations are found for the business activity indicators (Table 41). Note, however, that a nearly 0.00 correlation is present between the language index and the GBE indicators (Table 42). Even though the correlational analysis does not factor in other possible variables, this distinct correlation would be an interesting area of future research. This research could study how external business activities impact the knowledge of and day-to-day use of traditional Indigenous languages within communities. Maintaining Indigenous language is an important aspect of Indigenous culture, so deeper insight in this area could assist in preserving Indigenous languages.

Third, remote communities often struggle with higher costs associated with purchasing and maintaining large and complex capital assets. An interesting area for future research would be to develop a workable business model that combines the procurement needs of numerous remote First Nation governments. The goal would be to combine the purchasing power of multiple First Nation communities' capital procurements. This concentrated purchasing power could boost economies of scale and bargaining power to reduce capital procurement costs.

Fourth, the earned & other revenue ratio maintains a statistically significant marginal effect on all of the demographic indices, except the income index (Table 46). This is surprising, especially due to the fact that the workforce index maintains a statistically significant marginal effect. An interesting area of future research would be to evaluate the relationship between the various types of personal income (such as earned income or transfer payments) and the various types of First Nation government earned & other income. Perhaps statistically significant marginal effects exist for specific types of income.

Fifth, very distinctive community wellbeing measures were found when evaluating geographically remote communities with large and medium populations. The demographic indices showing these distinctive differences are the education, housing, and language indices (refer to Table 50). An interesting area for future research would be to conduct an investigative study of a large sample of these communities to better understand the unique needs of these communities and potential causes for the significantly lower education levels and lower residential housing conditions compared to other First Nation communities. These same communities also maintain much higher levels of Indigenous language knowledge. As such, this investigative study could also determine the causes of why Indigenous language knowledge is so much higher in these communities compared to other First Nations.

Sixth, this study found a lack of statistically significant correlations between most of the trust fund activity indicators and the demographic indices (Table 43) at the total population level. This may be due to the cross-section nature of this study (one year of data), and the fact that trust funds are designed to benefit First Nation communities over several years or decades. An interesting area of future research would be to conduct a longitudinal study analyzing the effects of trust funds on First Nation communities over several years, if not several decades.

Seventh, the correlational analysis from Appendix U provided evidence that distinct patterns emerge between stratified samples when evaluating trust fund activity indicators. The stratified groups are based on the level of trust fund assets per capita (levels of low, moderate, or high). When First Nations maintain a moderate and high level of trust fund assets per capita, a statistically significant negative correlation exists with the workforce and housing indices. Better understanding this relationship could provide deeper insight into the effects of trust fund resources on local communities. It is also possible that other contributing factors are impacting these observed correlations, such as geographic remoteness of the First Nation or the underlying reason that First Nations use trust funds. As trust funds are often designed to provide benefits to First Nations over longer time frames, analyzing these correlations over multiple decades could provide evidence of the long-term impact of trust funds on First Nation communities (similar to the previous area of future research).

Eighth, this study found that the tangible capital asset ratio maintains a negative and statistically significant marginal effect on most of the demographic indices except the language index (Table 46). Most of the other TCA activity indicators do not maintain statistically significant correlations with the demographic indices (Table 44). More distinct and meaningful relations may be found by analyzing the correlations between the major TCA categories and the demographic indices. The First Nation government financial statements disclose the major TCA values by category, such as buildings, equipment, automotive or water/sewer infrastructure to name a few. An interesting area of future research would be to prepare a comparable database of these TCA values by category, and conduct a correlational analysis of these TCA categories with the demographic indices.

Ninth, the regression from Appendix S (Figure A739) demonstrated that a higher income index was positively associated with higher levels of Indigenous language knowledge. This may indicate that the presence of higher income allows for greater resources to be allocated to cultural activities such as Indigenous language renewal. An interesting area of future research would be to evaluate the relationship between specific types of income (earned income, passive income, transfer income to name a few) and the level of Indigenous language knowledge.

Tenth, several First Nations present negative values for investment assets in their consolidated financial statements. Upon further review, most of these negative values

represent negative investment values of First Nation owned businesses. These businesses are government business entities or government business partnerships, which are recorded using the modified equity method of accounting. While it is theoretically possible to have a negative value investment using modified equity, its occurrence is very rare. Reporting a negative investment asset, or an investment liability, also brings into question whether such reporting practices provide meaningful information for users of the financial statements. An interesting area of future research would be to evaluate the Public Sector Accounting Standards (accounting standard used for most governments in Canada, including First Nation governments) and to determine if further clarification would be beneficial regarding negative value investments using the modified equity accounting method.

Several areas for future research have been reviewed, along with recommendations for how this research could be conducted. The following section brings this study to its conclusion, and reviews the key findings discussed throughout this manuscript.

Concluding Statements

The objectives of this thesis were to provide greater insight into the relationship between First Nation community wellbeing and First Nation government investing policies, and to better understand the impact of population level and geographic remoteness on this relationship. Through a comprehensive analysis of demographic and financial data, this study has revealed new insights in these areas and also raised new topics for future research. The key areas of insight covered in this study include the analysis of community wellbeing at the subindex level, the relationship between earned & other income and community wellbeing, the relationship between First Nation controlled transfer revenue per capita and community wellbeing, and the relationship between geographic remoteness and the demographic indices of education, housing, and language.

The community wellbeing subindices (education, workforce, language, housing, and income) have distinct relationships with the variables of investing financial indicators, population level, and geographic remoteness. The distinct relationships uncovered in this study will be more applicable to policy makers that focus in specific areas. For example, education professionals could more readily apply the insights of this study by evaluating the relationships of the education index instead of the Nation wellness index as a whole. The

same applies for professionals/policy makers in the areas of economic development, community housing, or Indigenous language renewal.

This study has found that earned & other income has a largely positive and statistically significant correlation with most measures of community wellbeing, with the exception of Indigenous language knowledge. The benefit of earned income to community wellbeing has been discussed in prior scholarly work (Vining & Richards, 2016) (Dylan et al., 2013) (Simpson et al., 2007), albeit these studies focused on a smaller subset of First Nation communities. This study confirms the benefit of earned & other revenue ratio on community wellbeing, as a positive marginal effect is present between this ratio and the Nation wellness index.

The regression analysis found a stronger and statistically significant marginal increase to the education and workforce indices when transfer revenue is received from a First Nation Tribal governments or First Nation entities, instead of transfers directly from the provincial/federal government. Note that the income index maintains a statistically significant marginal decrease from federal/provincial transfer revenue, while First Nation controlled transfers do not. This demonstrates that transfer revenues with greater First Nations control may have stronger community wellbeing outcomes than direct transfers from the federal or provincial governments.

The degree of geographic remoteness of First Nation communities has a statistically significant impact on education levels, the state of residential housing, and knowledge of Indigenous language. Education levels and residential housing conditions fall drastically for geographically remote communities with large and medium populations. Conversely, the knowledge of Indigenous language in these communities is much higher. Now that this pattern has been identified, it would be beneficial to investigate and determine the unique needs of these communities. This could facilitate the development of new and more impactful policy to address the educational and housing needs of these communities. At the same time, the investigation could determine how and why these communities maintain a stronger knowledge of Indigenous language. These insights could be used to facilitate Indigenous language renewal in other First Nation communities.

This study also sought to better understand the relationship between trust fund activities and tangible capital asset activities on community wellbeing. After reviewing the

results, it has been found that few statistically significant relationships exist for either of these investing activities at the total population level. The regression analysis demonstrates that both the trust fund asset ratio and tangible capital asset ratio maintain minor negative and statistically significant marginal effects on most of the community wellbeing measures. While more significant findings would have been desired in these areas, several areas of future research have been discussed in the previous section to gain more insight into these areas of First Nation government investing policy. Note that several statistically significant trends were identified for trust activities once the population was stratified based on the level of trust assets held by First Nations, as discussed in Appendix U.

As this study comes to its conclusion, several important observations can be made. First, these results and discussions provide new insight for First Nation community leaders and policy makers to make more informed decisions for their local communities. By analyzing the findings in this study, local leaders may develop new ideas for what policies may be effective for their own Nations. Let us consider an example. By observing the positive marginal effect of earned & other revenue on the Nation wellness index, local leaders may seek to start Nation owned business ventures to benefit their First Nation communities. Note, however, that this study does not predetermine that this would be the best choice for every Nation. Local Indigenous leaders must always determine what is best for their community, while taking into consideration the community's Indigenous culture, importance of the land, and local resources. This study simply provides additional insights for local leaders to make the most informed decision possible.

The second observation is that this study maintained a focus on First Nation governments and communities. Making comparisons between First Nations and non-First Nations was specifically avoided. The reason is that many First Nation communities are making great progress in advancing their communities' wellbeing, and are doing so in a distinctly Indigenous manner. First Nation goals and wellbeing cannot be defined as "better than" or "worse than" non-First Nation people. First Nations seek to forge a vision and future that are shaped by Indigenous culture and an Indigenous worldview. By keeping comparisons between First Nations, the goal is to reinforce this Indigenous worldview.

Finally, this study evaluated demographic and financial data from the year 2016. The relationships analyzed from 2016 provide a framework for understanding the existing

realities of First Nation communities, but does not decide the realities for First Nations going forward. The new insights from this study will enable First Nation leaders to better understand the relationships between investing policies and community wellbeing. This new insight can inform visionary Indigenous leaders as they shape a path for First Nation people into the future.

REFERENCES

Angelo, T., Bell, B., & Roylance, B. (2016). Intergenerational trust funds in the Pacific. *Journal of Pacific History, 51*(2), 186–204. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1080/00223344.2016.1193268

Axelsson, P., Kukutai, T., & Kippen, R. (2016). Indigenous wellbeing and colonisation. *Journal of Northern Studies, 10*(2), 7–18. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=a9h&AN=123808021&site=eds-live&scope=site

Boyd, J., & Trosper, R. (2010). The use of joint ventures to accomplish Aboriginal economic development: two examples from British Columbia. *International Journal of the Commons, 4*(2), 36-55. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=52840668&site=eds-live&scope=site

Brock, K., & Migone, A. (2018). Financial capacity of First Nations in Canada. *Canada Public Administration-Administration Publique Du Canada*. *61(4)*, 479-498. Retrieved from https://onlinelibrary-wiley-com.ezproxy.tru.ca/doi/full/10.1111/capa.12300

Chartered Professional Accountants of British Columbia. (2016, June). *Government business enterprises*. Retrieved from: https://www.bccpa.ca/news-views-kb/browse-news-views-knowledge-base/accounting-standards/public-sector/guidance/government-business-enterprises/

Clatworthy, S. (2009). Housing needs in First Nations communities. *Canadian Issues / Thèmes Canadiens,* 19-24. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edo&AN=37795885&site=eds-live&scope=site

Curry, J., Donker, H., & Krehbiel, R. (2009). Development corporations in Aboriginal communities: The Canadian experience. *Journal of Development Entrepreneurship, 14(1)*, 1-19. Retrieved from https://doi-org.ezproxy.tru.ca/10.1142/S1084946709001119

De Soto, H. (2000). *The mystery of capital: why capitalism triumphs in the west and fails everywhere else*. USA: Basic Books.

Drew, J., & Dollery, B. (2016). How high should they jump? An empirical method for setting municipal financial ratio performance benchmarks. *Australian Journal of Public Administration*, *75*(1), 53–64. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1111/1467-8500.12152

Dylan, A., Smallboy, B., & Lightman, E. (2013). “Saying no to resource development is not an option”: economic development in Moose Cree First Nation. *Journal of Canadian Studies, 47*(1), 59–90. Retrieved from https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edswah&AN=000331418100003&site=eds-live&scope=site

Eugenievna, E., & Yakovlevna, S. (2014). The financial backbone of the municipal investment policy in the towns of the far north. *Arctic & North, 15*, 13-28. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=101606391&site=eds-live&scope=site

Finlay, J., Hardy, M., Morris, D., & Nagy, A. (2010). Mamow Ki-ken-da-ma-win: A partnership approach to child, youth, family and community wellbeing. *International Journal of Mental Health and Addiction*, *8*(2), 245–257. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=eric&AN=EJ881962&site=eds-live&scope=site

Fleming, C., & Manning, M. (2019). *Routledge Handbook of Indigenous Wellbeing*. Routledge. Retrieved from https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=nlebk&AN=2107186&site=eds-live&scope=site

Fligg, R., & Robinson, D., (2020). Reviewing First Nation land management regimes in Canada and exploring their relationship to community well-being. *Land Use Policy,* 90. Retrieved from https://www-sciencedirect-com.ezproxy.tru.ca/science/article/pii/S026483771930451X?via%3Dihub

Gomashie, G. A. (2019). Kanien’keha/Mohawk indigenous language revitalisation efforts in Canada. *McGill Journal of Education*, *54*(1), 151–171. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=eric&AN=EJ1218225&site=eds-live&scope=site

Groves, S., Godsey, W., & Shulman, M. (1981). Financial indicators for local government. *Public Budgeting & Finance*, *1*(2), 5–19. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1111/1540-5850.00511

Herrmann-Pillath, C., & Xingyuan, F. (2004). Competitive governments, fiscal arrangements, and the provision of local public infrastructure in China. *China Information*, *18*(3), 373-428. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=53086046&site=eds-live&scope=site

Hossain, B., & Lamb, L. (2012). The impact of human and social capital on Aboriginal employment income in Canada. *Economic Papers*, *31*(4), 440–450. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1111/1759-3441.12010

Hossain, B., & Lamb, L. (2019A). Cultural attachment and wellbeing among Canada's Indigenous people: A rural urban divide. *Journal of Happiness Studies, 21*(4), 1303–1324. https://doi-org.ezproxy.tru.ca/10.1007/s10902-019-00132-8

Hossain, B., & Lamb, L. (2019B). Economic insecurity and psychological distress among Indigenous Canadians. *Journal of Developing Areas, 53*(1), 109–125. https://doi-org.ezproxy.tru.ca/10.1353/jda.2019.0007

Indigenous Services Canada. (2019). *Report on trends in First Nations communities, 1981 to 2016*. Retrieved from: https://www.sac-isc.gc.ca/DAM/DAM-ISC-SAC/DAM-STSCRD/STAGING/texte-text/report-trends-FN-Comm-1981-2016_1578933771435_eng.pdf

Indigenous Services Canada. (n.d.a). *Search by First Nation*. Retrieved from https://fnp-ppn.aadnc-aandc.gc.ca/FNP/Main/Search/SearchFN.aspx?lang=eng

Indigenous Services Canada. (n.d.b). *Definitions*. Retrieved from https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Definitions.aspx?lang=eng#Geography

Indigenous Services Canada. (n.d.c). *First Nations financial transparency act.* Retrieved from https://www.sac-isc.gc.ca/eng/1322056355024/1565374106591

Indigenous Services Canada. (n.d.d). *Registered population Ashcroft*. Retrieved from https://fnp-ppn.aadnc-aandc.gc.ca/FNP/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=685&lang=eng

Jewell, E. M. (2016). Effects on the perceptions of language importance in Canada's urban indigenous peoples. *Aboriginal Policy Studies, 5*(2). https://doi-org.ezproxy.tru.ca/10.5663/aps.v5i2.25411

Kant, S., Vertinsky, I., Zheng, B., & Smith, P. M. (2014). Multi-domain subjective wellbeing of two Canadian First Nations communities. *World Development, 64*, 140–157. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1016/j.worlddev.2014.05.023

Krishnakumar, J., & Nogales, R. (2020). Education, skills and a good job: A multidimensional econometric analysis. *World Development, 128*. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1016/j.worlddev.2019.104842

Li, B., Hu, B., Liu, T., & Fang, L. (2019). Can co-production be state-led? Policy pilots in four Chinese cities. *Environment & Urbanization, 31*(1), 249-266. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=135913338&site=eds-live&scope=site

Mahoney, K. (2018). The untold story: how indigenous legal principles informed the largest settlement in Canadian legal history. *University of New Brunswick Law Journal*, *69*, 198–232. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=a9h&AN=132173284&site=eds-live&scope=site

Manning, M., Ambrey, C., & Fleming, C. (2016). A longitudinal study of Indigenous wellbeing in Australia. *Journal of Happiness Studies*, *17*(6), 2503–2525. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1007/s10902-015-9704-y

McIvor, O., & Ball, J. (2019). Language-in-education policies and indigenous language revitalization efforts in Canada: considerations for non-dominant language education in the global south. *FIRE: Forum for International Research in Education*, *5*(3), 12–28. Retrieved from: https://eric-ed-gov.ezproxy.tru.ca/contentdelivery/servlet/ERICServlet?accno=EJ1238542

Mignone, J., & Henley, H. (2009). Impact of information and communication technology on social capital in aboriginal communities in Canada. *Journal of Information, Information Technology & Organizations*, *4*, 127–145. Retrieved from: https://doi-org.ezproxy.tru.ca/10.28945/621

Mirzaei, O., Natcher, D., & Micheels, E. (2020). Estimating the regional economic impacts of First Nation spending in Saskatchewan, Canada. *Review of Regional Studies*, *50*(1), 53–69. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=a9h&AN=142789628&site=eds-live&scope=site

O'Gorman, M., & Penner, S. (2018). Water infrastructure and well-being among First Nations, Métis and Inuit individuals in Canada: what does the data tell us? *Environmental Science & Pollution Research*, *25*(33), 33038-33055. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=132924435&site=eds-live&scope=site

Peck, L. (2013). On analysis of symmetrically predicted endogenous subgroups: Part one of a method note in three parts. *American Journal of Evaluation*, *34*(2), 225–236. Retrieved from: https://journals-sagepub-com.ezproxy.tru.ca/doi/pdf/10.1177/1098214013481666

Radoniqi, D. (2018). Does fiscal decentralization contribute in economic growth?. *Journal of Academic Research in Economics*, *10*(3), 389-411. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=134240976&site=eds-live&scope=site

Reeve, R., & Bradford, W. (2014). Aboriginal disadvantage in major cities of New South Wales: evidence for holistic policy approaches. *Australian Economic Review*, *47*(2), 199–217. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1111/1467-8462.12061

Richards, J., & Krass, M. (2015). First Nation own-source revenue: how is the money spent?. *C.D. Howe Institute, No. 437*. Retrieved from: https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Commentary_437.pdf

Rivenbark, W., & Roenigk, D. (2011). Implementation of financial condition analysis in local government. *Public Administration Quarterly*, *35*(2), 241–267. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=bth&AN=65228039&site=eds-live&scope=site

Rodon, T., Lemus-Lauzon, I., & Schott, S. (2018). Impact and benefit agreement (IBA) revenue allocation strategies for indigenous community development. *Northern Review*, *47*, 9-29. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=132172869&site=eds-live&scope=site

Schaltegger, C., & Torgler, B. (2006). Growth effects of public expenditure on the state and local level: evidence from a sample of rich governments. *Applied Economics*, *38*(10), 1181-1192. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=21273472&site=eds-live&scope=site

Shirai, S. (2005). Growing problems in the local public finance system of Japan. *Social Science Japan Journal*, *8*(2), 213-238. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=44441965&site=eds-live&scope=site

Simpson, L., Sullivan, D., & Storm, S. (2007). Closing the economic gap in northern Manitoba: sustained economic development for Manitoba's First Nation communities. *Canadian Journal of Native Studies*, *27*(1), 49-108. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edo&AN=31720635&site=eds-live&scope=site

Su, F. & Tao, R. (2017). The China model withering? Institutional roots of China's local developmentalism. *Urban Studies (Sage Publications, Ltd.)*, *54*(1), 230-250. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=120298259&site=eds-live&scope=site

Vining, A., & Richards, J. (2016). Indigenous economic development in Canada: confronting principal-agent and principal–principal problems to reduce resource rent dissipation. *Resources Policy*, *49*, 358–367. Retrieved from: https://doi-org.ezproxy.tru.ca/10.1016/j.resourpol.2016.07.006

Westbank First Nation. (2020). *Business and development.* Retrieved from https://www.wfn.ca/business-development.htm

Zhang, Y., & Roelfsema, H. (2013). Dual and common agency issues in international joint ventures: evidence from China. *Singapore Economic Review*, *58*(3), 1. Retrieved from: https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=edb&AN=90311290&site=eds-live&scope=site

Appendix A: Summary of Financial Indicators

Financial Indicators To Be Used in This Study (Note 1)					
Financial item used in financial indicator (numerator)		Financial item used in financial indicator (denominator)	Used in descripitve statistics	Used in r analysis	Used in regression analysis
Business Activity Ratios					
Total investment assets (includes GBEs, exclude trust funds)	/	Total financial assets	Y	Y	N
Gross business sales (excluding GBE income)	/	Total revenue	Y	Y	N
Business and Ec Dev expenses	/	Total expenses	Y	Y	N
GBE Ratios (Note 2)					
GBE assets	/	Total financial assets	Y	Y	N
GBE liabilities	/	Total liabilities	Y	N	N
GBE equity	/	Accumulated surplus	Y	Y	N
GBE revenue	/	Total revenue	Y	Y	N
GBE expenses	/	Total expenses	Y	Y	Y (capita)
GBE net income	/	Surplus in year	Y	Y	N
Trust Ratios					
Trust funds assets	/	Total financial assets	Y	Y	Y (ratio)
Trust revenue	/	Total revenue	Y	Y	N
Capital Ratios					
Tangible capital assets	/	Total assets	Y	Y	Y (ratio)
Gross cash inflows from capital	/	Total gross cash inflows	Y	N	N
Gross cash outflows from capital	/	Total gross cash outflows	Y	N	N
Net cash flows from capital	/	Total net cash flows	Y	Y	N

Appendix A: Summary of Financial Indicators (continued)

Other Ratios

Long-term debt	/	Total liability	Y	N	N
Net cash flow from operating	/	Total net cash flows	Y	N	N
Gross cash inflows from investing	/	Total gross cash inflows	Y	N	N
Gross cash outflows from investing	/	Total gross cash outflows	Y	N	N
Net cash flows from investing	/	Total net cash flows	Y	N	N
Earned revenue (Note 3)	/	Total revenue	Y	Y	N
Earned revenue + other revenue (Note 4)	/	Total revenue	Y	Y	Y (ratio)
Federal and provincial revenue	/	Total revenue	Y	Y	Y (capita)
Tribal gov't revenue + Other FN revenue (Note 5)	/	Total revenue	Y	Y	Y (capita)

Note 1: This financial information is taken from the audited 2016 First Nation Financial Statements, which are publicly available via the Indigenous Services Canada (n.d.a) website. Below is a link where each First Nation can be looked up, and its audited financial statements can be downloaded as a PDF document. This is the financial data source for this study. See the link below.
https://fnp-ppn.aadnc-aandc.gc.ca/FNP/Main/Search/SearchFN.aspx?lang=eng

Note 2: GBE refers to government business entities as defined by the Public Sector Accounting Standards of Canada. As per the Chartered Professional Accountants of British Columbia, a GBE must have all of the following characteristics:
- "It is a separate entity with the power to contract in its own name, and can sue and be sued.
- It has been delegated the financial and operational authority to carry on a business.
- It sells goods and services to individuals and organizations outside of the government reporting entity as its principal activity.
- It can, in the normal course of its operations, maintain its operations and meet its liabilities from revenues received from sources outside of the government reporting entity."

(Chartered Professional Accountants of British Columbia, 2016, para. 1)

Appendix A: Summary of Financial Indicators (continued)

The previously listed characteristics must be present for a GBE to be classified as such on the financial statements. Businesses not meeting the above characteristics will be recorded via another method, such as consolidated, equity-method, or at cost. Note that the financial indicator numerator listed on the previous page as "Gross business sales" is most likely business revenue from First Nation owned businesses that don't meet the above characteristics and are reported on a consolidated basis with the First Nation government financial statements.

Detailed GBE financial information is presented in the First Nation financial statement note disclosures. The information is used throghout this study. Note also that this information is audited.

Note 3: Earned revenue includes revenue such as business income, tax income, roytalities, user fees, investment income, etc.

Note 4: Earned revenue + other revenue includes all items listed above in earned income, as well as all non-categorized income, and income labelled as Other Revenue.

Note 5: Tribal gov't revenue + Other FN revenue includes all transfer revenue received from Tribal governments, Tribal associations, and non-government First Nation entities (e.g. NPOs).

Note 6: each of the previously listed financial indicator numerators will also evaluated against the specific First Nation community's population level (as per 2016 Census per Statistics Canada) to establish a per capita measure. These additional financial indicators can be expressed as follows:

Additional Financial Indicators To Be Used in This Study		
Each financial indicator numerator previously listed	/	Total population of relating First Nation community (as per 2016 Census per Statistics Canada)

Appendix B: Summary of Demographic Indices

Note 1) The data for calculating the following indices has been taken from the 2016 Census prepared by Statistics Canada. Statistics Canada prepares and provides demographic data to Indigenous Services Canada for each First Nation community. The data for each community is made up of Census subdivisions of all reserve land and crown land designated to each First Nation community.

Note 2) An index is calculated for each community based on the following demographic categories: education, housing, income, language, and workforce. These indices are then combined into a general Nation wellness index. The method for calculating each index is reviewed below. Also below is a link to the Indigenous Services Canada (n.d.a) website, where each First Nation can be looked up and the detailed demographic data can be reviewed. See the link below.
https://fnp-ppn.aadnc-aandc.gc.ca/FNP/Main/Search/SearchFN.aspx?lang=eng

Education Index

Step	Calculation
1: Input education data calculation	[# of people how have a high school diploma (or equivalent) only] * 1 + [(# of people with trade or apprenticeship or other non-university certification) + (# of people university certificate below bachelor level) + (# of people with a university degree bachelor or higher)] * 1.25 = Sum of amounts
2: Divide balance by population 15 years and over	Sum of amounts / Population 15 years and over * 100 = Unadjusted education index
3: Adjust index to a scale of 0-100	Unadjusted education index * (adjustment factor) = Education Index

Appendix B: Summary of Demographic Indices (continued)

Housing Index

Step	Calculation
1: Input housing data calculation	1 - (# of dwellings requiring major repair / Total number of dwellings) * 100 = Unadjusted housing index
2: Adjust index to a scale of 0-100	Unadjusted housing index * (adjustment factor) = Housing Index

Income Index

Step	Calculation
1: Determine the maximum "Average total income (all persons with income $)" of all First Nation communities	Use MAX() function in Excel to calculate this
2: Divide each community "Average total income (all persons with income $)" by the maximum determined in step 1	Community "average total income (all persons with income $)" / Maximum "average total income (all person with income $)" * 100 = Income Index

Appendix B: Summary of Demographic Indices (continued)

Workforce Index

Step	Calculation
1: Input workforce data calculation	Participation rate + Employment rate /2 = Unadjusted workforce index
2: Adjust index to a scale of 0-100	Unadjusted workforce index * (adjustment factor) = Workforce Index

Language Index

Step	Calculation
1: Evaluate % of population with knowledge of Indigenous language (direct from Census)	% of population with knowledge of Indigenous language = Language Index

Nation Wellness Index

Step	Calculation
1: Average the preceding 5 indices	(Education Index + housing Index + Income Index + Workforce Index + Language Index)/5 = Unadjusted Nation wellness index
2: Adjust index to a scale of 0-100	Unadjusted Nation wellness index * (adjustment factor) = Nation Wellness Index

Appendix C: Subgroups of First Nation Communities

General Discussion

The factors of population level and geographic remoteness are hypothesized to impact the effectiveness of the investing policies utilized by First Nation governments. A key part of this study will evaluate how population level and geographic remoteness impacts the effectiveness of investing policy. To accomplish this, sub-categories of First Nation communities will be evaluated to compare the strength of the correlations present between the financial indicators and demographic indices.

Geographic Zones

Indigenous Services Canada prescribes a "Geographic Zone" for each First Nation community from a scale of 1-4. Due to the smaller number of First Nation communities in zones 3 and 4, First Nations in zones 3 and 4 will be evaluated as one subgroup in this study. Each geographic zone is defined by Indigenous Services Canada below.
A reference to these definitions can be found on the Indigenous Services Canada (n.d.b, para. 6-9) website. The geogrpahic zones are defined as follows:
"Zone 1: First Nation is located within 50 km of the nearest service centre to which it has year-round road access.
Zone 2: First Nation is located between 50 and 350 km from the nearest service centre to which it has year-round road access.
Zone 3: First Nation is located over 350 km from the nearest service centre to which it has year-round road access.
Zone 4: First Nation has no year-round road access to a service centre, as a result, experiences a higher cost of transportation."

Population Level

The population level is based on the number of people living within the reserve land and First Nation associated Crown Land. The population numbers are based on the 2016 Census as provided by Statistics Canada. The population categories are as follows:
Population less than or equal to 200
Population greater than 200 but less than 1,000
Population greater than or equal to 1,000

Matrix of Subgroups

For ease of reference, a matrix has been developed to summarize the subgroup. Each subgroup is provided a 2 letter mnemonic code as follows:

	Geography Zone 1 (close)	Geography Zone 2 (medium)	Geography Zones 3&4 (remote)
Population (small) <= 200	SC	SM	SR
Population (medium) 201-999	MC	MM	MR
Population (large) >=1000	LC	LM	LR

Appendix D: Descriptive Statistics of Demographic Indices with Breakdown Between Subgroups

Figure A1: Education Index DS Data

Education Index						
Subgroup	Mean	Median	SD	CV	Min	Max
SC	53.8	53.7	12.2	0.23	29.1	81.3
SM	49.5	49.8	14.4	0.29	12.9	100.0
SR	46.3	48.9	16.4	0.35	12.8	75.1
MC	50.8	53.1	10.8	0.21	24.3	70.6
MM	44.6	44.8	12.1	0.27	8.9	68.8
MR	28.6	28.2	11.1	0.39	3.7	53.1
LC	51.9	55.8	13.6	0.26	23.7	75.5
LM	38.9	36.0	11.0	0.28	20.1	60.2
LR	25.8	24.1	10.0	0.39	13.5	46.9
Total Pop	45.1	46.2	14.5	0.32	3.7	100.0

Figure A2: Education Index DS Graph

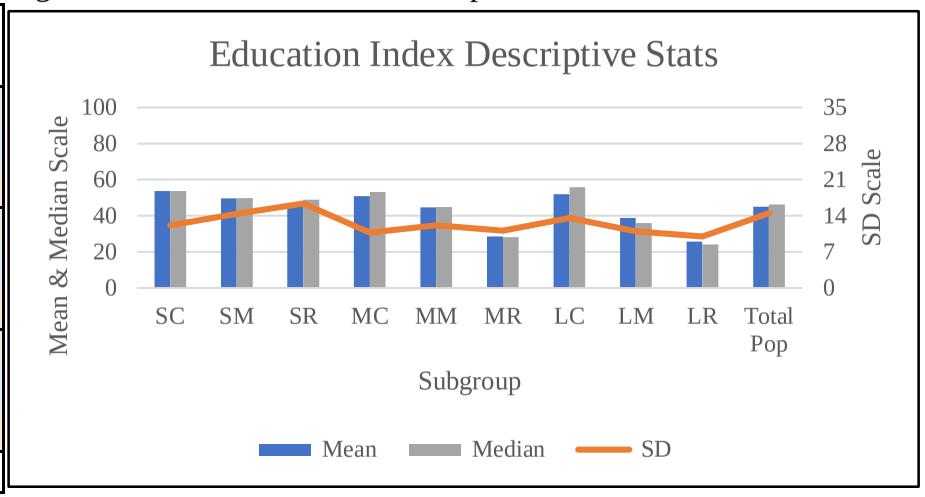
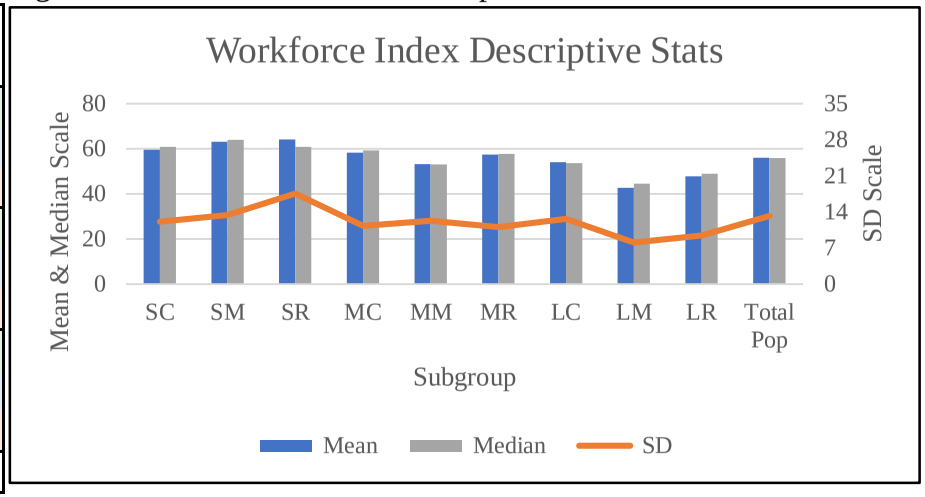


Figure A3: Workforce Index DS Data

Workforce Index						
Subgroup	Mean	Median	SD	CV	Min	Max
SC	59.6	60.9	12.1	0.20	33.2	90.2
SM	63.1	63.9	13.4	0.21	32.8	100.0
SR	64.1	60.9	17.6	0.27	30.4	100.0
MC	58.2	59.3	11.3	0.19	13.5	78.4
MM	53.1	53.1	12.3	0.23	23.2	91.9
MR	57.4	57.6	11.1	0.19	37.4	79.1
LC	54.1	53.6	12.6	0.23	28.7	82.7
LM	42.7	44.6	8.1	0.19	20.6	55.0
LR	47.8	48.9	9.4	0.20	26.5	63.5
Total Pop	55.9	55.8	13.2	0.24	13.5	100.0

Figure A4: Workforce Index DS Graph



Appendix D: Descriptive Statistics of Demographic Indices with Breakdown Between Subgroups (continued)

Figure A5: Language Index DS Data

Language Index						
Subgroup	Mean	Median	SD	CV	Min	Max
SC	10.7	7.4	13.6	1.27	-	56.2
SM	19.9	18.0	14.5	0.73	-	59.8
SR	36.2	36.1	23.8	0.66	-	79.2
MC	16.2	13.2	14.1	0.87	-	56.3
MM	28.4	26.0	18.6	0.65	-	99.3
MR	52.4	50.9	30.6	0.58	5.2	99.3
LC	26.5	17.1	24.5	0.92	-	98.5
LM	42.8	40.6	24.8	0.58	4.5	99.0
LR	64.5	69.2	30.4	0.47	7.8	100.0
Total Pop	28.7	22.8	24.3	0.85	-	100.0

Figure A6: Language Index DS Graph

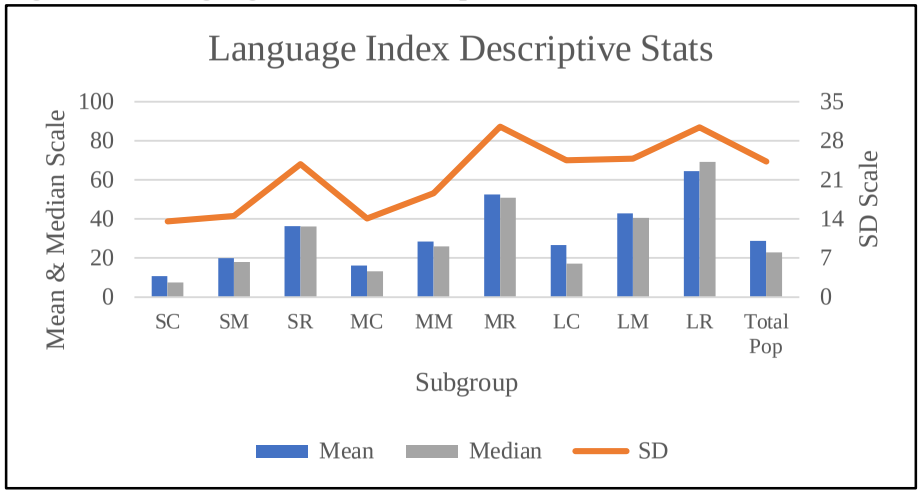
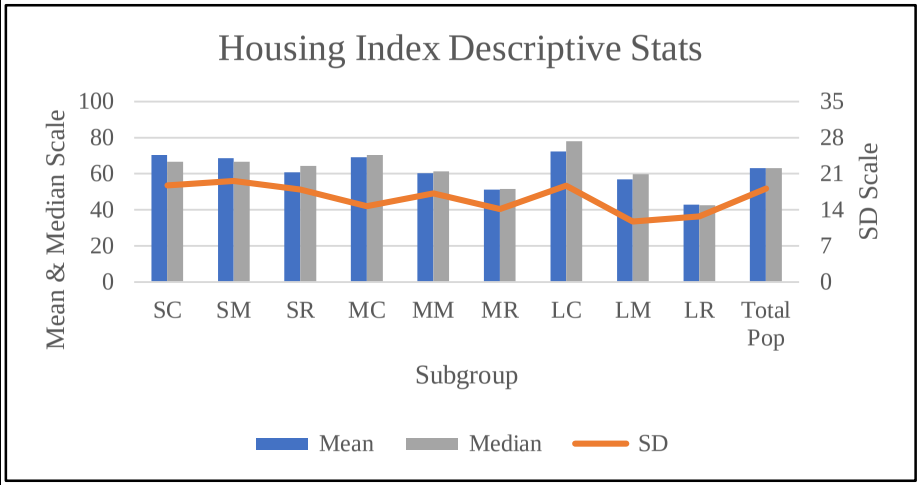


Figure A7: Housing Index DS Data

Housing Index						
Subgroup	Mean	Median	SD	CV	Min	Max
SC	70.4	66.7	18.7	0.27	33.3	100.0
SM	68.7	66.7	19.6	0.29	25.0	100.0
SR	60.8	64.3	17.9	0.30	30.8	100.0
MC	69.1	70.3	14.7	0.21	28.6	100.0
MM	60.3	61.3	17.2	0.29	5.7	93.1
MR	51.2	51.5	14.2	0.28	14.3	86.4
LC	72.2	78.0	18.7	0.26	30.4	98.7
LM	57.0	59.7	11.7	0.21	32.0	74.2
LR	43.0	42.5	12.7	0.30	17.5	72.0
Total Pop	63.1	63.1	18.1	0.29	5.7	100.0

Figure A8: Housing Index DS Graph



Appendix D: Descriptive Statistics of Demographic Indices with Breakdown Between Subgroups (continued)

Figure A9: Income Index DS Data

	Income Index					
Subgroup	Mean	Median	SD	CV	Min	Max
SC	-	-	-	-	-	-
SM	-	-	-	-	-	-
SR	-	-	-	-	-	-
MC	32.6	33.5	6.6	0.20	17.3	46.4
MM	30.2	27.1	10.7	0.35	17.3	100.0
MR	29.9	27.4	10.1	0.34	17.6	56.3
LC	36.8	34.0	15.3	0.41	19.5	92.8
LM	26.7	26.6	4.3	0.16	17.9	40.0
LR	26.1	24.9	5.4	0.21	18.9	38.7
Total Pop	31.0	28.5	10.3	0.33	17.3	100.0

Figure A10: Income Index DS Graph

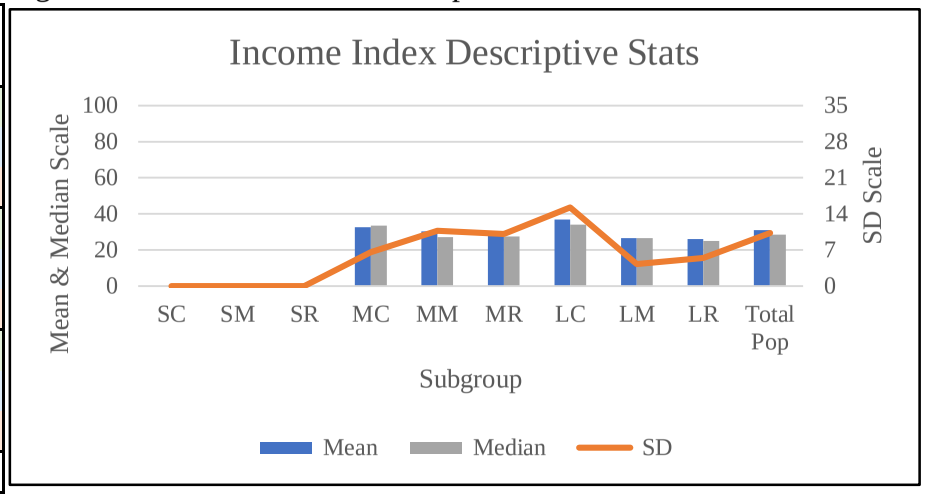
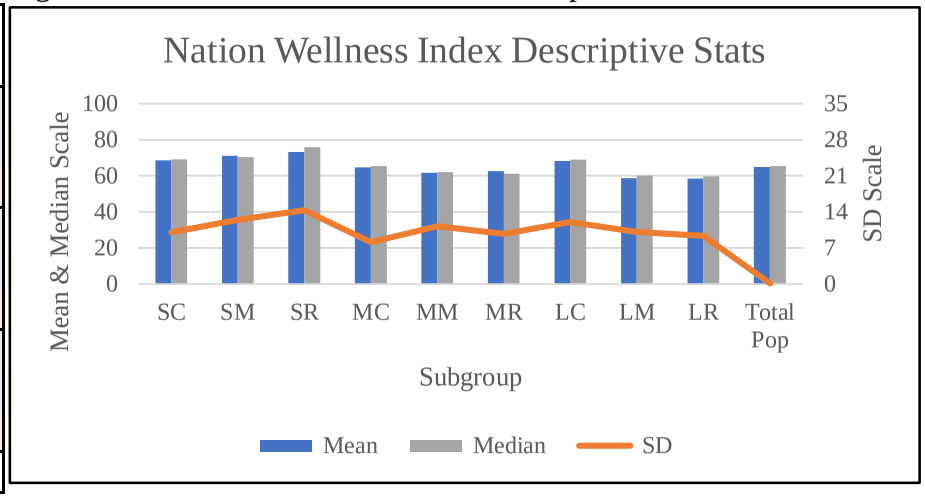


Figure A11: Nation Wellness Index DS Data

	Nation Wellness Index					
Subgroup	Mean	Median	SD	CV	Min	Max
SC	68.7	69.1	10.0	0.15	45.5	94.3
SM	71.0	70.4	12.5	0.18	40.5	100.0
SR	73.2	75.9	14.4	0.20	45.3	97.5
MC	64.6	65.5	8.1	0.13	45.1	82.0
MM	61.7	62.1	11.3	0.18	32.3	93.6
MR	62.6	61.1	9.7	0.16	42.5	84.5
LC	68.2	69.0	12.0	0.18	43.3	98.9
LM	58.7	60.0	10.1	0.17	38.5	78.4
LR	58.5	59.7	9.3	0.16	45.8	77.8
Total Pop	64.9	65.5	0.2	32.3	100.0	67.7

Figure A12: Nation Wellness Index DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups

Figure A13: Investment Asset Ratio DS Data

Investment Asset Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.44	0.11	1.08	2.48	6.40
SM	0.25	0.11	0.29	1.14	1.07
SR	0.20	0.15	0.25	1.22	0.83
MC	0.28	0.18	0.29	1.05	0.93
MM	0.24	0.16	0.30	1.29	1.57
MR	0.28	0.15	0.31	1.11	1.03
LC	0.31	0.31	0.26	0.82	0.84
LM	0.32	0.29	0.26	0.81	0.89
LR	0.34	0.31	0.36	1.04	0.96
Total Pop	0.28	0.18	0.40	1.44	6.73

Figure A14: Investment Asset Ratio DS Graph

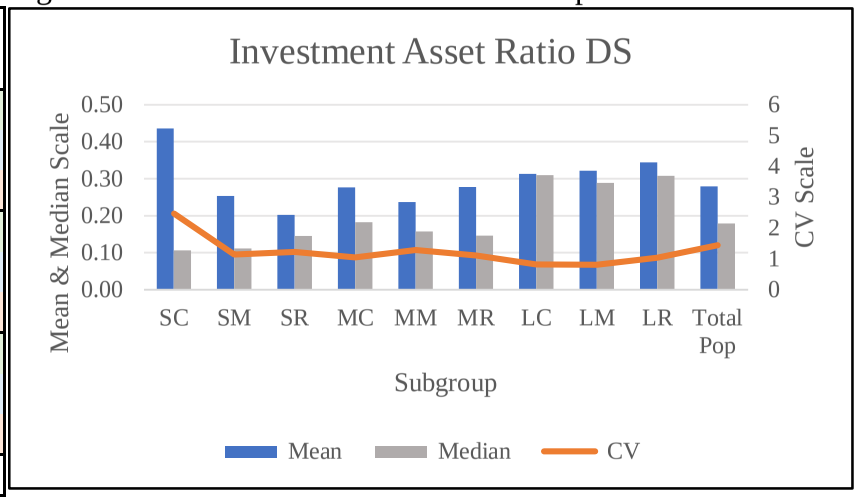
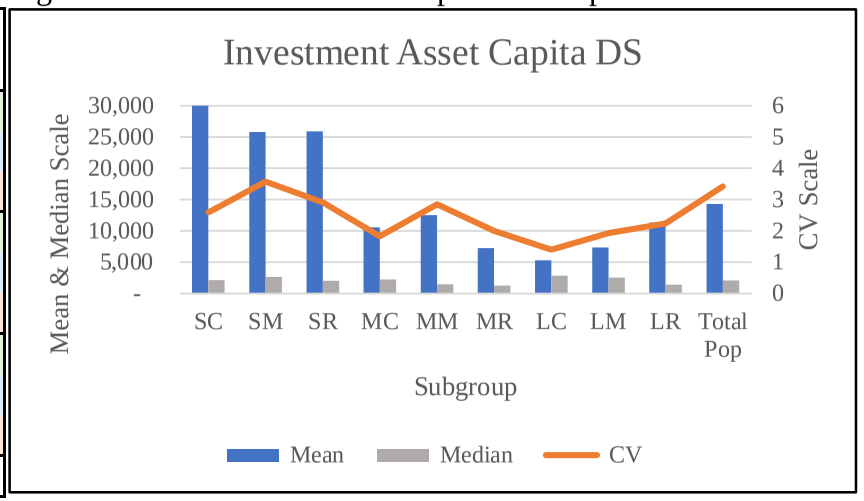


Figure A15: Investment Asset Capita DS Data

Investment Asset Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	30,015	2,148	77,735	2.59	430,856
SM	25,820	2,640	92,335	3.58	718,271
SR	25,912	2,022	75,352	2.91	333,095
MC	10,549	2,236	19,260	1.83	94,386
MM	12,497	1,459	35,651	2.85	253,959
MR	7,256	1,291	14,499	2.00	83,894
LC	5,312	2,846	7,442	1.40	29,915
LM	7,356	2,565	14,186	1.93	75,412
LR	11,346	1,397	25,408	2.24	95,693
Total Pop	14,306	2,098	48,980	3.42	718,271

Figure A16: Investment Asset Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A17: Gross Business Sales Ratio DS Data

Gross Business Sales Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.16	0.02	0.23	1.49	0.75
SM	0.08	-	0.14	1.71	0.55
SR	0.03	-	0.07	2.73	0.24
MC	0.13	0.01	0.20	1.48	0.77
MM	0.09	-	0.15	1.56	0.61
MR	0.06	-	0.13	2.07	0.48
LC	0.11	0.02	0.18	1.72	0.68
LM	0.12	0.06	0.15	1.25	0.68
LR	0.05	-	0.09	1.72	0.32
Total Pop	0.10	-	0.16	1.65	0.77

Figure A18: Gross Business Sales Ratio DS Graph

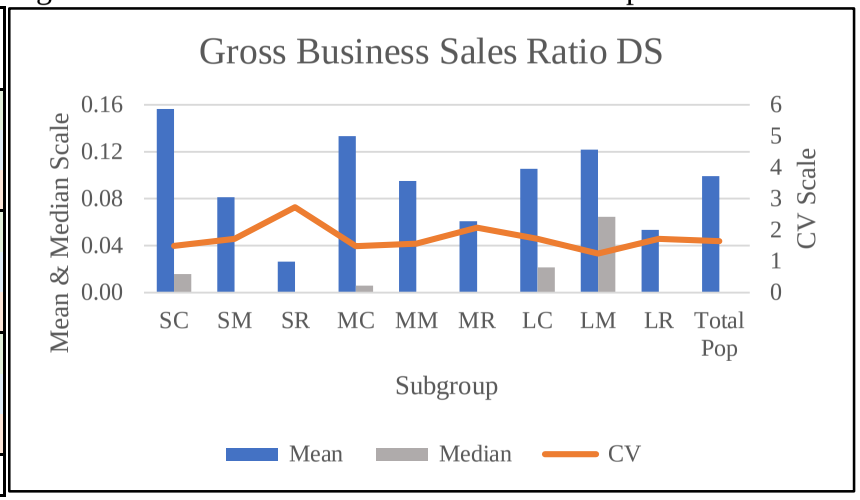
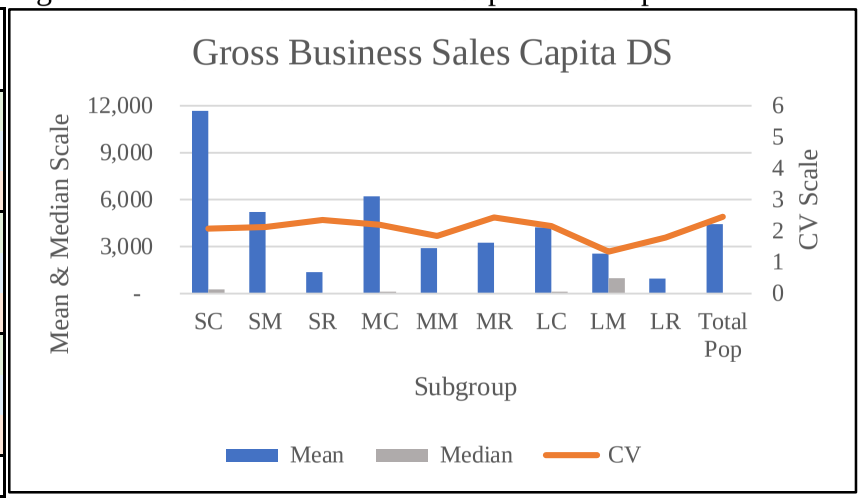


Figure A19: Gross Business Sales Capita DS Data

Gross Business Sales Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	11,674	267	24,189	2.07	108,670
SM	5,214	-	11,096	2.13	51,131
SR	1,361	-	3,196	2.35	9,737
MC	6,201	109	13,633	2.20	77,464
MM	2,901	-	5,319	1.83	23,391
MR	3,247	-	7,907	2.44	37,240
LC	4,235	120	9,107	2.15	37,531
LM	2,558	985	3,431	1.34	15,344
LR	961	-	1,715	1.78	6,176
Total Pop	4,436	-	10,893	2.46	108,670

Figure A20: Gross Business Sales Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A21: Bus and Ec Dev Expense Ratio DS Data

Business and Ec Dev Expense Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.20	0.06	0.23	1.15	0.70
SM	0.14	0.08	0.15	1.08	0.65
SR	0.07	0.01	0.10	1.41	0.27
MC	0.16	0.07	0.19	1.15	0.74
MM	0.14	0.07	0.16	1.10	0.61
MR	0.08	0.03	0.13	1.51	0.51
LC	0.11	0.04	0.15	1.34	0.70
LM	0.12	0.08	0.11	0.93	0.43
LR	0.08	0.06	0.09	1.08	0.31
Total Pop	0.13	0.06	0.16	1.19	0.74

Figure A22: Bus and Ec Dev Expense Ratio DS Graph

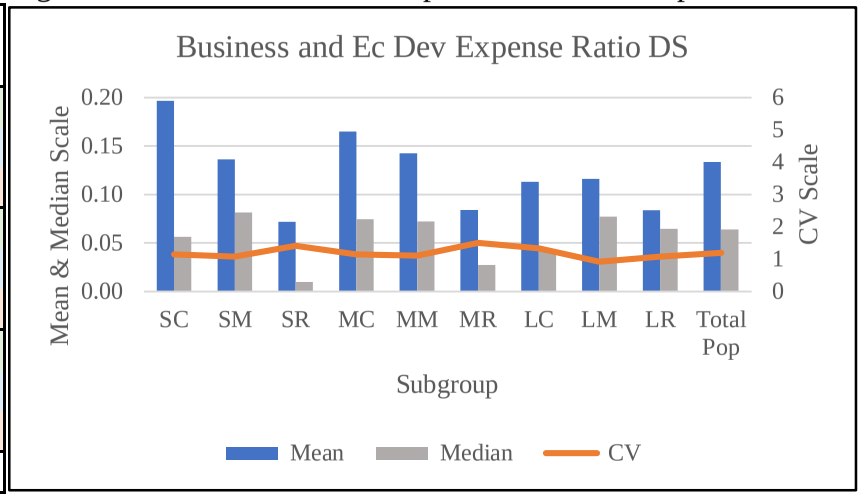
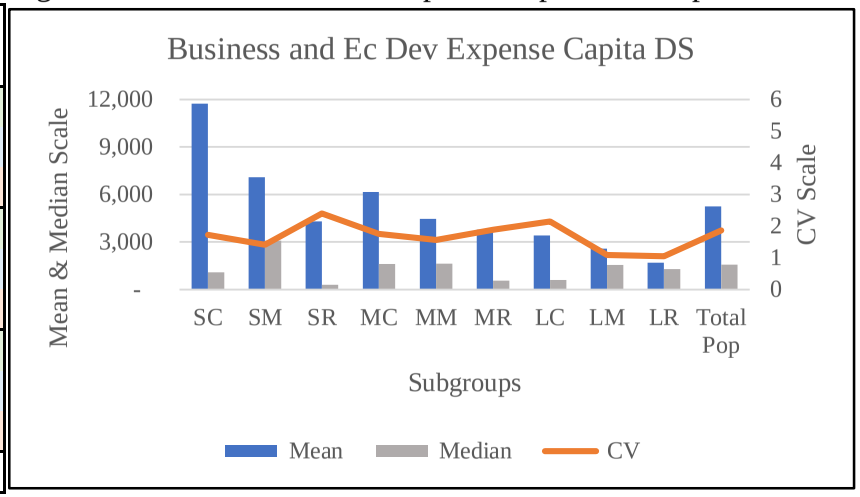


Figure A23: Bus and Ec Dev Expense Capita DS Data

Business and Ec Dev Expense Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	11,736	1,085	20,248	1.73	77,479
SM	7,086	3,090	10,026	1.41	48,470
SR	4,292	298	10,340	2.41	45,262
MC	6,163	1,605	10,826	1.76	56,122
MM	4,462	1,631	6,992	1.57	48,929
MR	3,777	558	7,129	1.89	29,279
LC	3,409	604	7,326	2.15	41,669
LM	2,573	1,551	2,801	1.09	13,586
LR	1,697	1,297	1,796	1.06	5,864
Total Pop	5,251	1,572	9,800	1.87	77,480

Figure A24: Bus and Ec Dev Expense Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A25: GBE Asset Ratio DS Data

GBE Asset Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.14	-	0.24	1.75	0.71
SM	0.47	0.02	1.26	2.70	7.86
SR	0.21	-	0.47	2.21	1.56
MC	0.31	0.14	0.43	1.39	2.06
MM	0.45	0.03	1.01	2.27	7.73
MR	0.39	0.05	0.66	1.70	3.09
LC	0.41	0.25	0.48	1.17	1.67
LM	0.35	0.23	0.36	1.04	1.06
LR	0.47	0.14	0.59	1.26	1.61
Total Pop	0.38	0.06	0.80	2.11	7.89

Figure A26: GBE Asset Ratio DS Graph

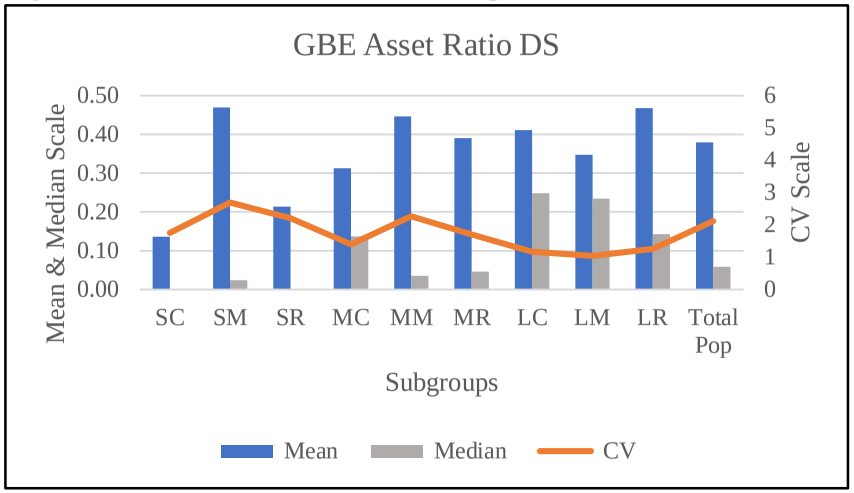
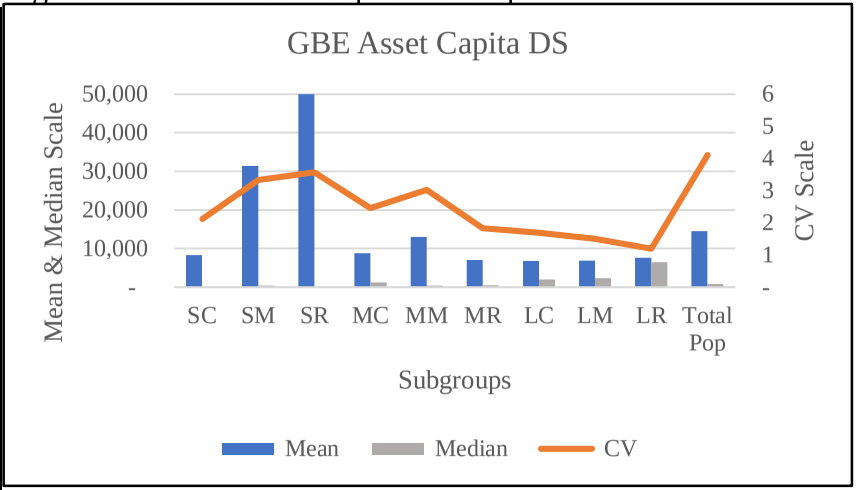


Figure A27: GBE Asset Capita DS Data

GBE Asset Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	8,250	-	17,454	2.12	62,718
SM	31,387	386	104,674	3.33	751,189
SR	50,022	-	178,501	3.57	717,494
MC	8,743	1,244	21,449	2.45	160,266
MM	13,029	406	39,320	3.02	284,081
MR	7,075	467	12,931	1.83	52,817
LC	6,765	1,961	11,461	1.69	53,305
LM	6,890	2,350	10,360	1.50	38,247
LR	7,629	6,471	9,172	1.20	24,822
Total Pop	14,481	854	59,570	4.11	751,699

Figure A28: GBE Asset Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A29: GBE Liability Ratio DS Data

	GBE Liability Ratio				
Subgroup	Mean	Median	SD	CV	Range
SC	0.18	-	0.52	2.85	2.58
SM	1.41	0.02	6.30	4.47	45.76
SR	0.19	-	0.40	2.11	1.36
MC	0.38	0.04	0.89	2.34	5.42
MM	1.09	0.01	4.73	4.32	33.99
MR	0.29	0.03	0.50	1.72	1.88
LC	0.40	0.10	0.78	1.93	2.96
LM	0.31	0.09	0.65	2.08	3.27
LR	0.23	0.14	0.27	1.16	0.69
Total Pop	0.69	0.02	3.51	5.07	45.76

Figure A30: GBE Liability Ratio DS Graph

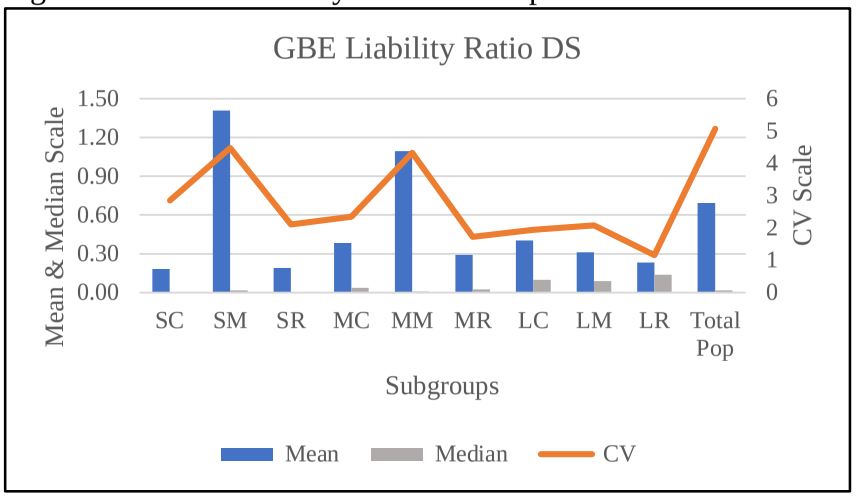
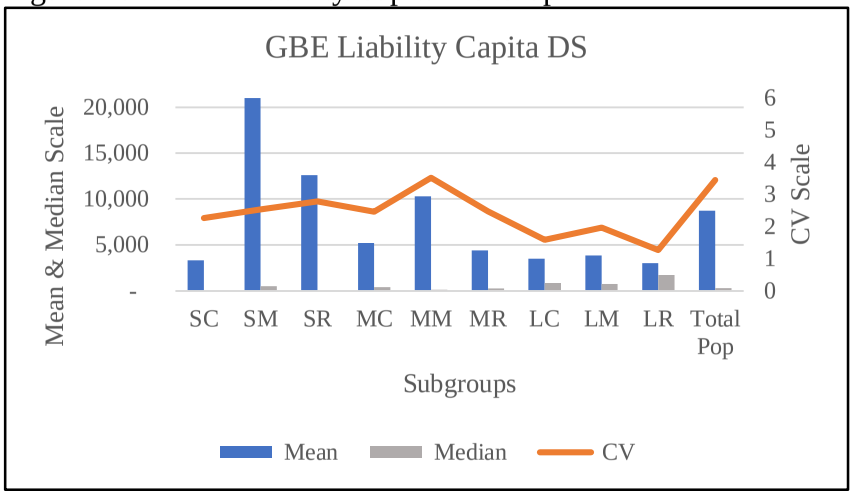


Figure A31: GBE Liability Capita DS Data

	GBE Liability Capita				
Subgroup	Mean	Median	SD	CV	Range
SC	3,302	-	7,450	2.26	27,058
SM	21,001	484	53,163	2.53	328,243
SR	12,592	-	34,970	2.78	139,096
MC	5,211	386	12,819	2.46	88,534
MM	10,300	105	36,214	3.52	245,667
MR	4,402	246	10,866	2.47	48,250
LC	3,485	854	5,515	1.58	22,329
LM	3,837	725	7,528	1.96	35,312
LR	3,005	1,702	3,803	1.27	10,621
Total Pop	8,714	280	30,013	3.44	328,243

Figure A32: GBE Liability Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A33: GBE Equity Ratio DS Data

	GBE Equity Ratio				
Subgroup	Mean	Median	SD	CV	Range
SC	0.15	0.00	0.33	2.17	1.46
SM	0.16	-	0.78	4.76	6.14
SR	0.08	-	0.31	3.78	1.45
MC	0.10	0.01	0.27	2.56	2.01
MM	0.05	-	0.16	3.09	1.16
MR	0.10	0.01	0.24	2.35	1.34
LC	0.07	0.03	0.42	5.97	2.91
LM	0.09	0.04	0.12	1.43	0.45
LR	0.14	0.00	0.26	1.87	0.74
Total Pop	0.10	0.00	0.38	3.86	7.83

Figure A34: GBE Equity Ratio DS Graph

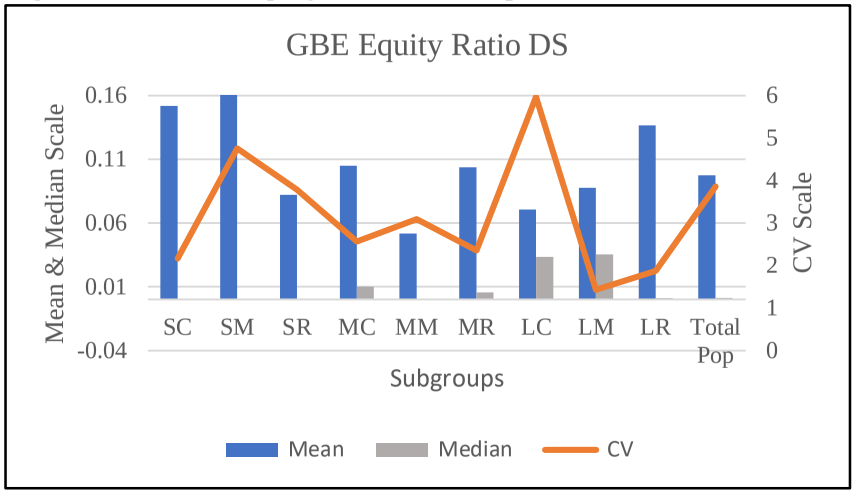
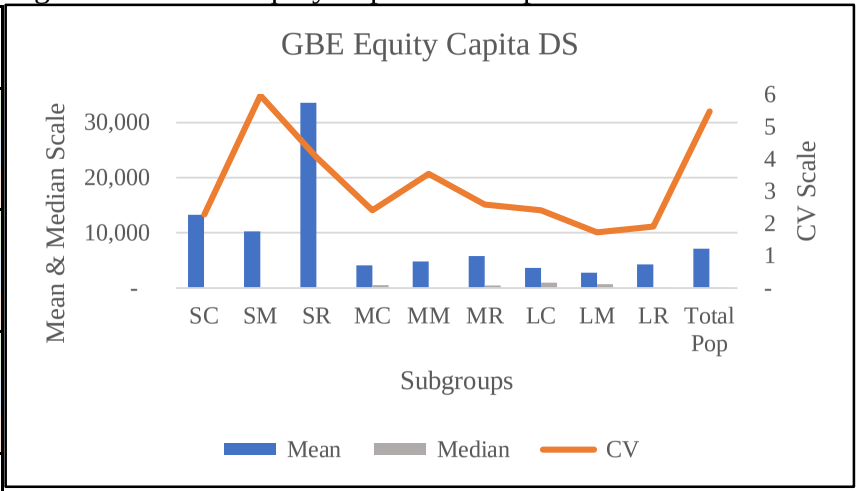


Figure A35: GBE Equity Capita DS Data

	GBE Equity Capita				
Subgroup	Mean	Median	SD	CV	Range
SC	13,271	0	30,276	2.28	141,829
SM	10,233	-	61,240	5.98	555,266
SR	33,531	-	136,073	4.06	583,201
MC	4,064	479	9,809	2.41	73,932
MM	4,804	-	17,021	3.54	121,284
MR	5,747	404	14,896	2.59	83,732
LC	3,612	946	8,716	2.41	50,090
LM	2,739	664	4,749	1.73	22,083
LR	4,243	24	8,081	1.90	23,801
Total Pop	7,113	24	39,001	5.48	710,717

Figure A36: GBE Equity Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A37: GBE Revenue Ratio DS Data

	GBE Revenue Ratio				
Subgroup	Mean	Median	SD	CV	Range
SC	0.11	-	0.20	1.76	0.74
SM	0.31	0.00	0.88	2.88	6.27
SR	0.25	-	0.84	3.30	3.38
MC	0.24	0.03	0.47	1.96	2.75
MM	0.35	0.00	0.83	2.40	6.46
MR	0.12	0.03	0.22	1.87	1.11
LC	0.20	0.04	0.36	1.80	1.86
LM	0.25	0.15	0.29	1.17	1.04
LR	0.21	0.17	0.24	1.15	0.71
Total Pop	0.26	0.01	0.64	2.47	7.09

Figure A38: GBE Revenue Ratio DS Graph

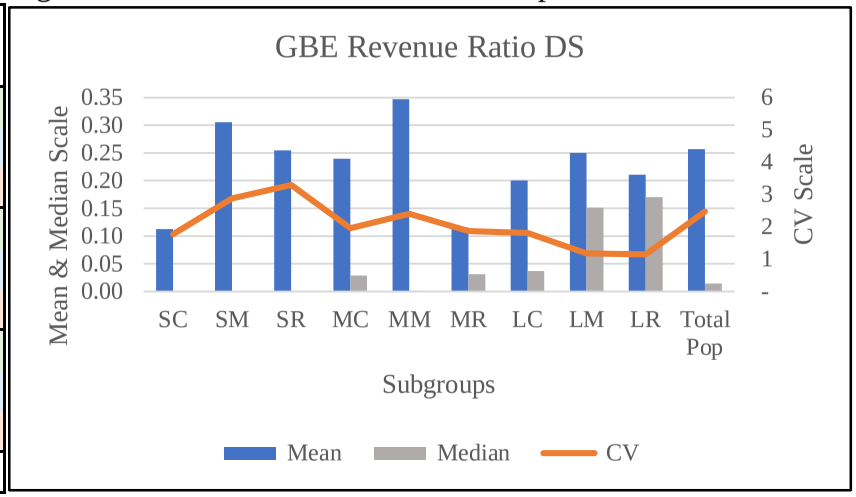
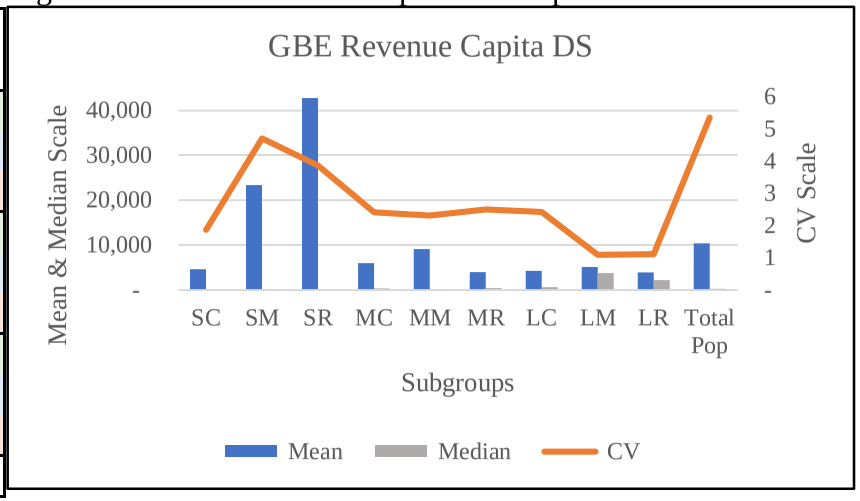


Figure A39: GBE Revenue Capita DS Data

	GBE Revenue Capita				
Subgroup	Mean	Median	SD	CV	Range
SC	4,621	-	8,588	1.86	37,682
SM	23,342	34	109,780	4.70	827,843
SR	42,744	-	165,155	3.86	661,988
MC	5,914	314	14,277	2.41	97,670
MM	9,114	32	21,086	2.31	113,136
MR	3,940	355	9,846	2.50	50,342
LC	4,217	581	10,189	2.42	49,031
LM	5,121	3,762	5,587	1.09	18,647
LR	3,879	2,140	4,306	1.11	11,319
Total Pop	10,398	253	55,710	5.36	827,843

Figure A40: GBE Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A41: GBE Expense Ratio DS Data

	GBE Expense Ratio				
Subgroup	Mean	Median	SD	CV	Range
SC	0.16	-	0.46	2.88	2.26
SM	0.33	0.00	0.84	2.50	5.21
SR	0.40	-	1.44	3.58	5.78
MC	0.24	0.02	0.50	2.10	3.16
MM	0.41	0.00	1.22	2.95	10.86
MR	0.10	0.01	0.19	1.90	0.96
LC	0.21	0.04	0.37	1.79	1.90
LM	0.25	0.19	0.27	1.08	0.82
LR	0.20	0.07	0.23	1.19	0.67
Total Pop	0.29	0.02	0.83	2.87	10.86

Figure A42: GBE Expense Ratio DS Graph

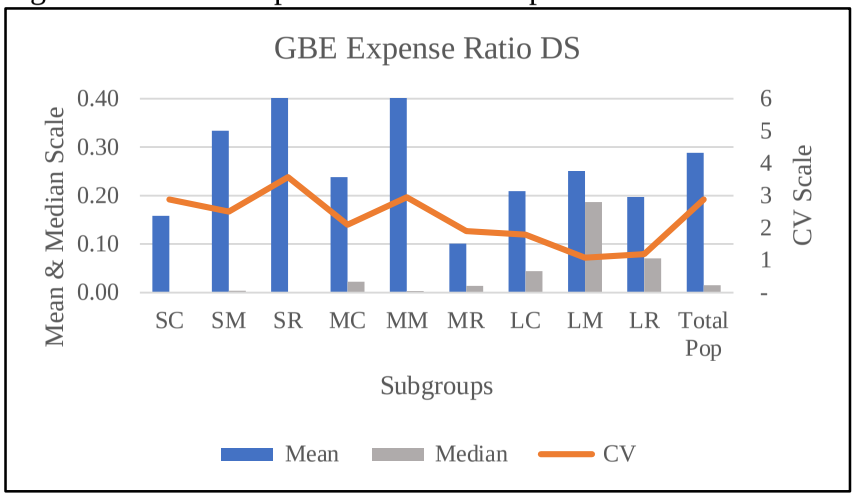
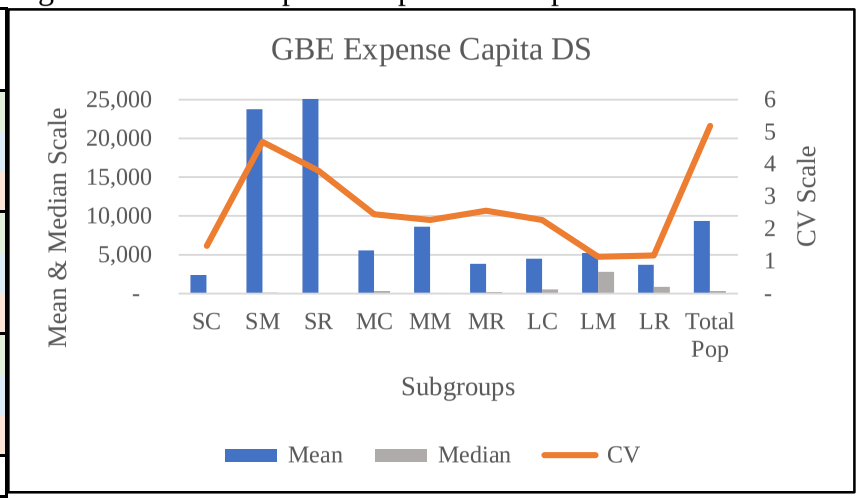


Figure A43: GBE Expense Capita DS Data

	GBE Expense Capita				
Subgroup	Mean	Median	SD	CV	Range
SC	2,396	-	3,532	1.47	11,901
SM	23,758	126	111,430	4.69	819,095
SR	25,172	-	95,600	3.80	383,506
MC	5,554	339	13,618	2.45	92,054
MM	8,598	60	19,533	2.27	104,879
MR	3,823	181	9,778	2.56	50,327
LC	4,506	518	10,251	2.28	48,386
LM	5,227	2,808	5,984	1.14	19,166
LR	3,710	851	4,350	1.17	11,908
Total Pop	9,362	303	48,619	5.19	819,142

Figure A44: GBE Expense Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A45: GBE Net Income Ratio DS Data

GBE Net Income Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.86	-	4.81	5.60	31.68
SM	2.45	-	17.53	7.16	133.53
SR	0.51	-	1.28	2.52	4.71
MC	0.13	0.00	12.03	91.69	142.59
MM	- 0.24	-	4.40	- 18.36	50.11
MR	1.13	-	6.61	5.87	42.00
LC	- 0.35	-	2.87	- 8.17	18.93
LM	0.83	0.09	3.50	4.23	21.02
LR	- 0.25	-	3.17	- 12.94	12.57
Total Pop	0.51	-	9.01	17.50	202.15

Figure A46: GBE Net Income Ratio DS Graph

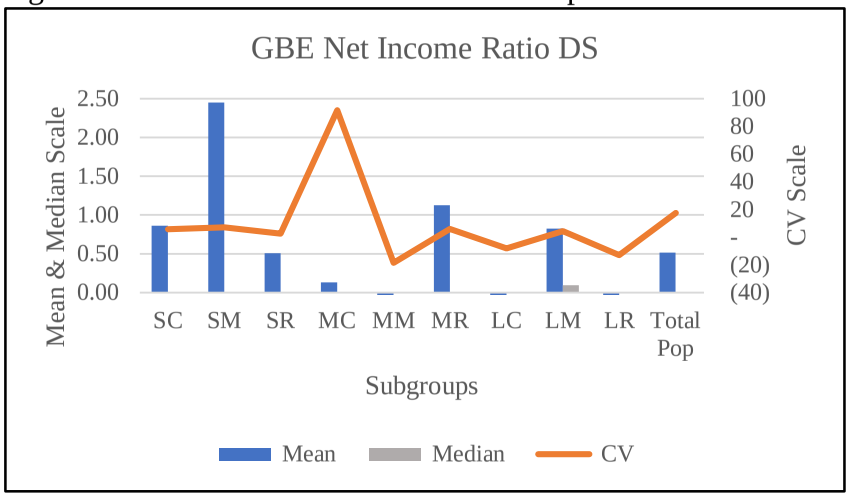
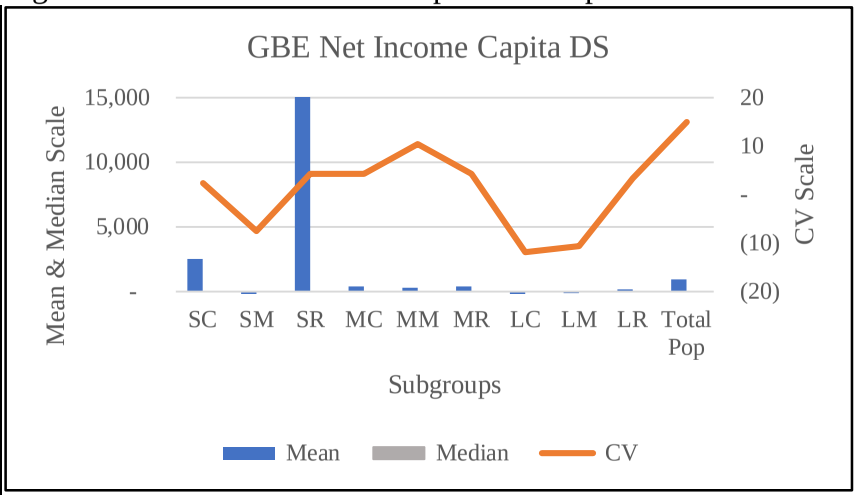


Figure A47: GBE Net Income Capita DS Data

GBE Net Income Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	2,514	-	5,876	2.34	27,645
SM	- 585	-	4,418	- 7.55	31,683
SR	15,469	-	65,650	4.24	281,224
MC	394	-	1,694	4.30	12,065
MM	294	-	3,061	10.40	31,269
MR	398	-	1,706	4.28	11,125
LC	- 270	-	3,198	- 11.85	22,059
LM	- 117	-	1,243	- 10.62	7,757
LR	159	-	531	3.33	1,878
Total Pop	941	-	14,135	15.02	300,448

Figure A48: GBE Net Income Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A49: Trust Fund Asset Ratio DS Data

Trust Fund Asset Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.06	0.00	0.14	2.31	0.60
SM	0.10	0.02	0.17	1.72	0.78
SR	0.08	0.01	0.17	2.04	0.62
MC	0.07	0.01	0.15	2.07	0.77
MM	0.13	0.01	0.22	1.64	0.88
MR	0.08	0.00	0.21	2.68	0.86
LC	0.16	0.01	0.27	1.69	0.95
LM	0.11	0.00	0.23	2.15	0.83
LR	0.02	0.00	0.04	2.01	0.14
Total Pop	0.10	0.01	0.20	1.95	0.99

Figure A50: Trust Fund Asset Ratio DS Graph

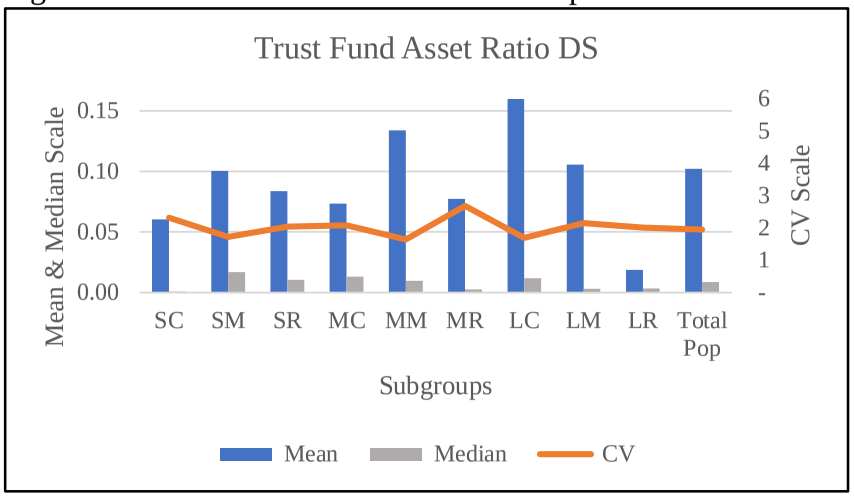
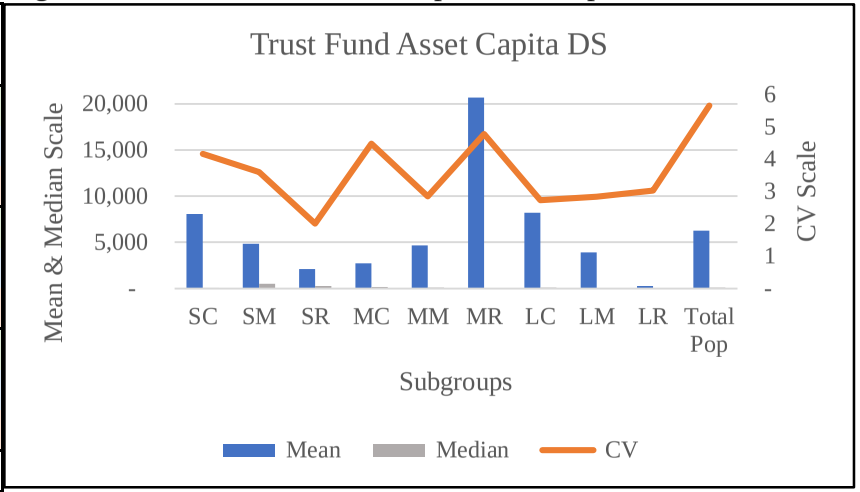


Figure A51: Trust Fund Asset Capita DS Data

Trust Fund Asset Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	8,064	75	33,552	4.16	188,636
SM	4,837	508	17,431	3.60	134,055
SR	2,110	254	4,242	2.01	15,912
MC	2,730	176	12,227	4.48	100,644
MM	4,676	85	13,341	2.85	79,104
MR	20,669	34	98,841	4.78	652,801
LC	8,203	113	22,416	2.73	119,369
LM	3,917	14	11,110	2.84	49,227
LR	254	15	769	3.02	2,913
Total Pop	6,279	84	35,566	5.66	652,801

Figure A52: Trust Fund Asset Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A53: Trust Fund Revenue Ratio DS Data

Trust Fund Revenue Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.00	0.00	0.01	3.88	0.08
SM	0.04	-	0.09	2.13	0.35
SR	0.00	-	0.00	2.50	0.02
MC	0.02	-	0.06	2.66	0.35
MM	0.04	0.00	0.09	2.10	0.56
MR	0.01	-	0.05	3.77	0.31
LC	0.04	-	0.11	2.71	0.52
LM	0.01	-	0.02	1.76	0.07
LR	0.00	-	0.01	3.38	0.04
Total Pop	0.03	-	0.07	2.65	0.60

Figure A54: Trust Fund Revenue Ratio DS Graph

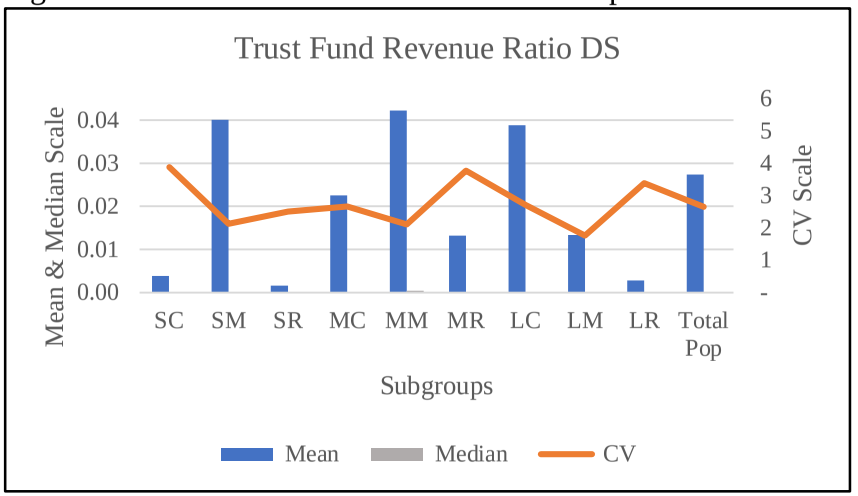
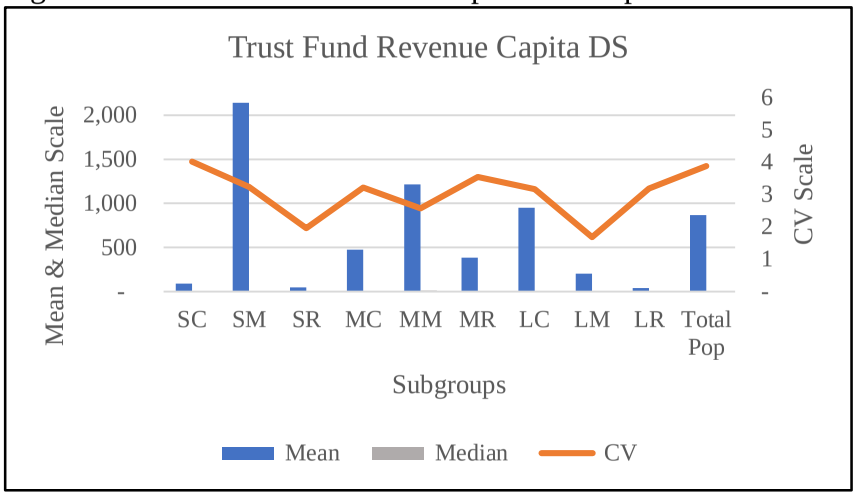


Figure A55: Trust Fund Revenue Capita DS Data

Trust Fund Revenue Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	89	4	359	4.02	2,014
SM	2,140	-	6,912	3.23	49,057
SR	46	-	89	1.96	306
MC	473	-	1,521	3.21	11,718
MM	1,214	12	3,122	2.57	21,251
MR	382	-	1,354	3.54	8,411
LC	949	-	3,007	3.17	16,873
LM	203	-	343	1.69	926
LR	38	-	120	3.18	449
Total Pop	868	-	3,363	3.87	49,922

Figure A56: Trust Fund Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A57: TCA Ratio DS Data

Tangible Capital Asset Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.57	0.60	0.29	0.51	1.19
SM	0.64	0.70	0.22	0.35	0.87
SR	0.66	0.70	0.20	0.30	0.65
MC	0.62	0.67	0.22	0.35	0.77
MM	0.69	0.75	0.22	0.31	0.96
MR	0.68	0.76	0.24	0.35	0.91
LC	0.58	0.64	0.22	0.38	0.76
LM	0.69	0.73	0.21	0.31	0.84
LR	0.63	0.71	0.25	0.40	0.70
Total Pop	0.65	0.71	0.23	0.35	1.24

Figure A58: TCA Ratio DS Graph

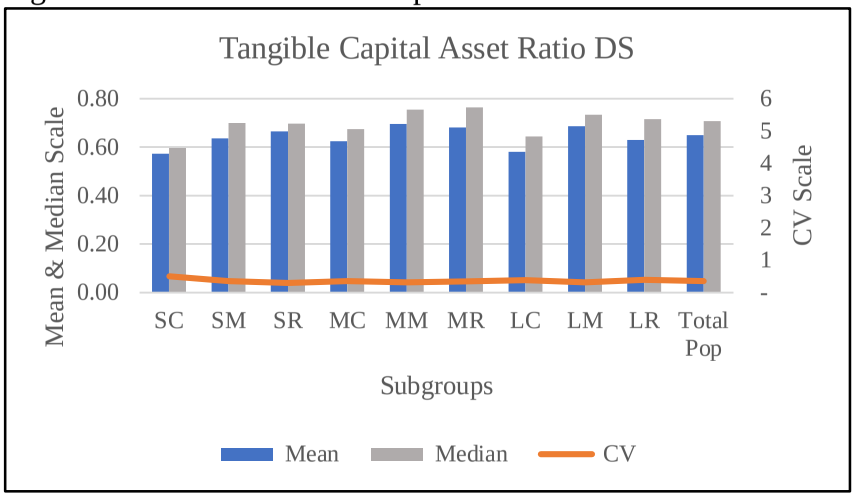
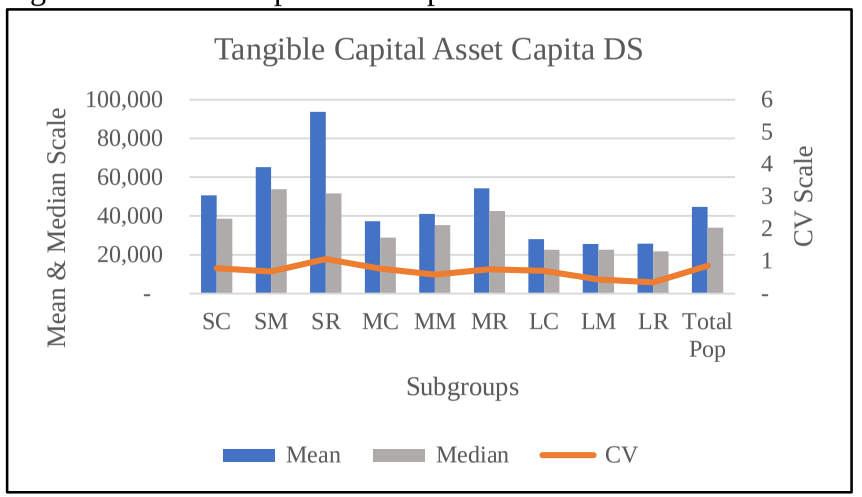


Figure A59: TCA Capita DS Data

Tangible Capital Assets Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	50,660	38,496	39,627	0.78	185,798
SM	65,209	53,765	44,404	0.68	205,980
SR	93,628	51,587	100,037	1.07	366,385
MC	37,319	28,903	28,552	0.77	158,992
MM	41,127	35,344	24,130	0.59	144,135
MR	54,172	42,571	40,376	0.75	185,385
LC	27,962	22,499	19,691	0.70	107,794
LM	25,543	22,491	11,187	0.44	53,035
LR	25,672	21,755	9,051	0.35	26,340
Total Pop	44,600	34,008	38,167	0.86	392,368

Figure A60: TCA Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A61: Gross Cash In From Cap Ratio DS Data

Gross Cash Inflows From Capital Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.17	-	0.34	1.95	1.00
SM	0.12	-	0.31	2.58	1.00
SR	0.26	-	0.38	1.47	0.89
MC	0.08	-	0.25	3.08	1.00
MM	0.08	-	0.23	2.95	1.00
MR	0.02	-	0.13	5.42	0.71
LC	0.07	-	0.22	3.16	0.91
LM	0.02	-	0.06	2.75	0.33
LR	-	-	-	-	-
Total Pop	0.08	-	0.24	2.95	1.00

Figure A62: Gross Cash Inflows From Capita Ratio DS Graph

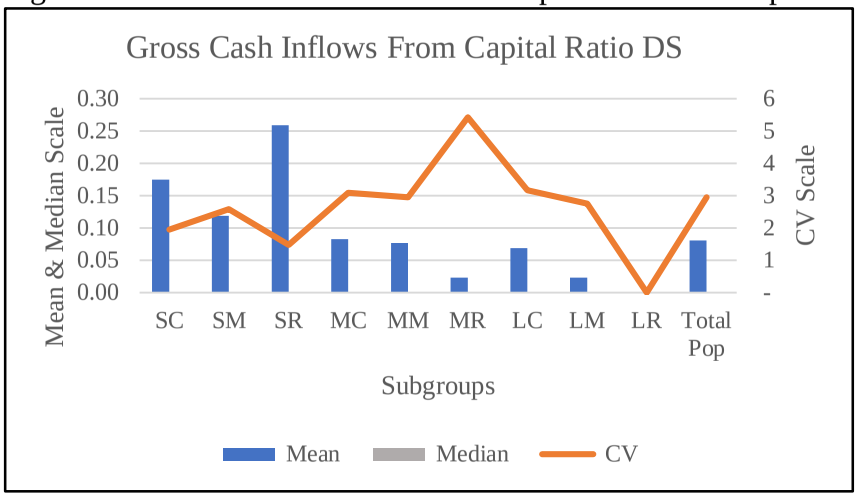
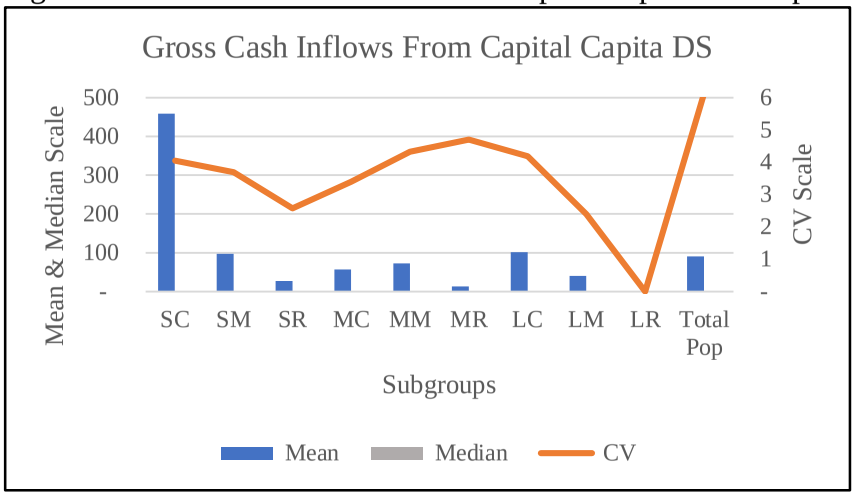


Figure A63: Gross Cash In From Cap Capita DS Data

Gross Cash Inflows From Capital Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	458	-	1,855	4.05	9,624
SM	98	-	360	3.69	2,127
SR	27	-	69	2.57	254
MC	57	-	193	3.39	1,028
MM	73	-	314	4.32	3,008
MR	13	-	62	4.70	379
LC	101	-	422	4.18	2,529
LM	40	-	96	2.39	411
LR	-	-	-	-	-
Total Pop	91	-	556	6.13	9,624

Figure A64: Gross Cash Inflows From Capital Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A65: Gross Cash Out From Cap Ratio DS Data

Gross Cash Outflow From Capital Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.44	0.38	0.36	0.83	1.00
SM	0.48	0.44	0.32	0.66	1.00
SR	0.75	0.79	0.22	0.30	0.71
MC	0.55	0.65	0.32	0.57	1.00
MM	0.52	0.48	0.30	0.59	1.00
MR	0.55	0.66	0.33	0.60	0.98
LC	0.55	0.65	0.30	0.54	0.92
LM	0.56	0.58	0.23	0.40	0.82
LR	0.53	0.57	0.28	0.53	0.91
Total Pop	0.53	0.57	0.31	0.58	1.00

Figure A66: Gross Cash Outflows From Capital Ratio DS Graph

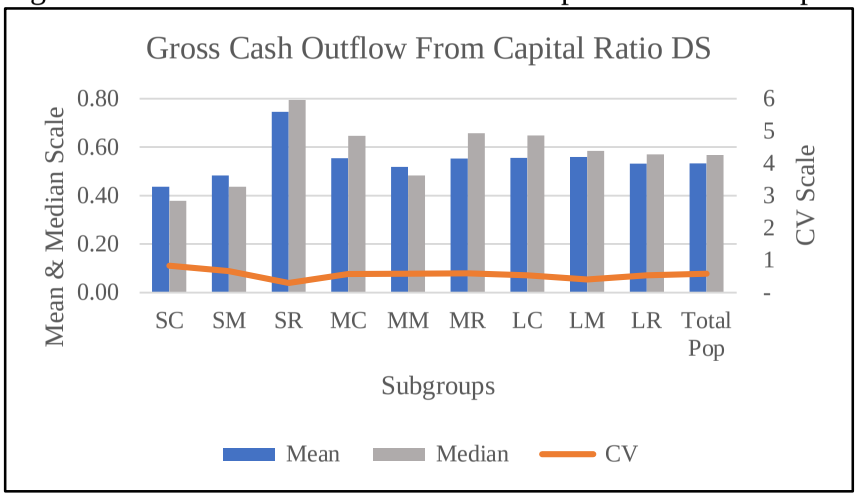
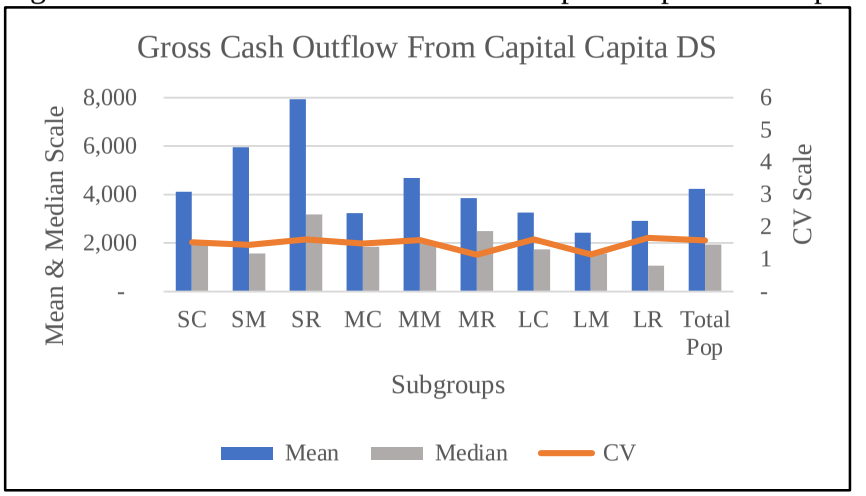


Figure A67: Gross Cash Out From Cap Capita DS Data

Gross Cash Outflow From Capital Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	4,113	2,051	6,280	1.53	29,467
SM	5,948	1,567	8,589	1.44	36,203
SR	7,927	3,181	12,777	1.61	49,071
MC	3,229	1,840	4,792	1.48	30,651
MM	4,687	1,984	7,440	1.59	44,725
MR	3,854	2,498	4,397	1.14	17,233
LC	3,251	1,743	5,224	1.61	32,231
LM	2,423	1,564	2,773	1.14	14,993
LR	2,911	1,063	4,835	1.66	16,923
Total Pop	4,232	1,937	6,694	1.58	49,267

Figure A68: Gross Cash Outflows From Capital Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A69: Net Cash Flow From Cap Ratio DS Data

Net Cash Flow From Capital Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.25	-	3.59	14.07	20.44
SM	2.05	- 0.06	20.23	9.86	164.11
SR	4.60	0.53	15.77	3.43	67.36
MC	2.93	0.10	19.02	6.48	172.50
MM	- 1.63	- 0.51	26.09	- 16.04	292.94
MR	6.81	-	60.28	8.85	408.13
LC	1.26	- 0.35	34.44	27.38	265.43
LM	- 81.18	0.62	882.15	- 10.87	6,542.18
LR	6.27	1.33	11.73	1.87	37.96
Total Pop	- 5.26	- 0.01	252.71	- 48.00	6,542.18

Figure A70: Net Cash Flow From Capital Ratio DS Graph

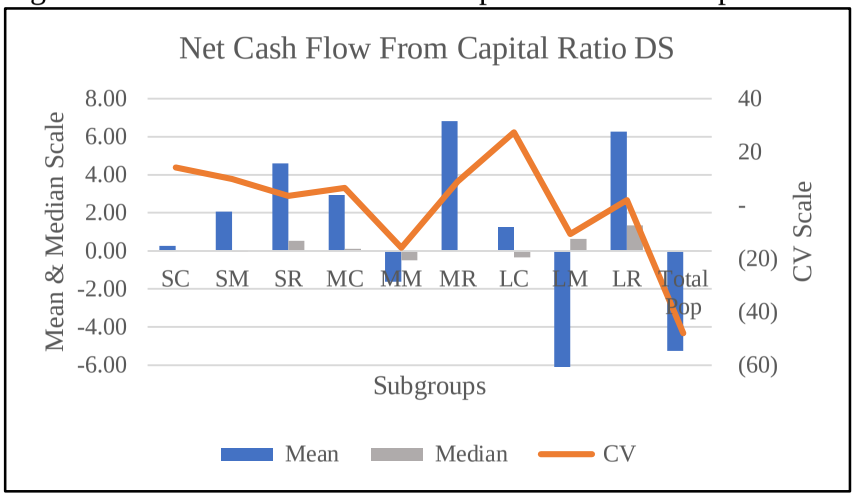
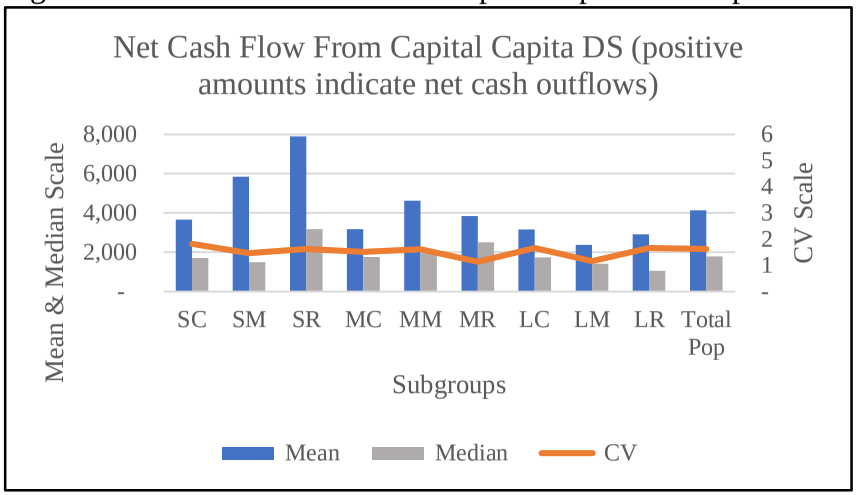


Figure A71: Net Cash Flow From Cap Capita DS Data

Net Cash Flow From Capital Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	3,654	1,714	6,652	1.82	37,016
SM	5,851	1,493	8,594	1.47	- 37,537
SR	7,900	3,181	12,781	1.62	- 49,071
MC	3,172	1,750	4,798	1.51	- 30,896
MM	4,615	1,944	7,445	1.61	- 44,725
MR	3,841	2,498	4,395	1.14	- 17,233
LC	3,150	1,740	5,235	1.66	- 32,930
LM	2,383	1,409	2,766	1.16	- 15,072
LR	2,911	1,063	4,835	1.66	- 16,923
Total Pop	4,141	1,796	6,721	1.62	- 56,816

Figure A72: Net Cash Flow From Capital Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A73: Long Term Debt Ratio DS Data

Long Term Debt Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.46	0.44	0.31	0.69	0.94
SM	0.44	0.45	0.29	0.65	0.94
SR	0.35	0.30	0.35	0.99	0.98
MC	0.56	0.64	0.26	0.47	0.92
MM	0.54	0.58	0.26	0.48	0.97
MR	0.43	0.45	0.26	0.59	0.90
LC	0.59	0.67	0.22	0.37	0.95
LM	0.66	0.69	0.17	0.26	0.67
LR	0.63	0.63	0.19	0.31	0.64
Total Pop	0.52	0.57	0.27	0.52	0.98

Figure A74: Long Term Debt Ratio DS Graph

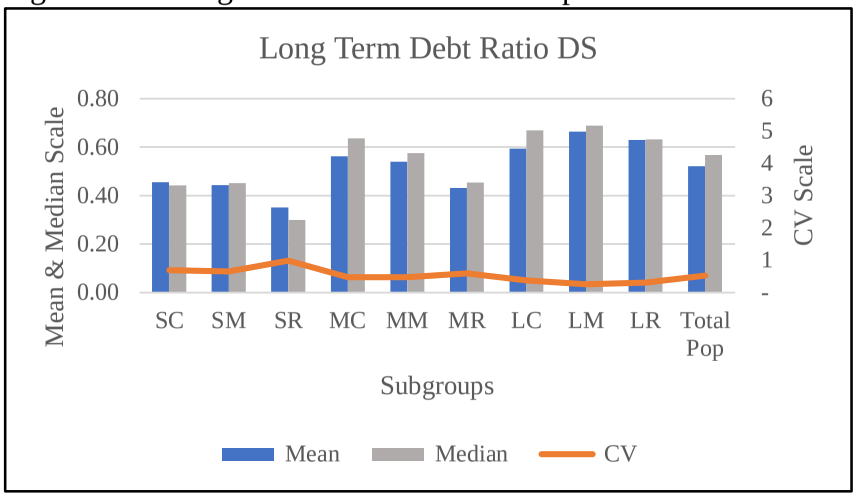
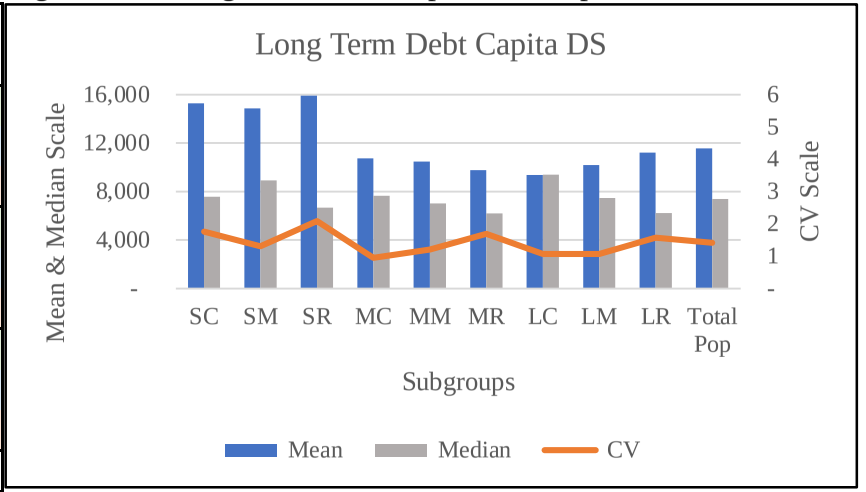


Figure A75: Long Term Debt Capita DS Data

Long Term Debt Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	15,290	7,572	26,962	1.76	134,586
SM	14,848	8,914	19,427	1.31	88,407
SR	15,907	6,662	33,194	2.09	141,752
MC	10,745	7,645	10,209	0.95	48,598
MM	10,481	7,019	12,645	1.21	62,302
MR	9,773	6,196	16,489	1.69	109,917
LC	9,357	9,396	9,996	1.07	60,737
LM	10,195	7,466	10,910	1.07	58,801
LR	11,214	6,215	17,657	1.57	68,164
Total Pop	11,563	7,394	16,389	1.42	141,752

Figure A76: Long Term Debt Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A77: Earned Revenue Ratio DS Data

Earned Revenue Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.32	0.30	0.27	0.85	1.08
SM	0.17	0.15	0.16	0.89	0.64
SR	0.08	0.04	0.21	2.71	1.17
MC	0.28	0.23	0.23	0.83	1.00
MM	0.17	0.14	0.18	1.02	1.03
MR	0.13	0.05	0.16	1.29	0.59
LC	0.25	0.20	0.21	0.86	0.73
LM	0.18	0.13	0.14	0.78	0.52
LR	0.11	0.09	0.14	1.19	0.43
Total Pop	0.20	0.15	0.20	1.02	1.31

Figure A78: Earned Revenue Ratio DS Graph

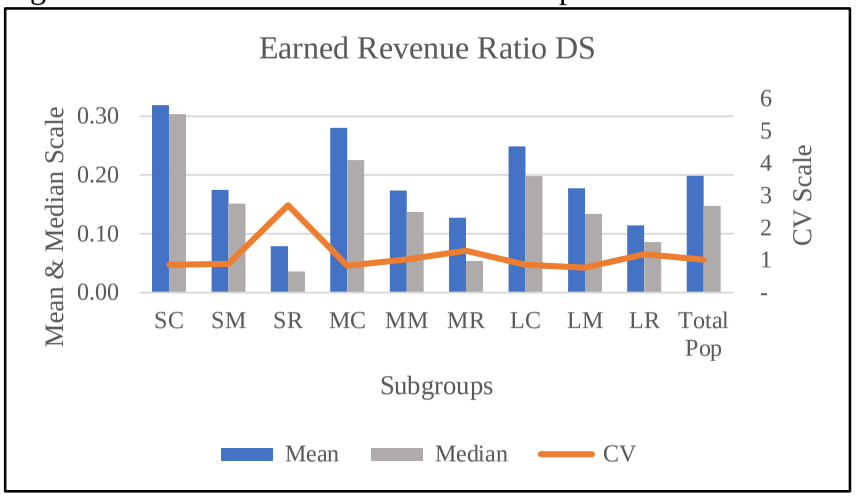
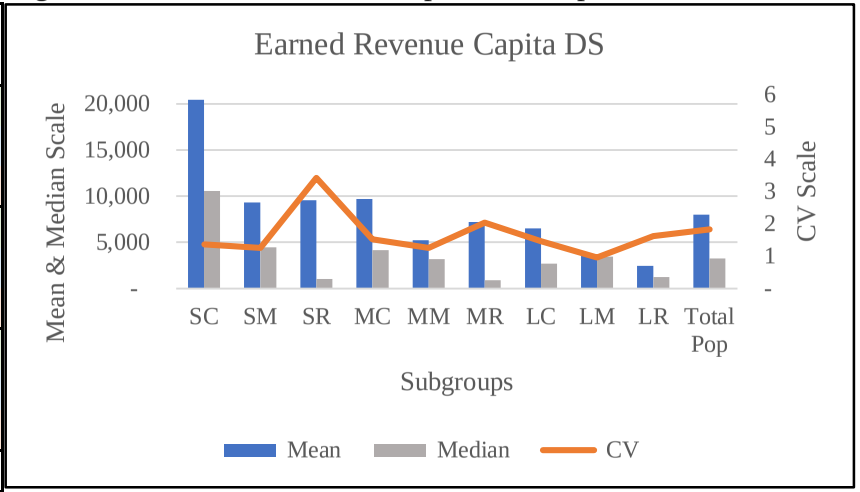


Figure A79: Earned Revenue Capita DS Data

Earned Revenue Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	20,438	10,554	27,931	1.37	128,733
SM	9,314	4,464	11,675	1.25	50,056
SR	9,564	1,020	32,777	3.43	156,532
MC	9,706	4,137	14,755	1.52	79,829
MM	5,221	3,173	6,567	1.26	35,362
MR	7,207	896	14,686	2.04	72,981
LC	6,506	2,697	9,522	1.46	40,097
LM	3,744	3,455	3,614	0.97	17,128
LR	2,455	1,251	3,985	1.62	14,698
Total Pop	7,982	3,262	14,615	1.83	156,532

Figure A80: Earned Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A81: Earned & Other Revenue Ratio DS Data

Earned and Other Revenue Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.43	0.44	0.25	0.60	0.86
SM	0.36	0.36	0.21	0.58	1.05
SR	0.28	0.32	0.25	0.91	1.03
MC	0.42	0.41	0.23	0.56	1.27
MM	0.29	0.29	0.21	0.72	1.38
MR	0.26	0.19	0.21	0.80	1.06
LC	0.38	0.31	0.23	0.59	0.80
LM	0.32	0.28	0.17	0.53	0.77
LR	0.21	0.19	0.15	0.71	0.60
Total Pop	0.34	0.30	0.22	0.66	1.59

Figure A82: Earned & Other Revenue Ratio DS Graph

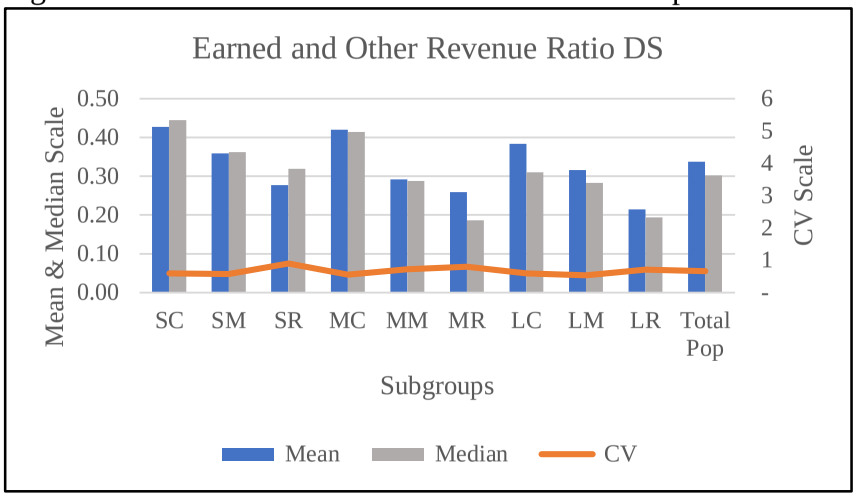
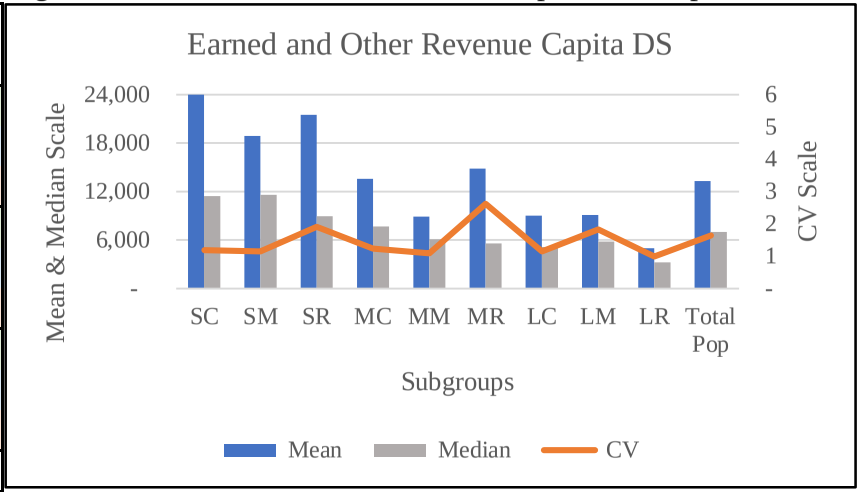


Figure A83: Earned & Other Revenue Capita DS Data

Earned and Other Revenue Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	23,976	11,439	28,454	1.19	131,335
SM	18,895	11,590	21,607	1.14	116,510
SR	21,482	8,942	40,918	1.90	175,491
MC	13,570	7,668	16,769	1.24	109,089
MM	8,900	6,092	9,695	1.09	77,721
MR	14,850	5,559	39,006	2.63	259,641
LC	9,018	5,129	10,315	1.14	45,914
LM	9,096	5,814	16,613	1.83	98,832
LR	4,973	3,222	4,937	0.99	18,683
Total Pop	13,286	6,991	21,782	1.64	277,248

Figure A84: Earned & Other Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A85: Fed & Prov Gov't Rev Ratio DS Data

Federal & Provincial Gov't Revenue Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.50	0.46	0.24	0.49	0.85
SM	0.51	0.53	0.20	0.39	1.09
SR	0.61	0.63	0.28	0.46	1.07
MC	0.51	0.53	0.21	0.42	1.18
MM	0.58	0.60	0.23	0.40	1.56
MR	0.67	0.74	0.23	0.34	1.06
LC	0.52	0.55	0.22	0.43	0.76
LM	0.63	0.64	0.16	0.25	0.76
LR	0.76	0.74	0.16	0.22	0.64
Total Pop	0.57	0.59	0.23	0.40	1.56

Figure A86: Fed & Prov Gov't Revenue Ratio DS Graph

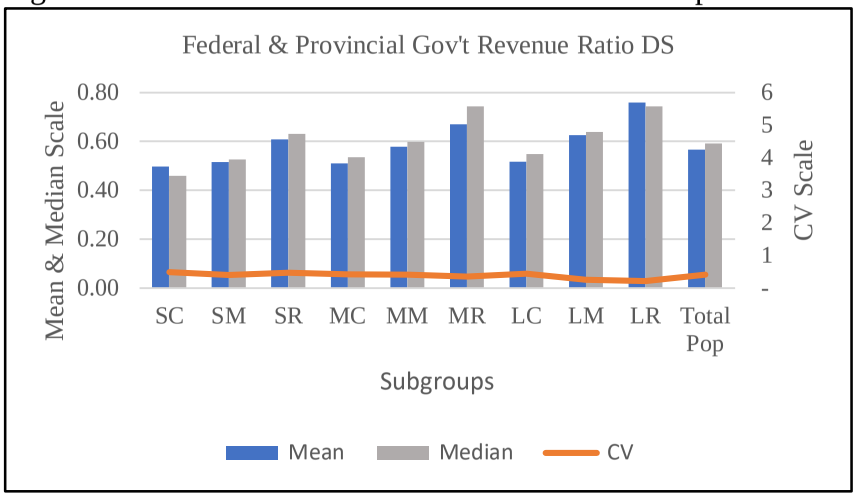
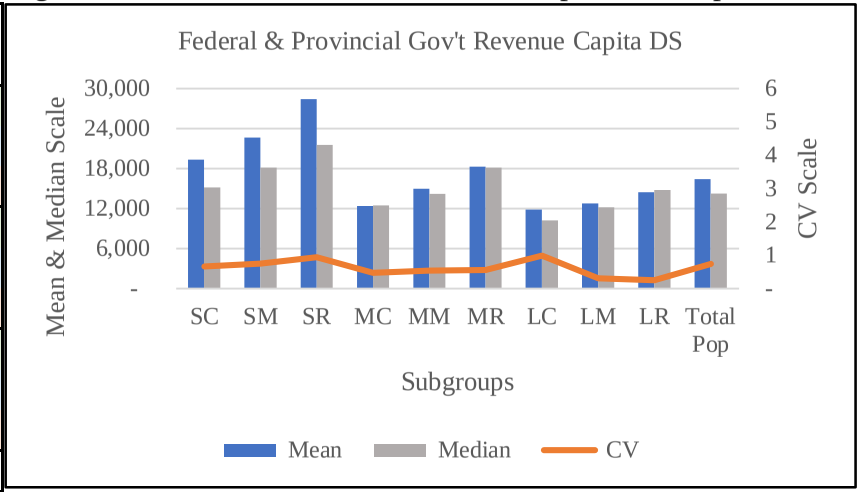


Figure A87: Fed & Prov Gov't Rev Capita DS Data

Federal and Provincial Gov't Revenue Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	19,335	15,165	12,677	0.66	43,301
SM	22,630	18,119	16,989	0.75	92,983
SR	28,378	21,548	26,638	0.94	124,041
MC	12,382	12,465	5,829	0.47	25,745
MM	14,963	14,169	7,959	0.53	53,463
MR	18,266	18,148	10,148	0.56	44,019
LC	11,818	10,207	11,666	0.99	70,908
LM	12,756	12,160	3,949	0.31	17,290
LR	14,408	14,777	3,596	0.25	11,981
Total Pop	16,392	14,244	12,135	0.74	127,652

Figure A88: Fed & Prov Gov't Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A89: Tribal Gov't & Other FN Rev Ratio DS Data

Tribal Gov't & Other FN Entity Revenue Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.07	0.02	0.10	1.46	0.40
SM	0.08	0.04	0.10	1.22	0.47
SR	0.11	0.04	0.20	1.78	0.87
MC	0.05	0.02	0.06	1.32	0.28
MM	0.08	0.03	0.13	1.57	0.68
MR	0.06	0.03	0.11	1.86	0.69
LC	0.06	0.02	0.11	1.93	0.57
LM	0.04	0.02	0.08	1.75	0.34
LR	0.02	0.01	0.03	1.40	0.11
Total Pop	0.07	0.03	0.11	1.63	0.87

Figure A90: Tribal Gov't & Other FN Ent Rev Ratio DS Graph

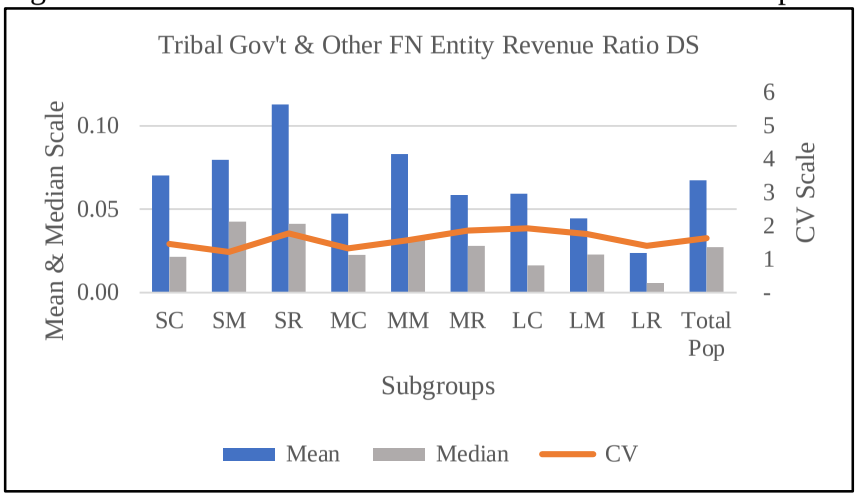
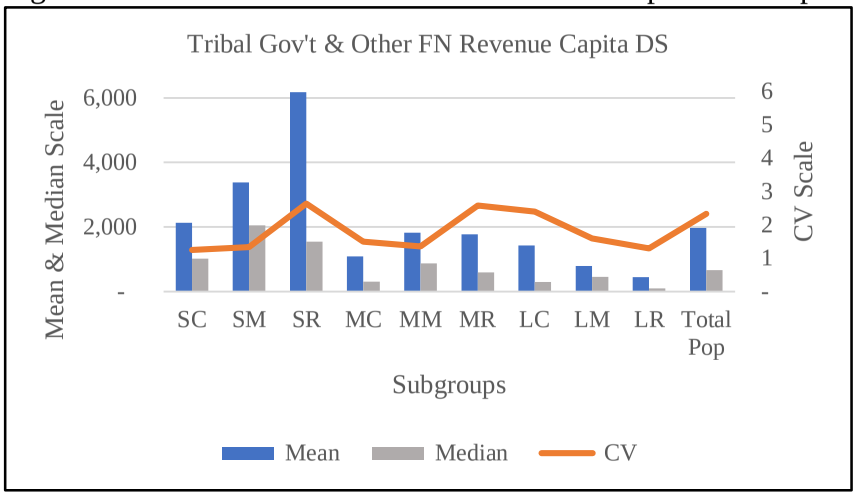


Figure A91: Tribal Gov't & Other FN Rev Capita DS Data

Tribal Gov't & Other FN Revenue Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	2,126	1,016	2,663	1.25	11,651
SM	3,378	2,047	4,509	1.33	23,166
SR	6,178	1,547	16,344	2.65	72,722
MC	1,087	306	1,624	1.49	8,091
MM	1,818	873	2,461	1.35	13,773
MR	1,771	596	4,565	2.58	30,430
LC	1,425	292	3,408	2.39	20,022
LM	794	458	1,262	1.59	5,189
LR	441	96	573	1.30	1,396
Total Pop	1,966	659	4,577	2.33	72,722

Figure A92: Tribal Gov't & Other FN Revenue Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A93: Net Cash Flow From Op Ratio DS Data

Net Cash Flow From Operating Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	2.60	0.73	20.53	7.88	129.96
SM	- 1.66	1.22	18.98	- 11.41	141.27
SR	- 3.75	0.20	14.28	- 3.81	64.43
MC	- 5.02	0.83	36.53	- 7.28	309.22
MM	2.72	1.35	19.51	7.18	217.27
MR	- 14.54	- 0.33	63.14	- 4.34	339.39
LC	- 0.23	1.10	23.65	- 100.84	186.64
LM	54.94	0.79	1,303.42	23.73	9,903.44
LR	- 10.92	- 1.11	25.80	- 2.36	93.63
Total Pop	2.09	0.97	359.78	172.32	9,903.44

Figure A94: Net Cash Flow From Operating Ratio DS Graph

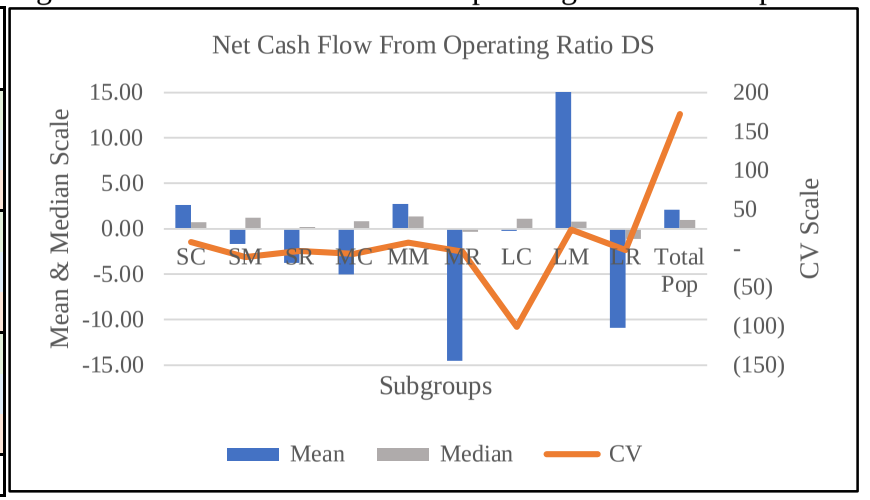
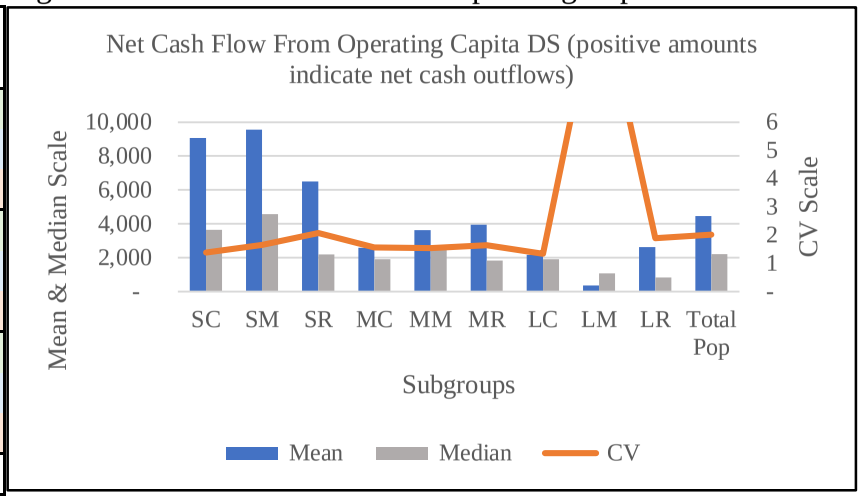


Figure A95: Net Cash Flow From Op Capita DS Data

Net Cash Flow From Operating Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	9,059	3,646	12,475	1.38	51,567
SM	9,560	4,565	15,792	1.65	98,430
SR	6,496	2,187	13,434	2.07	56,220
MC	2,592	1,910	4,059	1.57	29,651
MM	3,625	2,493	5,580	1.54	48,301
MR	3,944	1,821	6,463	1.64	31,501
LC	2,177	1,898	2,922	1.34	13,626
LM	359	1,066	3,939	10.96	23,846
LR	2,621	835	4,960	1.89	19,237
Total Pop	4,445	2,214	8,949	2.01	107,376

Figure A96: Net Cash Flow From Operating Capita DS Data



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A97: Gross Cash In From Inv Ratio DS Data

Gross Cash Inflows From Investing Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.45	0.24	0.47	1.04	1.00
SM	0.29	0.00	0.41	1.41	1.00
SR	0.36	0.23	0.40	1.10	1.00
MC	0.26	0.00	0.38	1.47	1.00
MM	0.29	0.03	0.39	1.36	1.00
MR	0.30	0.02	0.38	1.29	1.00
LC	0.39	0.16	0.42	1.10	1.00
LM	0.26	0.18	0.29	1.13	0.96
LR	0.24	0.00	0.40	1.64	1.00
Total Pop	0.30	0.03	0.39	1.30	1.00

Figure A98: Gross Cash Inflows From Investing Ratio DS Graph

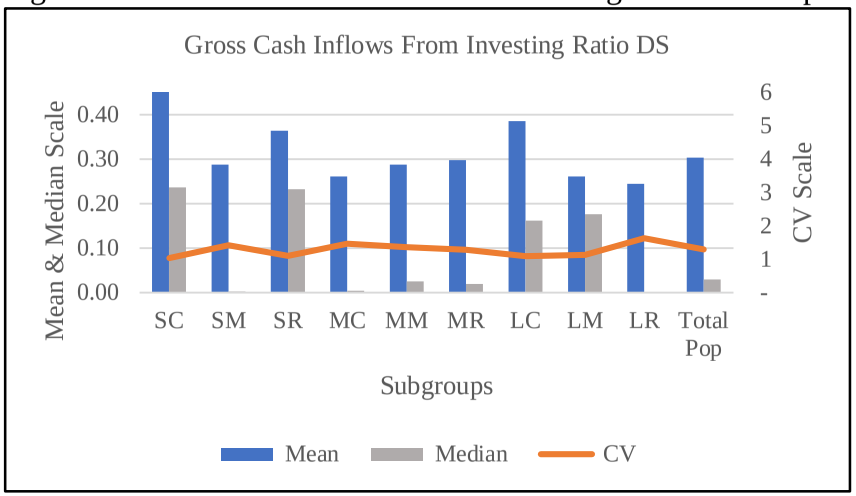
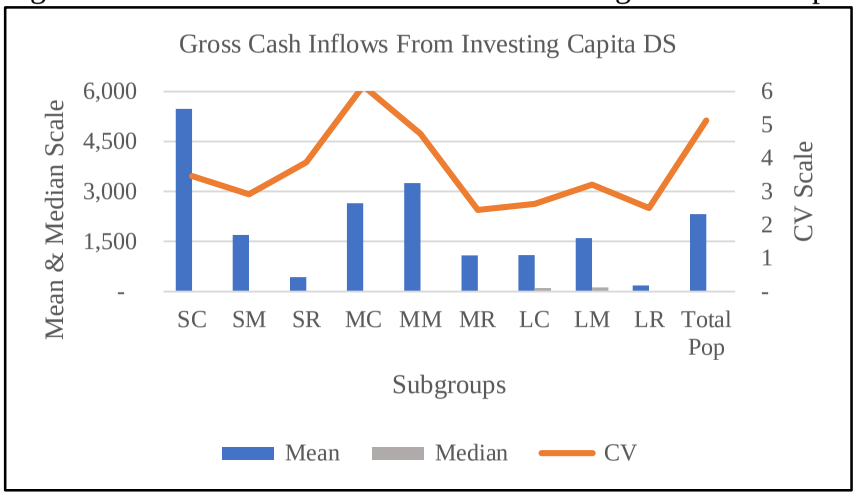


Figure A99: Gross Cash In From Inv Capita DS Data

Gross Cash Inflows From Investing Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	5,476	-	18,954	3.46	103,514
SM	1,699	-	4,953	2.92	32,893
SR	429	-	1,663	3.87	7,282
MC	2,649	-	16,354	6.17	141,805
MM	3,252	6	15,392	4.73	121,728
MR	1,080	-	2,641	2.45	12,667
LC	1,093	103	2,869	2.62	16,479
LM	1,599	121	5,125	3.20	22,980
LR	176	-	442	2.50	1,650
Total Pop	2,317	0	11,901	5.14	141,805

Figure A100: Gross Cash Inflows from Investing Ratio DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A101: Gross Cash Out From Inv Ratio DS Data

Gross Cash Outflows From Investing Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	0.23	0.01	0.35	1.55	0.99
SM	0.20	0.01	0.31	1.51	0.93
SR	0.04	-	0.11	2.51	0.44
MC	0.16	0.00	0.28	1.80	1.00
MM	0.13	0.00	0.22	1.70	0.90
MR	0.06	-	0.15	2.55	0.90
LC	0.17	0.03	0.26	1.52	0.93
LM	0.15	0.04	0.20	1.35	0.72
LR	0.04	0.00	0.07	1.76	0.22
Total Pop	0.14	0.00	0.25	1.75	1.00

Figure A102: Gross Cash Outflows From Inv Ratio DS Graph

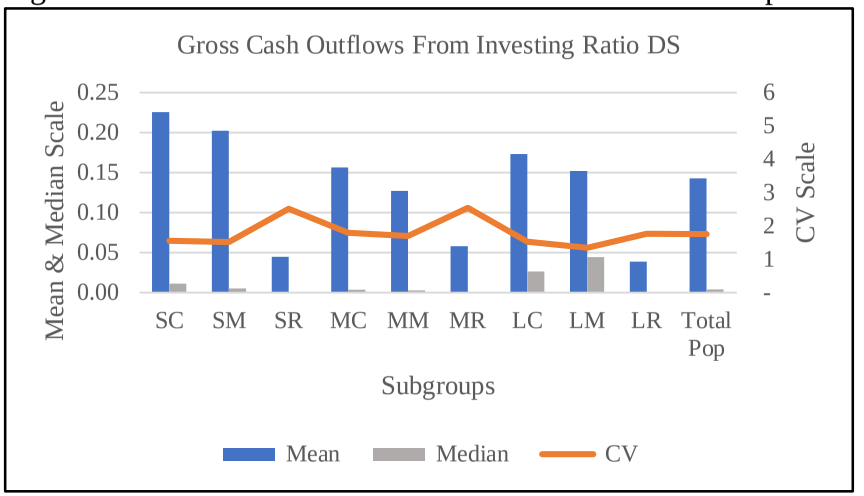
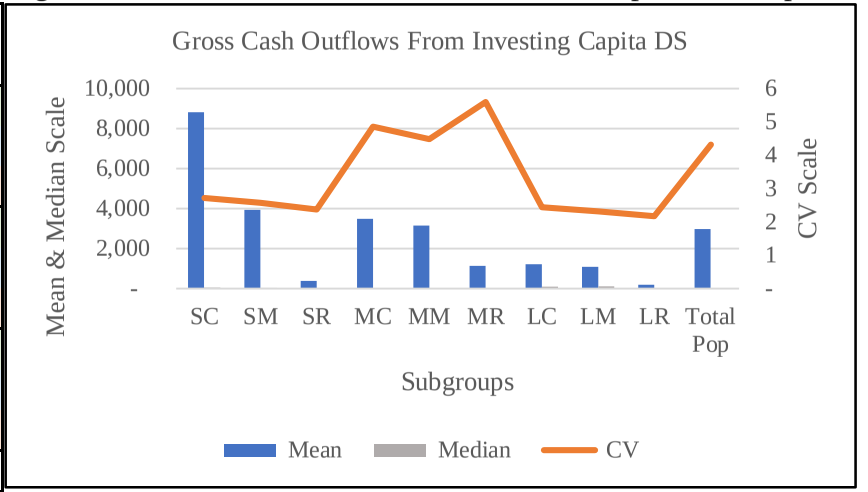


Figure A103: Gross Cash Out From Inv Capita DS Data

Gross Cash Outflows From Investing Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	8,805	37	23,875	2.71	126,494
SM	3,937	36	10,121	2.57	59,882
SR	375	-	887	2.37	2,995
MC	3,478	6	16,878	4.85	142,249
MM	3,151	17	14,130	4.48	110,458
MR	1,133	-	6,349	5.60	43,078
LC	1,215	96	2,954	2.43	14,611
LM	1,079	116	2,496	2.31	12,656
LR	192	1	417	2.18	1,531
Total Pop	2,972	16	12,838	4.32	142,249

Figure A104: Gross Cash Outflows From Inv Capita DS Graph



Appendix E: Descriptive Statistics of Financial Indicators with Breakdown Between Subgroups (continued)

Figure A105: Net Cash Flows From Inv Ratio DS Data

Net Cash Flows From Investing Ratio					
Subgroup	Mean	Median	SD	CV	Range
SC	- 3.22	-	19.09	- 5.93	113.16
SM	3.08	-	27.11	8.80	233.22
SR	- 0.11	-	0.91	- 8.46	4.84
MC	6.12	-	26.79	4.38	158.31
MM	0.64	-	11.71	18.29	151.88
MR	12.83	-	77.92	6.07	532.35
LC	0.76	0.00	3.74	4.95	20.22
LM	152.69	-	658.92	4.32	3,157.81
LR	0.84	-	2.08	2.48	8.18
Total Pop	14.67	-	187.91	12.81	3,157.81

Figure A106: Net Cash Flows From Inv Ratio DS Graph

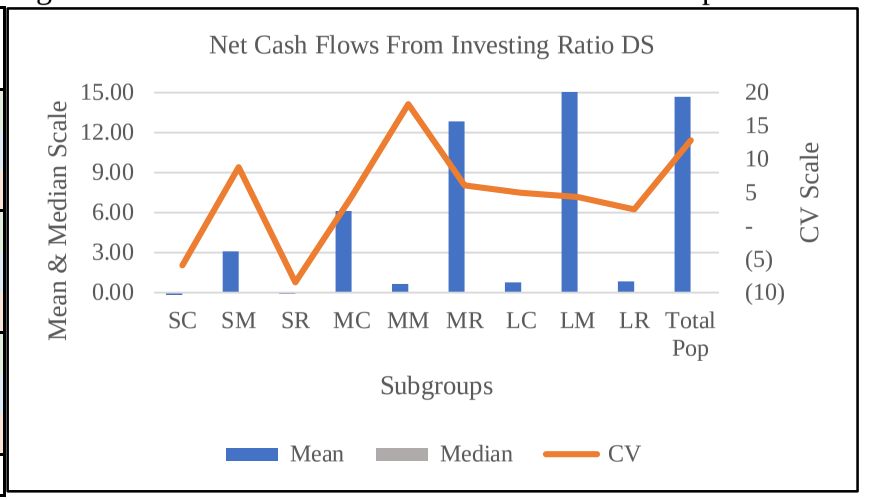
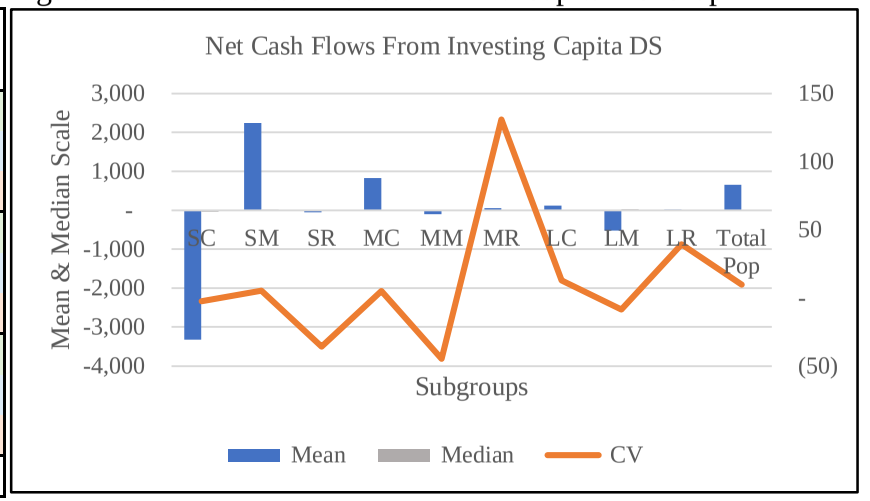


Figure A107: Net Cash Flows from Inv Capita DS Data

Net Cash Flows From Investing Capita					
Subgroup	Mean	Median	SD	CV	Range
SC	- 3,329	- 37	8,530	- 2.56	39,703
SM	2,238	6	- 11,516	5.14	- 92,776
SR	- 55	-	- 1,956	- 35.88	- 10,273
MC	828	-	- 4,218	5.09	- 35,486
MM	- 101	-	- 4,492	- 44.60	- 45,738
MR	53	-	- 6,993	130.98	- 55,252
LC	122	-	- 1,550	12.74	- 10,318
LM	- 520	20	- 4,459	- 8.58	- 30,253
LR	15	-	- 604	39.26	- 2,980
Total Pop	655	-	- 6,367	9.73	- 92,776

Figure A108: Net Cash Flows from Inv Capita DS Graph



Appendix F: T-test Statistic Details

Note: a t-test is performed for the index/financial indicator noted. The mean of a given subgroup is tested against the rest of the population (total population less the subgroup being evaluated). The test is peroformed assuming unequal variances, and uses Welch's approximation.

Figure A109: Education Index: Means comparison between subgroup SC and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	32	53.77	2.151372	12.17	49.38225	58.15775
y	414	44.43	.7131276	14.51	43.02819	45.83181
combined	446	45.10013	.6886994	14.54444	43.74663	46.45364
diff		9.34	2.266485		4.754125	13.92587

diff = mean(x) - mean(y) t = 4.1209
Ho: diff = 0 Welch's degrees of freedom = 38.6112

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9999 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.0001

Appendix F: T-test Statistic Details (continued)

Figure A110: Education Index: Means comparison between subgroup MC and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	76	50.8	1.23311	10.75	48.34352	53.25648
y	370	43.93	.7772135	14.95	42.40168	45.45832
combined	446	45.10067	.688625	14.54287	43.74731	46.45403
diff		6.87	1.457608		3.988855	9.751145

```
    diff = mean(x) - mean(y)                                      t =   4.7132
Ho: diff = 0                     Welch's degrees of freedom =  143.562

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000
```

Figure A111: Education Index: Means comparison between subgroup LC and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	41	51.89	2.122401	13.59	47.60047	56.17953
y	405	44.41	.719517	14.48	42.99554	45.82446
combined	446	45.09762	.6888522	14.54767	43.74382	46.45143
diff		7.48	2.241047		2.97903	11.98097

```
    diff = mean(x) - mean(y)                                      t =   3.3377
Ho: diff = 0                     Welch's degrees of freedom =  50.1375

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9992         Pr(|T| > |t|) = 0.0016          Pr(T > t) = 0.0008
```

Appendix F: T-test Statistic Details (continued)

Figure A112: Education Index: Means comparison between subgroup SR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	19	46.28	3.877126	16.9	38.13446	54.42554
y	427	45.05	.7007363	14.48	43.67267	46.42733
combined	446	45.1024	.6899873	14.57164	43.74636	46.45844
diff		1.23	3.939941		-7.006961	9.466961

diff = mean(x) - mean(y) t = 0.3122
Ho: diff = 0 Welch's degrees of freedom = 19.3269

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.6209 Pr(|T| > |t|) = 0.7582 Pr(T > t) = 0.3791

Figure A113: Education Index: Means comparison between subgroup MR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	46	28.61	1.635131	11.09	25.31668	31.90332
y	400	47	.684	13.68	45.65531	48.34469
combined	446	45.10327	.6887759	14.54606	43.74962	46.45693
diff		-18.39	1.772431		-21.9323	-14.8477

diff = mean(x) - mean(y) t = -10.3756
Ho: diff = 0 Welch's degrees of freedom = 62.6559

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A114: Education Index: Means comparison between subgroup LR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	14	25.77	2.677958	10.02	19.98462	31.55538
y	432	45.73	.6851223	14.24	44.3834	47.0766
combined	446	45.10345	.6885868	14.54207	43.75017	46.45674
diff		-19.96	2.764209		-25.85091	-14.06909

diff = mean(x) - mean(y) t = -7.2209
Ho: diff = 0 Welch's degrees of freedom = 15.0253

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A115: Workforce Index: Means comparison between subgroup SC and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	32	59.6	2.13723	12.09	55.24109	63.95891
y	414	55.66	.6516934	13.26	54.37895	56.94105
combined	446	55.94269	.6253296	13.20615	54.71372	57.17166
diff		3.94	2.234381		-.5856726	8.465673

diff = mean(x) - mean(y) t = 1.7634
Ho: diff = 0 Welch's degrees of freedom = 37.3948

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9570 Pr(|T| > |t|) = 0.0860 Pr(T > t) = 0.0430

Appendix F: T-test Statistic Details (continued)

Figure A116: Workforce Index: Means comparison between subgroup SM and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	65	63.12	1.660825	13.39	59.80212	66.43788
y	381	54.72	.6552515	12.79	53.43163	56.00837
combined	446	55.94422	.62511	13.20152	54.71568	57.17275
diff		8.4	1.785412		4.850588	11.94941

diff = mean(x) - mean(y) t = 4.7048
Ho: diff = 0 Welch's degrees of freedom = 85.7784

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A117: Workforce Index: Means comparison between subgroup SR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	19	64.11	4.030834	17.57	55.64153	72.57847
y	427	55.58	.6233069	12.88	54.35486	56.80514
combined	446	55.94339	.6250964	13.20123	54.71488	57.17189
diff		8.53	4.078742		-.0079002	17.0679

diff = mean(x) - mean(y) t = 2.0913
Ho: diff = 0 Welch's degrees of freedom = 18.9674

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9749 Pr(|T| > |t|) = 0.0502 Pr(T > t) = 0.0251

Appendix F: T-test Statistic Details (continued)

Figure A118: Workforce Index: Means comparison between subgroup LM and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	34	42.66	1.385709	8.08	39.84075	45.47925
y	412	57.04	.6380007	12.95	55.78585	58.29415
combined	446	55.94377	.6251916	13.20324	54.71507	57.17246
diff		-14.38	1.525527		-17.44532	-11.31468

diff = mean(x) - mean(y) t = -9.4262
Ho: diff = 0 Welch's degrees of freedom = 49.2165

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A119: Workforce Index: Means comparison between subgroup LR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	14	47.82	2.517601	9.42	42.38105	53.25895
y	432	56.2	.6365287	13.23	54.94891	57.45109
combined	446	55.93695	.6250713	13.2007	54.70849	57.16541
diff		-8.38	2.596822		-13.91575	-2.844252

diff = mean(x) - mean(y) t = -3.2270
Ho: diff = 0 Welch's degrees of freedom = 14.9766

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0028 Pr(|T| > |t|) = 0.0057 Pr(T > t) = 0.9972

Appendix F: T-test Statistic Details (continued)

Figure A120: Housing Index: Means comparison between subgroup SC and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	32	70.4	3.307492	18.71	63.65433	77.14567
y	414	62.54	.8841603	17.99	60.80198	64.27802
combined	446	63.10395	.8587161	18.13498	61.4163	64.79159
diff		7.86	3.42363		.9156793	14.80432

diff = mean(x) - mean(y) t = 2.2958
Ho: diff = 0 Welch's degrees of freedom = 35.8695

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9862 Pr(|T| > |t|) = 0.0276 Pr(T > t) = 0.0138

Figure A121: Housing Index: Means comparison between subgroup MC and rest of population

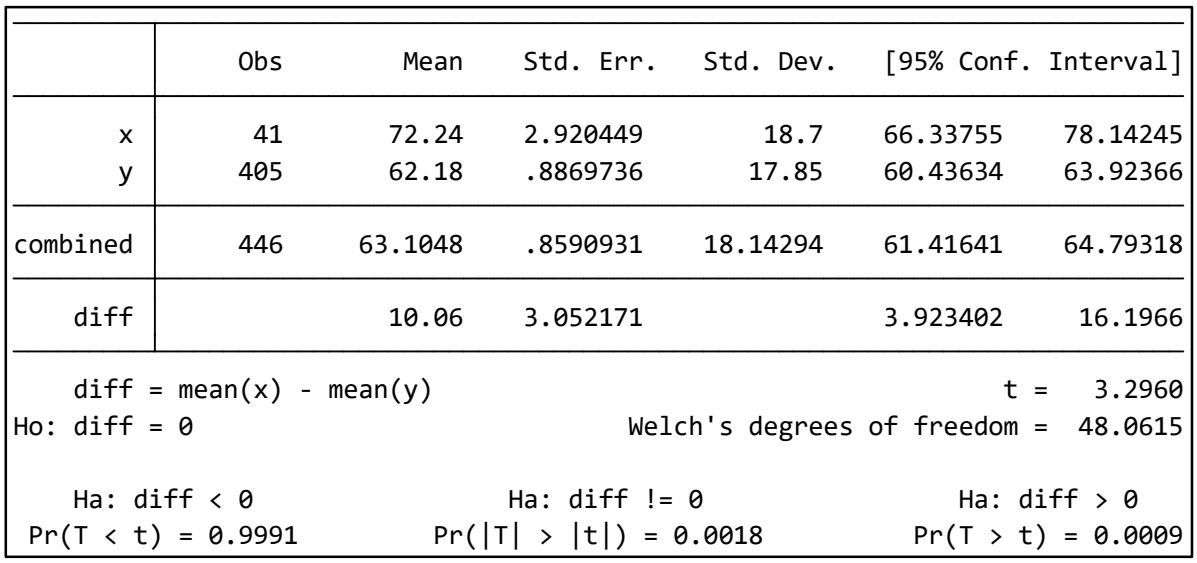
	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	76	69.06	1.685059	14.69	65.70319	72.41681
y	370	61.88	.9643686	18.55	59.98365	63.77635
combined	446	63.1035	.8588875	18.1386	61.41552	64.79148
diff		7.18	1.941502		3.339177	11.02082

diff = mean(x) - mean(y) t = 3.6982
Ho: diff = 0 Welch's degrees of freedom = 130.745

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9998 Pr(|T| > |t|) = 0.0003 Pr(T > t) = 0.0002

Appendix F: T-test Statistic Details (continued)

Figure A122: Housing Index: Means comparison between subgroup LC and rest of population

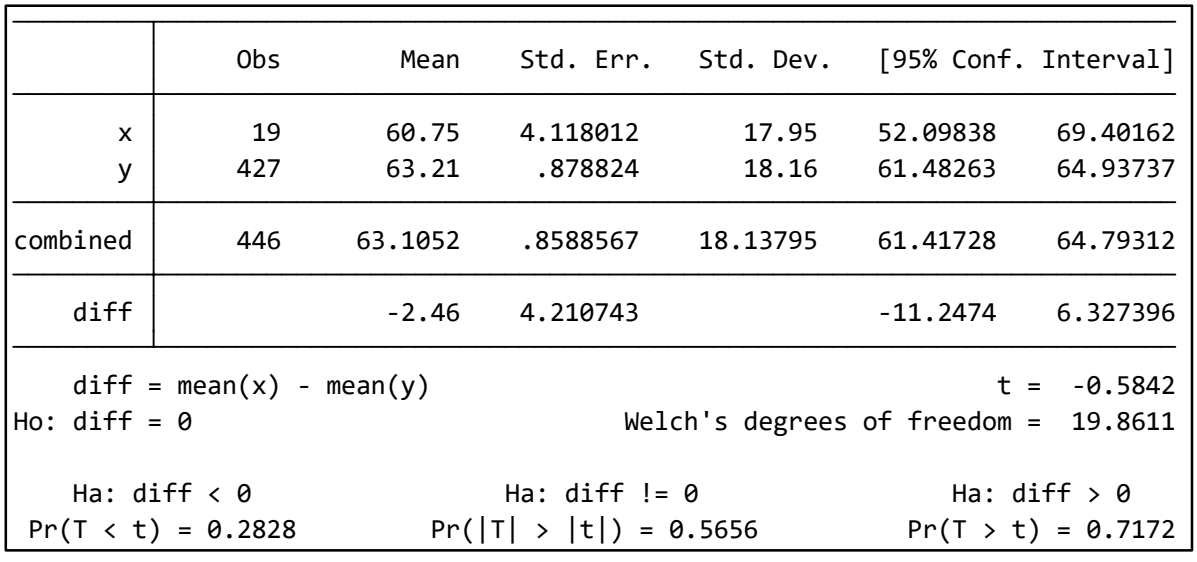


	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	41	72.24	2.920449	18.7	66.33755	78.14245
y	405	62.18	.8869736	17.85	60.43634	63.92366
combined	446	63.1048	.8590931	18.14294	61.41641	64.79318
diff		10.06	3.052171		3.923402	16.1966

diff = mean(x) - mean(y) t = 3.2960
Ho: diff = 0 Welch's degrees of freedom = 48.0615

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9991 Pr(|T| > |t|) = 0.0018 Pr(T > t) = 0.0009

Figure A123: Housing Index: Means comparison between subgroup SR and rest of population



	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	19	60.75	4.118012	17.95	52.09838	69.40162
y	427	63.21	.878824	18.16	61.48263	64.93737
combined	446	63.1052	.8588567	18.13795	61.41728	64.79312
diff		-2.46	4.210743		-11.2474	6.327396

diff = mean(x) - mean(y) t = -0.5842
Ho: diff = 0 Welch's degrees of freedom = 19.8611

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.2828 Pr(|T| > |t|) = 0.5656 Pr(T > t) = 0.7172

Appendix F: T-test Statistic Details (continued)

Figure A124: Housing Index: Means comparison between subgroup MR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	46	51.2087	2.08794	14.1611	47.00337	55.41403
y	400	64.4737	.902955	18.0591	62.69856	66.24884
combined	446	63.10556	.8588902	18.13865	61.41758	64.79355
diff		-13.265	2.274824		-17.80955	-8.720454

diff = mean(x) - mean(y) t = -5.8312
Ho: diff = 0 Welch's degrees of freedom = 63.9538

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A125: Housing Index: Means comparison between subgroup LR and rest of population

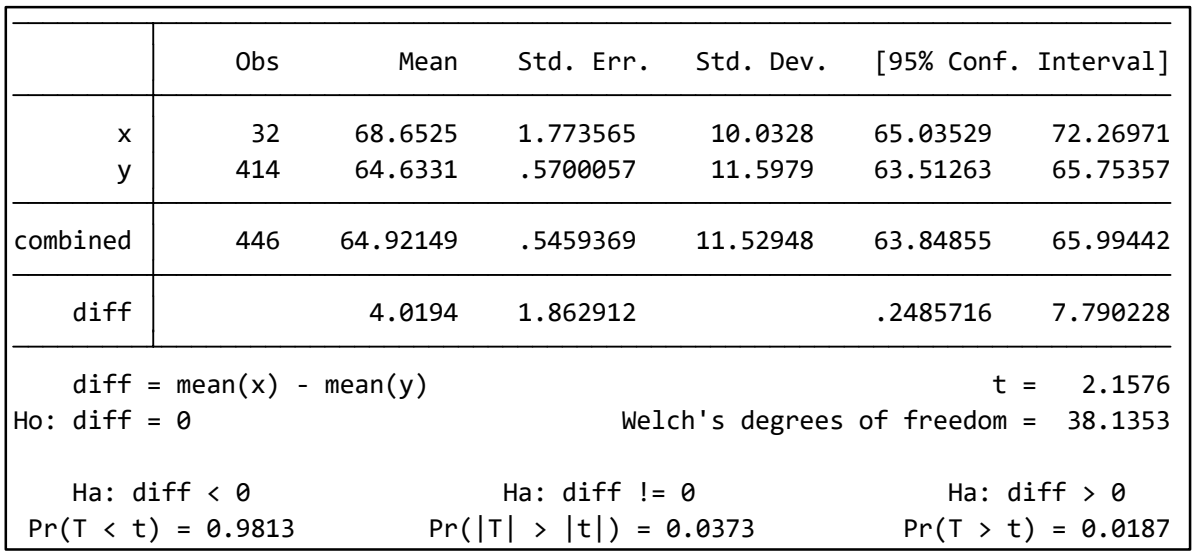
	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	14	42.9643	3.39224	12.6926	35.63581	50.29279
y	432	63.7583	.8623207	17.923	62.06342	65.45318
combined	446	63.10557	.8588896	18.13864	61.41759	64.79356
diff		-20.794	3.500127		-28.2544	-13.3336

diff = mean(x) - mean(y) t = -5.9409
Ho: diff = 0 Welch's degrees of freedom = 14.9988

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A126: Nation Wellness Index: Means comparison between subgroup SC and rest of population

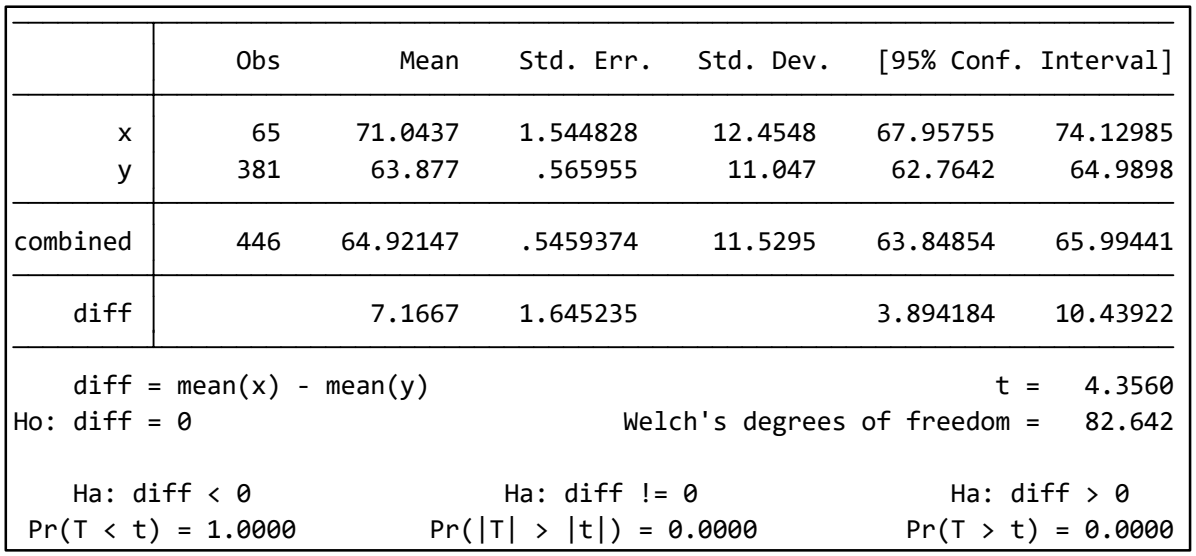


	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	32	68.6525	1.773565	10.0328	65.03529	72.26971
y	414	64.6331	.5700057	11.5979	63.51263	65.75357
combined	446	64.92149	.5459369	11.52948	63.84855	65.99442
diff		4.0194	1.862912		.2485716	7.790228

diff = mean(x) - mean(y) t = 2.1576
Ho: diff = 0 Welch's degrees of freedom = 38.1353

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9813 Pr(|T| > |t|) = 0.0373 Pr(T > t) = 0.0187

Figure A127: Nation Wellness Index: Means comparison between subgroup SM and rest of population



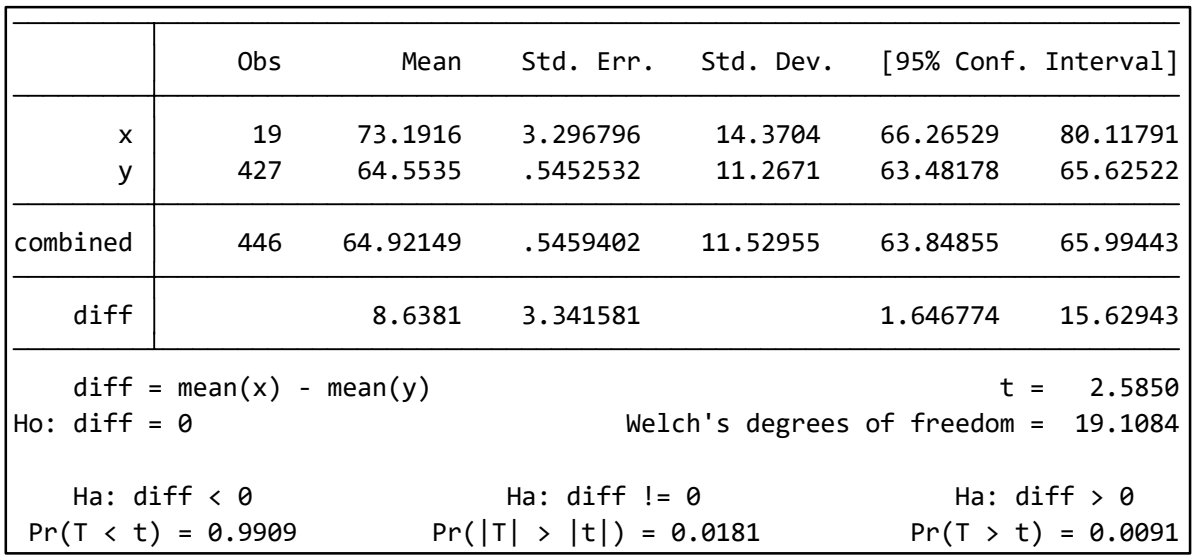
	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	65	71.0437	1.544828	12.4548	67.95755	74.12985
y	381	63.877	.565955	11.047	62.7642	64.9898
combined	446	64.92147	.5459374	11.5295	63.84854	65.99441
diff		7.1667	1.645235		3.894184	10.43922

diff = mean(x) - mean(y) t = 4.3560
Ho: diff = 0 Welch's degrees of freedom = 82.642

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A128: Nation Wellness Index: Means comparison between subgroup SR and rest of population

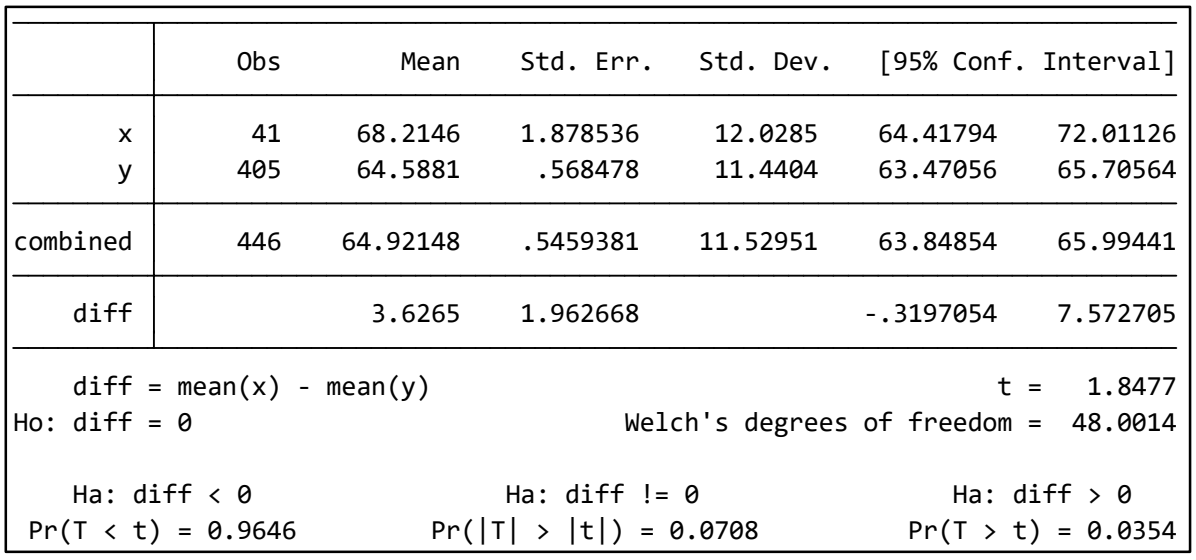


	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	19	73.1916	3.296796	14.3704	66.26529	80.11791
y	427	64.5535	.5452532	11.2671	63.48178	65.62522
combined	446	64.92149	.5459402	11.52955	63.84855	65.99443
diff		8.6381	3.341581		1.646774	15.62943

diff = mean(x) - mean(y) t = 2.5850
Ho: diff = 0 Welch's degrees of freedom = 19.1084

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9909 Pr(|T| > |t|) = 0.0181 Pr(T > t) = 0.0091

Figure A129: Nation Wellness Index: Means comparison between subgroup LC and rest of population



	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	41	68.2146	1.878536	12.0285	64.41794	72.01126
y	405	64.5881	.568478	11.4404	63.47056	65.70564
combined	446	64.92148	.5459381	11.52951	63.84854	65.99441
diff		3.6265	1.962668		-.3197054	7.572705

diff = mean(x) - mean(y) t = 1.8477
Ho: diff = 0 Welch's degrees of freedom = 48.0014

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9646 Pr(|T| > |t|) = 0.0708 Pr(T > t) = 0.0354

Appendix F: T-test Statistic Details (continued)

Figure A130: Nation Wellness Index: Means comparison between subgroup LM and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	34	58.7224	1.731278	10.095	55.20009	62.24471
y	412	65.4331	.5666776	11.5023	64.31915	66.54705
combined	446	64.92152	.5459392	11.52953	63.84858	65.99446
diff		-6.7107	1.821661		-10.39	-3.031398

diff = mean(x) - mean(y) t = -3.6838
Ho: diff = 0 Welch's degrees of freedom = 40.8596

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0003 Pr(|T| > |t|) = 0.0007 Pr(T > t) = 0.9997

Figure A131: Nation Wellness Index: Means comparison between subgroup LR and rest of population

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	14	58.4871	2.49777	9.3458	53.091	63.8832
y	432	65.13	.5553292	11.5423	64.03851	66.22149
combined	446	64.92148	.5459383	11.52951	63.84854	65.99442
diff		-6.6429	2.558759		-12.11257	-1.173228

diff = mean(x) - mean(y) t = -2.5961
Ho: diff = 0 Welch's degrees of freedom = 14.5182

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0103 Pr(|T| > |t|) = 0.0207 Pr(T > t) = 0.9897

Appendix F: T-test Statistic Details (continued)

Figure A132: Language Index: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	10.735	2.404284	13.60069	5.83143	15.63857
no	414	30.0857	1.198232	24.38041	27.73031	32.44109
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		-19.3507	2.686325		-24.74858	-13.95282

diff = mean(yes) - mean(no) t = -7.2034
Ho: diff = 0 Welch's degrees of freedom = 49.1776

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A133: Language Index: Means comparison between subgroup MC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	76	16.19855	1.612808	14.06013	12.98567	19.41143
no	370	31.26462	1.306946	25.13962	28.69462	33.83462
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		-15.06607	2.075875		-19.16052	-10.97162

diff = mean(yes) - mean(no) t = -7.2577
Ho: diff = 0 Welch's degrees of freedom = 191.972

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A134: Language Index: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	26.54561	3.824076	24.48603	18.81686	34.27436
no	405	28.91514	1.206455	24.27943	26.54342	31.28685
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		-2.369526	4.009874		-10.42882	5.689768

```
    diff = mean(yes) - mean(no)                                   t =  -0.5909
Ho: diff = 0                     Welch's degrees of freedom =  48.7249

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.2787         Pr(|T| > |t|) = 0.5573          Pr(T > t) = 0.7213
```

Figure A135: Language Index: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	36.20737	5.460357	23.80114	24.73558	47.67915
no	427	28.36314	1.174746	24.27492	26.05412	30.67216
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		7.84423	5.585295		-3.810545	19.49901

```
    diff = mean(yes) - mean(no)                                   t =   1.4044
Ho: diff = 0                     Welch's degrees of freedom =  19.8921

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9122         Pr(|T| > |t|) = 0.1756          Pr(T > t) = 0.0878
```

Appendix F: T-test Statistic Details (continued)

Figure A136: Language Index: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	52.42087	4.507738	30.57297	43.34182	61.49992
no	400	25.9691	1.095153	21.90306	23.81611	28.12209
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		26.45177	4.638865		17.13748	35.76606

diff = mean(yes) - mean(no) t = 5.7022
Ho: diff = 0 Welch's degrees of freedom = 50.6905

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A137: Language Index: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	64.48	8.118582	30.37695	46.94087	82.01913
no	432	27.53769	1.115879	23.19311	25.34444	29.73093
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		36.94232	8.194911		19.31383	54.5708

diff = mean(yes) - mean(no) t = 4.5080
Ho: diff = 0 Welch's degrees of freedom = 13.5719

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9997 Pr(|T| > |t|) = 0.0005 Pr(T > t) = 0.0003

Appendix F: T-test Statistic Details (continued)

Figure A138: Income Index: Means comparison between subgroup MC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	66	32.62061	.8110643	6.589118	31.0008	34.24041
no	237	30.56392	.7208535	11.0974	29.14379	31.98405
combined	303	31.01191	.5923212	10.31047	29.84631	32.17751
diff		2.056682	1.085106		-.0844359	4.1978

diff = mean(yes) - mean(no) t = 1.8954
Ho: diff = 0 Welch's degrees of freedom = 180.584

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9702 Pr(|T| > |t|) = 0.0596 Pr(T > t) = 0.0298

Figure A139: Income Index: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	36.8378	2.386803	15.283	32.0139	41.66171
no	262	30.10023	.5561694	9.002388	29.00508	31.19538
combined	303	31.01191	.5923212	10.31047	29.84631	32.17751
diff		6.737576	2.450745		1.800493	11.67466

diff = mean(yes) - mean(no) t = 2.7492
Ho: diff = 0 Welch's degrees of freedom = 44.6629

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9957 Pr(|T| > |t|) = 0.0086 Pr(T > t) = 0.0043

Appendix F: T-test Statistic Details (continued)

Figure A140: Investment Asset Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.4356992	.1907559	1.079078	.04665	.8247484
no	414	.2676756	.0143097	.2911584	.2395467	.2958044
combined	446	.2797311	.0190396	.4020919	.2423124	.3171498
diff		.1680237	.1912919		-.2219311	.5579784

```
    diff = mean(yes) - mean(no)                                   t =   0.8784
Ho: diff = 0                     Welch's degrees of freedom =  31.3724

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8068         Pr(|T| > |t|) = 0.3864          Pr(T > t) = 0.1932
```

Figure A141: Investment Asset Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	30014.86	13741.75	77735.07	1988.383	58041.35
no	414	13091.85	2257.985	45943.21	8653.272	17530.43
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		16923.02	13926.02		-11416.13	45262.16

```
    diff = mean(yes) - mean(no)                                   t =   1.2152
Ho: diff = 0                     Welch's degrees of freedom =   32.804

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8835         Pr(|T| > |t|) = 0.2330          Pr(T > t) = 0.1165
```

Appendix F: T-test Statistic Details (continued)

Figure A142: Investment Asset Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	65	25819.62	11452.72	92334.8	2940.179	48699.06
no	381	12341.8	1880.258	36701.18	8644.787	16038.81
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		13477.82	11606.04		-9684.175	36639.82

diff = mean(yes) - mean(no) t = 1.1613
Ho: diff = 0 Welch's degrees of freedom = 67.5971

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8752 Pr(|T| > |t|) = 0.2496 Pr(T > t) = 0.1248

Figure A143: Investment Asset Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	25911.61	17287.01	75352.32	-10407.05	62230.27
no	427	13789.65	2300.532	47538.14	9267.844	18311.46
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		12121.96	17439.41		-24416.89	48660.81

diff = mean(yes) - mean(no) t = 0.6951
Ho: diff = 0 Welch's degrees of freedom = 18.7144

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.7522 Pr(|T| > |t|) = 0.4955 Pr(T > t) = 0.2478

Appendix F: T-test Statistic Details (continued)

Figure A144: Investment Asset Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	5311.607	1162.179	7441.574	2962.757	7660.458
no	405	15216.61	2547.334	51264.11	10208.92	20224.29
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		-9904.999	2799.923		-15408.77	-4401.226

diff = mean(yes) - mean(no) t = -3.5376
Ho: diff = 0 Welch's degrees of freedom = 415.677

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0002 Pr(|T| > |t|) = 0.0004 Pr(T > t) = 0.9998

Figure A145: Investment Asset Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	7355.74	2432.881	14186.01	2406.006	12305.47
no	412	14879.63	2500.991	50764.58	9963.297	19795.96
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		-7523.887	3489.107		-14425.08	-622.6923

diff = mean(yes) - mean(no) t = -2.1564
Ho: diff = 0 Welch's degrees of freedom = 133.26

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0164 Pr(|T| > |t|) = 0.0328 Pr(T > t) = 0.9836

Appendix F: T-test Statistic Details (continued)

Figure A146: Investment Asset Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	11345.74	6790.623	25408.18	-3324.512	26015.98
no	432	14401.99	2384.957	49570.41	9714.399	19089.59
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		-3056.257	7197.262		-18246.71	12134.19

diff = mean(yes) - mean(no) t = -0.4246
Ho: diff = 0 Welch's degrees of freedom = 16.9188

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.3382 Pr(|T| > |t|) = 0.6764 Pr(T > t) = 0.6618

Figure A147: Investment Asset Capita: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	7256.246	2137.806	14499.3	2950.484	11562.01
no	400	15116.79	2571.745	51434.9	10060.92	20172.65
combined	446	14306.06	2319.281	48980.24	9747.952	18864.16
diff		-7860.539	3344.261		-14450.78	-1270.3

diff = mean(yes) - mean(no) t = -2.3505
Ho: diff = 0 Welch's degrees of freedom = 223.992

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0098 Pr(|T| > |t|) = 0.0196 Pr(T > t) = 0.9902

Appendix F: T-test Statistic Details (continued)

Figure A148: Gross Business Sales Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.0264094	.016541	.0721004	-.0083419	.0611607
no	427	.1023521	.0080127	.1655739	.0866028	.1181014
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		-.0759427	.0183795		-.1135671	-.0383184

diff = mean(yes) - mean(no) t = -4.1319
Ho: diff = 0 Welch's degrees of freedom = 28.4093

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0003 Pr(T > t) = 0.9999

Figure A149: Gross Business Sales Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.06063	.0185001	.1254737	.0233689	.0978911
no	400	.1035429	.0083369	.1667372	.0871532	.1199326
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		-.0429129	.0202918		-.0834303	-.0023956

diff = mean(yes) - mean(no) t = -2.1148
Ho: diff = 0 Welch's degrees of freedom = 65.7001

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0191 Pr(|T| > |t|) = 0.0382 Pr(T > t) = 0.9809

Appendix F: T-test Statistic Details (continued)

Figure A150: Gross Business Sales Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0533109	.0244718	.0915652	.0004428	.106179
no	432	.1006014	.0079399	.1650271	.0849957	.116207
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		-.0472905	.0257276		-.1017446	.0071637

```
    diff = mean(yes) - mean(no)                                   t =  -1.8381
Ho: diff = 0                     Welch's degrees of freedom =  16.3172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0422         Pr(|T| > |t|) = 0.0843          Pr(T > t) = 0.9578
```

Figure A151: Gross Business Sales Ratio: Means comparison between subgroup SC and rest of population

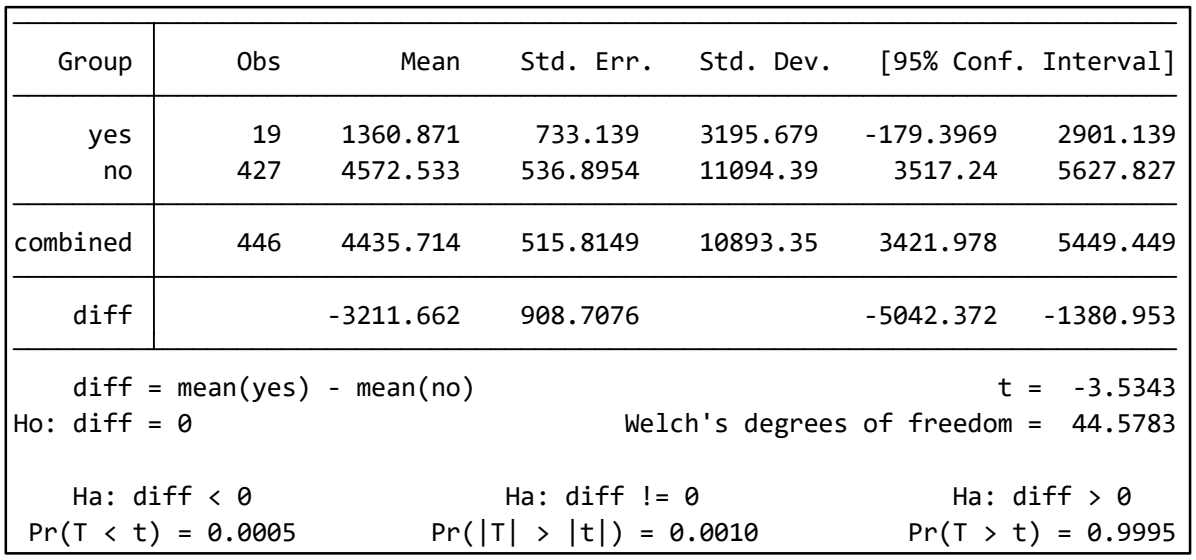
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.1563646	.0412105	.2331218	.0723152	.240414
no	414	.094692	.0076779	.1562225	.0795993	.1097846
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		.0616727	.0419196		-.0235817	.146927

```
    diff = mean(yes) - mean(no)                                   t =   1.4712
Ho: diff = 0                     Welch's degrees of freedom =  33.3273

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9247         Pr(|T| > |t|) = 0.1506          Pr(T > t) = 0.0753
```

Appendix F: T-test Statistic Details (continued)

Figure A152: Gross Business Sales Capita: Means comparison between subgroup SR and rest of population

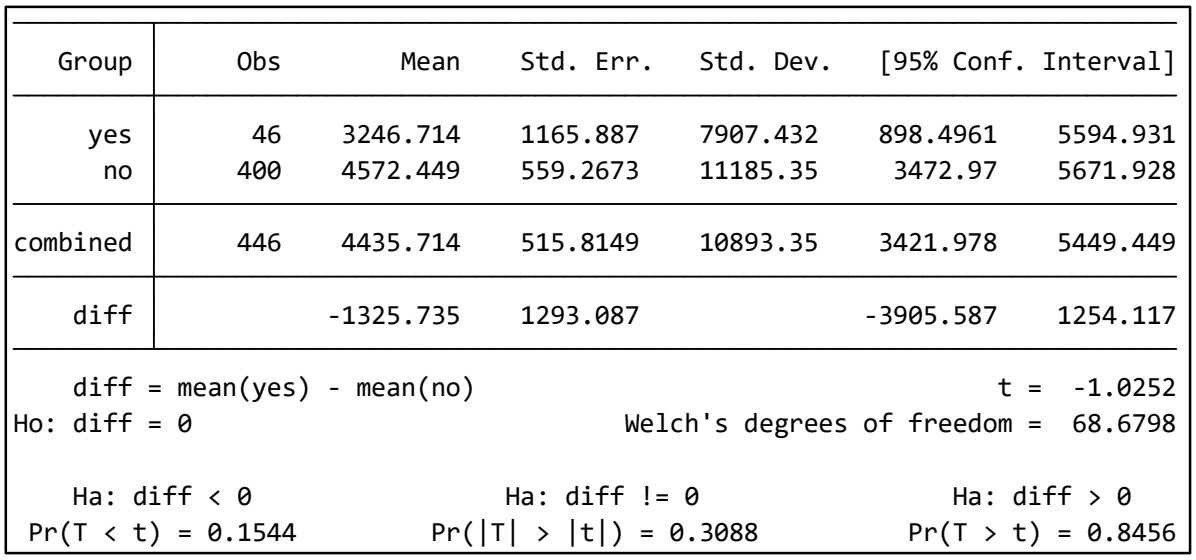


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	1360.871	733.139	3195.679	-179.3969	2901.139
no	427	4572.533	536.8954	11094.39	3517.24	5627.827
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		-3211.662	908.7076		-5042.372	-1380.953

diff = mean(yes) - mean(no) t = -3.5343
Ho: diff = 0 Welch's degrees of freedom = 44.5783

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0005 Pr(|T| > |t|) = 0.0010 Pr(T > t) = 0.9995

Figure A153: Gross Business Sales Capita: Means comparison between subgroup MR and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	3246.714	1165.887	7907.432	898.4961	5594.931
no	400	4572.449	559.2673	11185.35	3472.97	5671.928
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		-1325.735	1293.087		-3905.587	1254.117

diff = mean(yes) - mean(no) t = -1.0252
Ho: diff = 0 Welch's degrees of freedom = 68.6798

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1544 Pr(|T| > |t|) = 0.3088 Pr(T > t) = 0.8456

Appendix F: T-test Statistic Details (continued)

Figure A154: Gross Business Sales Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	961.321	458.3978	1715.168	-28.98733	1951.629
no	432	4548.31	531.4767	11046.54	3503.701	5592.918
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		-3586.989	701.8519		-4984.975	-2189.003

```
    diff = mean(yes) - mean(no)                                   t =  -5.1107
Ho: diff = 0                     Welch's degrees of freedom =  75.5771

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Figure A155: Gross Business Sales Capita: Means comparison between subgroup SC and rest of population

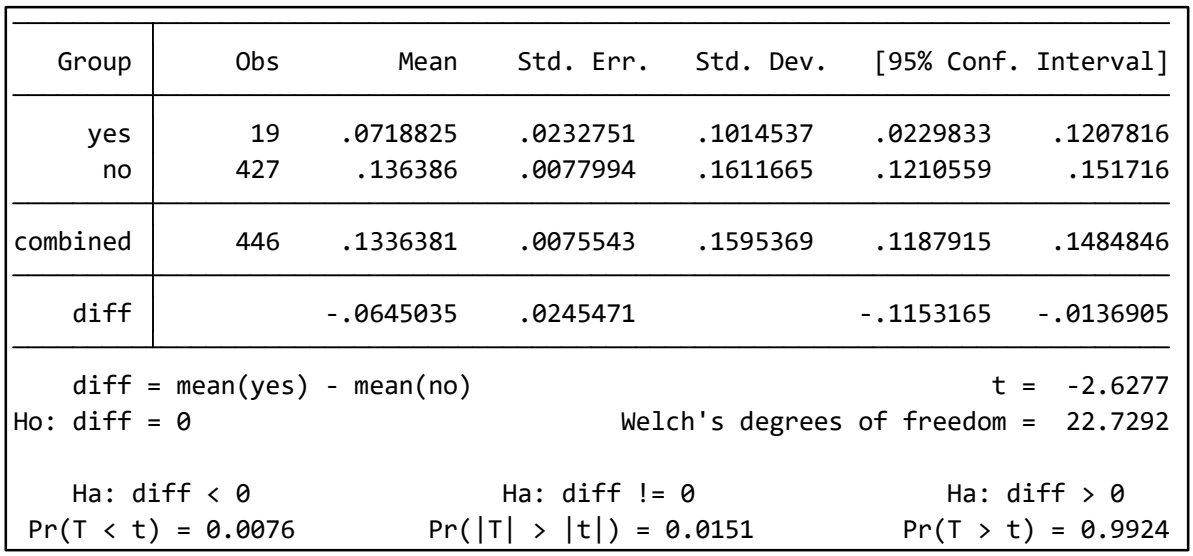
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	11674.24	4276.091	24189.23	2953.09	20395.38
no	414	3876.214	438.3943	8920.005	3014.452	4737.977
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		7798.022	4298.505		-961.0301	16557.07

```
    diff = mean(yes) - mean(no)                                   t =   1.8141
Ho: diff = 0                     Welch's degrees of freedom =  31.6971

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9604         Pr(|T| > |t|) = 0.0791          Pr(T > t) = 0.0396
```

Appendix F: T-test Statistic Details (continued)

Figure A156: Business and Economic Development Expense Ratio: Means comparison between subgroup SR and rest of population

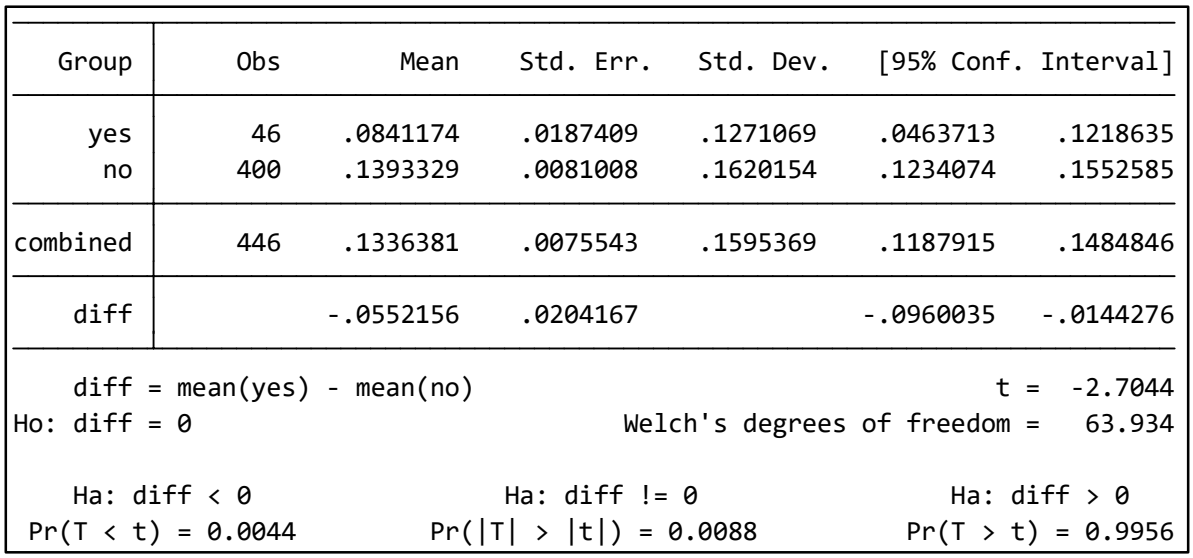


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.0718825	.0232751	.1014537	.0229833	.1207816
no	427	.136386	.0077994	.1611665	.1210559	.151716
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		-.0645035	.0245471		-.1153165	-.0136905

diff = mean(yes) - mean(no) t = -2.6277
Ho: diff = 0 Welch's degrees of freedom = 22.7292

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0076 Pr(|T| > |t|) = 0.0151 Pr(T > t) = 0.9924

Figure A157: Business and Economic Development Expense Ratio: Means comparison between subgroup MR and rest of population



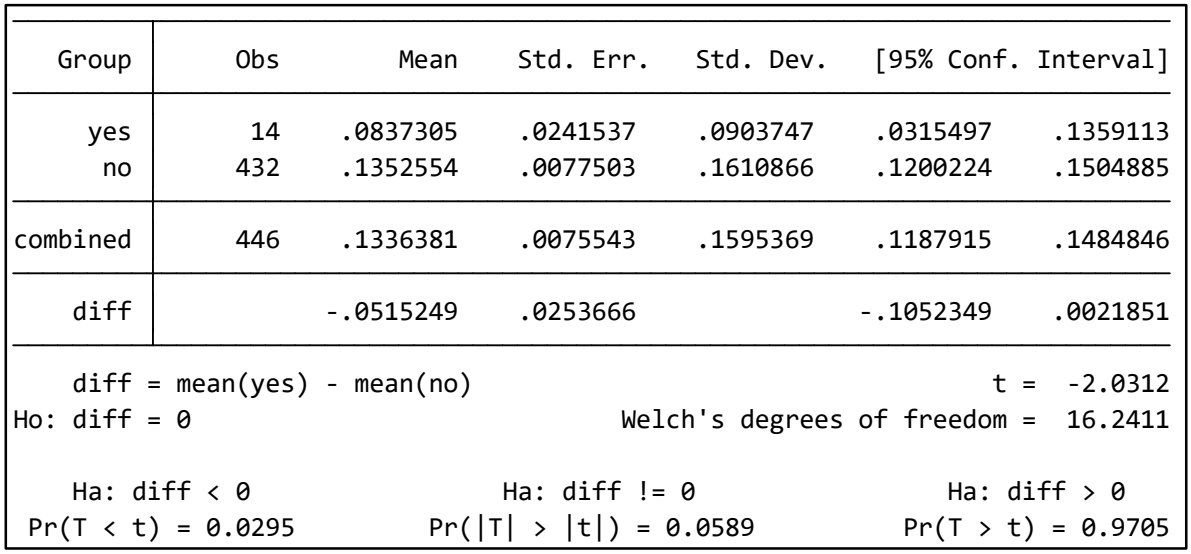
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.0841174	.0187409	.1271069	.0463713	.1218635
no	400	.1393329	.0081008	.1620154	.1234074	.1552585
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		-.0552156	.0204167		-.0960035	-.0144276

diff = mean(yes) - mean(no) t = -2.7044
Ho: diff = 0 Welch's degrees of freedom = 63.934

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0044 Pr(|T| > |t|) = 0.0088 Pr(T > t) = 0.9956

Appendix F: T-test Statistic Details (continued)

Figure A158: Business and Economic Development Expense Ratio: Means comparison between subgroup LR and rest of population

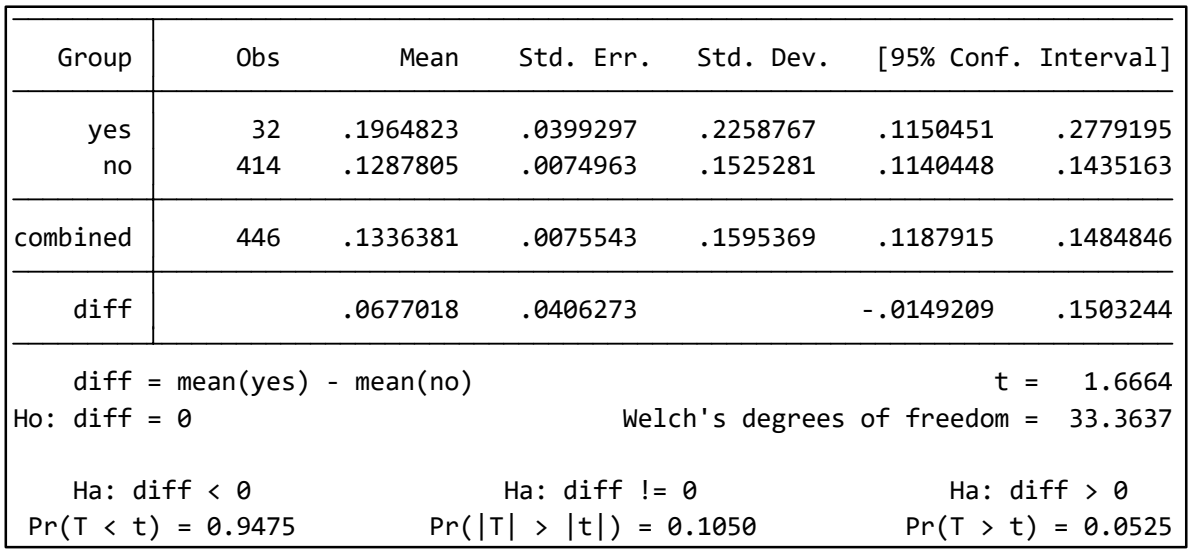


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0837305	.0241537	.0903747	.0315497	.1359113
no	432	.1352554	.0077503	.1610866	.1200224	.1504885
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		-.0515249	.0253666		-.1052349	.0021851

diff = mean(yes) - mean(no) t = -2.0312
Ho: diff = 0 Welch's degrees of freedom = 16.2411

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0295 Pr(|T| > |t|) = 0.0589 Pr(T > t) = 0.9705

Figure A159: Business and Economic Development Expense Ratio: Means comparison between subgroup SC and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.1964823	.0399297	.2258767	.1150451	.2779195
no	414	.1287805	.0074963	.1525281	.1140448	.1435163
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		.0677018	.0406273		-.0149209	.1503244

diff = mean(yes) - mean(no) t = 1.6664
Ho: diff = 0 Welch's degrees of freedom = 33.3637

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9475 Pr(|T| > |t|) = 0.1050 Pr(T > t) = 0.0525

Appendix F: T-test Statistic Details (continued)

Figure A160: Business and Economic Development Expense Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	4292.062	2372.179	10340.09	-691.6998	9275.824
no	427	5293.269	473.5806	9786.059	4362.424	6224.115
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		-1001.207	2418.989		-6053.328	4050.915

diff = mean(yes) - mean(no) t = -0.4139
Ho: diff = 0 Welch's degrees of freedom = 19.6244

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.3417 Pr(|T| > |t|) = 0.6834 Pr(T > t) = 0.6583

Figure A161: Business and Economic Development Expense Capita: Means comparison between subgroup MR and rest of population

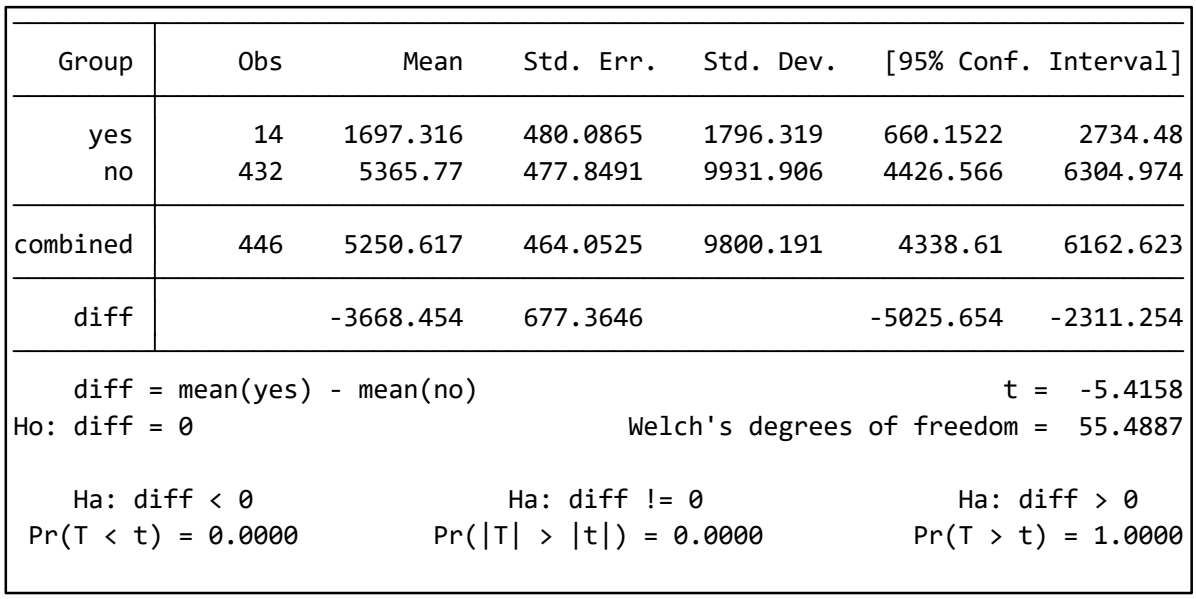
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	3776.776	1051.137	7129.161	1659.676	5893.875
no	400	5420.109	502.7552	10055.1	4431.728	6408.489
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		-1643.333	1165.184		-3968.094	681.4283

diff = mean(yes) - mean(no) t = -1.4104
Ho: diff = 0 Welch's degrees of freedom = 68.5312

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0815 Pr(|T| > |t|) = 0.1630 Pr(T > t) = 0.9185

Appendix F: T-test Statistic Details (continued)

Figure A162: Business and Economic Development Expense Capita: Means comparison between subgroup LR and rest of population

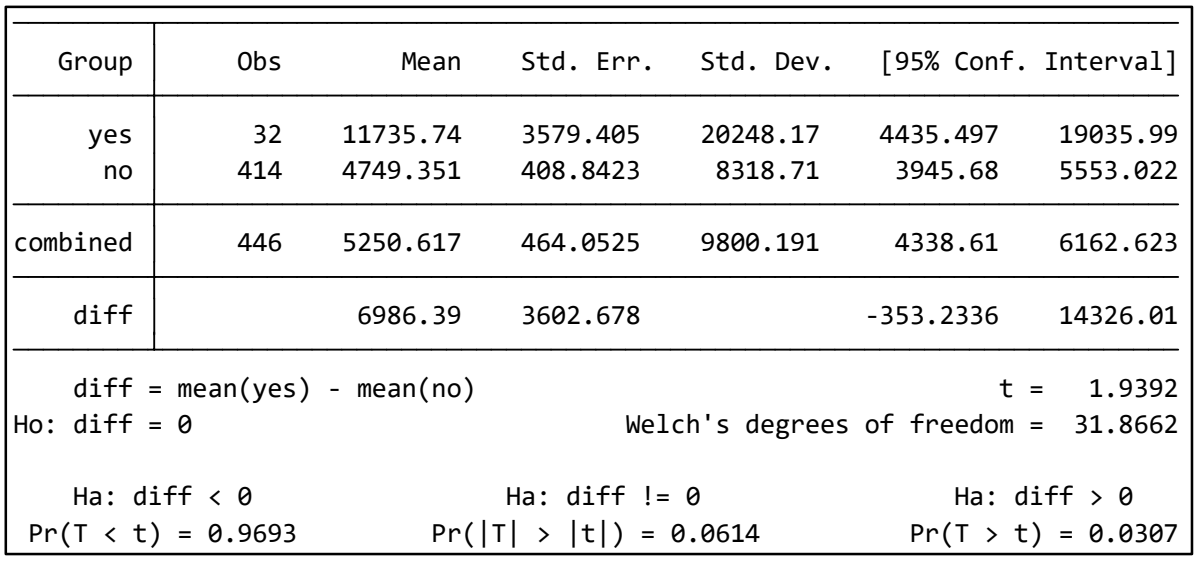


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	1697.316	480.0865	1796.319	660.1522	2734.48
no	432	5365.77	477.8491	9931.906	4426.566	6304.974
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		-3668.454	677.3646		-5025.654	-2311.254

diff = mean(yes) - mean(no) t = -5.4158
Ho: diff = 0 Welch's degrees of freedom = 55.4887

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A163: Business and Economic Development Expense Capita: Means comparison between subgroup SC and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	11735.74	3579.405	20248.17	4435.497	19035.99
no	414	4749.351	408.8423	8318.71	3945.68	5553.022
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		6986.39	3602.678		-353.2336	14326.01

diff = mean(yes) - mean(no) t = 1.9392
Ho: diff = 0 Welch's degrees of freedom = 31.8662

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9693 Pr(|T| > |t|) = 0.0614 Pr(T > t) = 0.0307

Appendix F: T-test Statistic Details (continued)

Figure A164: GBE Asset Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	25	.1355627	.0473499	.2367495	.0378373	.2332881
no	346	.3966674	.0443226	.8244487	.3094908	.483844
combined	371	.3790727	.0415897	.8010747	.2972909	.4608546
diff		-.2611047	.0648576		-.390069	-.1321404

```
    diff = mean(yes) - mean(no)                                   t =  -4.0258
Ho: diff = 0                     Welch's degrees of freedom =  84.5465

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0001         Pr(|T| > |t|) = 0.0001          Pr(T > t) = 0.9999
```

Figure A165: GBE Asset Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	16	.2137594	.1181187	.4724748	-.0380046	.4655235
no	355	.3865235	.0431171	.8123885	.3017256	.4713214
combined	371	.3790727	.0415897	.8010747	.2972909	.4608546
diff		-.172764	.1257422		-.4352159	.0896878

```
    diff = mean(yes) - mean(no)                                   t =  -1.3740
Ho: diff = 0                     Welch's degrees of freedom =  19.8138

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0924         Pr(|T| > |t|) = 0.1848          Pr(T > t) = 0.9076
```

Appendix F: T-test Statistic Details (continued)

Figure A166: GBE Asset Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	36	6764.761	1910.094	11460.56	2887.064	10642.46
no	335	15310.16	3416.466	62531.6	8589.657	22030.66
combined	371	14480.96	3092.722	59570.03	8399.44	20562.47
diff		-8545.399	3914.167		-16247.62	-843.1834

diff = mean(yes) - mean(no) t = -2.1832
Ho: diff = 0 Welch's degrees of freedom = 304.731

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0149 Pr(|T| > |t|) = 0.0298 Pr(T > t) = 0.9851

Figure A167: GBE Asset Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	27	6890.434	1993.826	10360.23	2792.065	10988.8
no	344	15076.72	3330.137	61764.85	8526.663	21626.79
combined	371	14480.96	3092.722	59570.03	8399.44	20562.47
diff		-8186.29	3881.386		-15831.52	-541.0637

diff = mean(yes) - mean(no) t = -2.1091
Ho: diff = 0 Welch's degrees of freedom = 244.459

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0180 Pr(|T| > |t|) = 0.0360 Pr(T > t) = 0.9820

Appendix F: T-test Statistic Details (continued)

Figure A168: GBE Asset Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	7629.11	2765.562	9172.332	1467.053	13791.17
no	360	14690.32	3185.686	60444.14	8425.368	20955.27
combined	371	14480.96	3092.722	59570.03	8399.44	20562.47
diff		-7061.209	4218.641		-15501.56	1379.137

diff = mean(yes) - mean(no) t = -1.6738
Ho: diff = 0 Welch's degrees of freedom = 59.3813

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0497 Pr(|T| > |t|) = 0.0994 Pr(T > t) = 0.9503

Figure A169: GBE Asset Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	54	31387.18	14244.26	104673.5	2816.81	59957.56
no	317	11601.03	2670.189	47541.37	6347.436	16854.63
combined	371	14480.96	3092.722	59570.03	8399.44	20562.47
diff		19786.15	14492.38		-9235.205	48807.51

diff = mean(yes) - mean(no) t = 1.3653
Ho: diff = 0 Welch's degrees of freedom = 56.9208

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9112 Pr(|T| > |t|) = 0.1775 Pr(T > t) = 0.0888

Appendix F: T-test Statistic Details (continued)

Figure A170: GBE Asset Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	16	50022.31	44625.26	178501	-45094.17	145138.8
no	355	12879.09	2544.92	47949.97	7874.029	17884.16
combined	371	14480.96	3092.722	59570.03	8399.44	20562.47
diff		37143.22	44697.77		-58067.03	132353.5

```
    diff = mean(yes) - mean(no)                                   t =   0.8310
Ho: diff = 0                     Welch's degrees of freedom =  15.1107

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7905         Pr(|T| > |t|) = 0.4189          Pr(T > t) = 0.2095
```

Figure A171: GBE Equity Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	30	.1518326	.0600267	.3287798	.0290642	.274601
no	378	.0929782	.0194761	.3786592	.0546827	.1312736
combined	408	.0973057	.0185737	.3751703	.0607933	.133818
diff		.0588544	.0631073		-.0691533	.1868622

```
    diff = mean(yes) - mean(no)                                   t =   0.9326
Ho: diff = 0                     Welch's degrees of freedom =  35.8362

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8214         Pr(|T| > |t|) = 0.3573          Pr(T > t) = 0.1786
```

Appendix F: T-test Statistic Details (continued)

Figure A172: GBE Equity Ratio: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	57	.1639204	.1032685	.7796599	-.0429512	.370792
no	351	.0864879	.0136685	.2560784	.0596053	.1133706
combined	408	.0973057	.0185737	.3751703	.0607933	.133818
diff		.0774325	.1041691		-.1310811	.285946

```
    diff = mean(yes) - mean(no)                                   t =   0.7433
Ho: diff = 0                     Welch's degrees of freedom =  58.0469

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7699         Pr(|T| > |t|) = 0.4603          Pr(T > t) = 0.2301
```

Figure A173: GBE Equity Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	18	.0819841	.073139	.3103023	-.0723256	.2362938
no	390	.0980128	.0191516	.3782148	.0603591	.1356665
combined	408	.0973057	.0185737	.3751703	.0607933	.133818
diff		-.0160287	.0756048		-.173897	.1418396

```
    diff = mean(yes) - mean(no)                                   t =  -0.2120
Ho: diff = 0                     Welch's degrees of freedom =  19.6899

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.4171         Pr(|T| > |t|) = 0.8343          Pr(T > t) = 0.5829
```

Appendix F: T-test Statistic Details (continued)

Figure A174: GBE Equity Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	30	13271.46	5527.627	30276.06	1966.198	24576.73
no	378	6623.906	2036.95	39602.83	2618.699	10629.11
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		6647.558	5890.995		-5278.853	18573.97

diff = mean(yes) - mean(no) t = 1.1284
Ho: diff = 0 Welch's degrees of freedom = 37.9307

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8669 Pr(|T| > |t|) = 0.2662 Pr(T > t) = 0.1331

Figure A175: GBE Equity Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	57	10232.54	8111.387	61239.63	-6016.516	26481.61
no	351	6606.055	1823.356	34160.56	3019.943	10192.17
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		3626.49	8313.798		-12992.65	20245.63

diff = mean(yes) - mean(no) t = 0.4362
Ho: diff = 0 Welch's degrees of freedom = 61.9827

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.6679 Pr(|T| > |t|) = 0.6642 Pr(T > t) = 0.3321

Appendix F: T-test Statistic Details (continued)

Figure A176: GBE Equity Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	18	33530.92	32072.8	136073.4	-34136.77	101198.6
no	390	5893.394	1385.39	27359.26	3169.605	8617.183
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		27637.53	32102.71		-40071.82	95346.88

diff = mean(yes) - mean(no) t = 0.8609
Ho: diff = 0 Welch's degrees of freedom = 17.071

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.7994 Pr(|T| > |t|) = 0.4012 Pr(T > t) = 0.2006

Figure A177: GBE Equity Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	38	3612.439	1413.953	8716.194	747.497	6477.38
no	370	7472.183	2123.705	40850.29	3296.1	11648.27
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		-3859.744	2551.35		-8883.039	1163.551

diff = mean(yes) - mean(no) t = -1.5128
Ho: diff = 0 Welch's degrees of freedom = 267.343

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0658 Pr(|T| > |t|) = 0.1315 Pr(T > t) = 0.9342

Appendix F: T-test Statistic Details (continued)

Figure A178: GBE Equity Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	33	2739.419	826.7614	4749.383	1055.361	4423.477
no	375	7497.545	2098.608	40639.38	3370.994	11624.1
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		-4758.126	2255.591		-9192.618	-323.6344

diff = mean(yes) - mean(no) t = -2.1095
Ho: diff = 0 Welch's degrees of freedom = 394.223

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0178 Pr(|T| > |t|) = 0.0355 Pr(T > t) = 0.9822

Figure A179: GBE Equity Capita: Means comparison between subgroup LR and rest of population

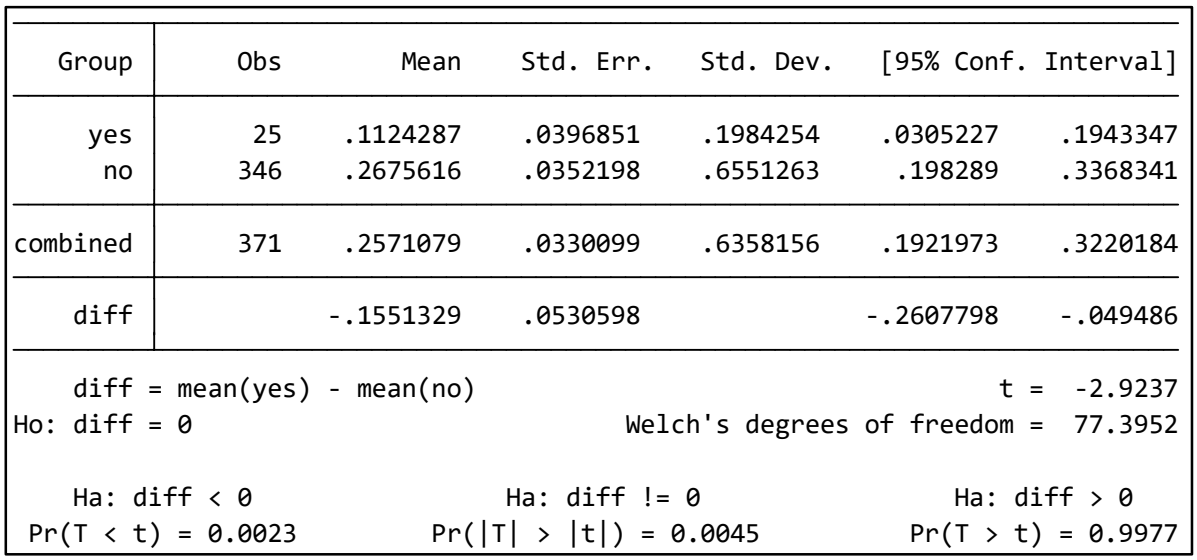
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	12	4242.973	2332.909	8081.434	-891.7249	9377.671
no	396	7199.658	1988.124	39563.16	3291.031	11108.29
combined	408	7112.697	1930.857	39001.4	3316.999	10908.39
diff		-2956.685	3065.143		-9172.593	3259.223

diff = mean(yes) - mean(no) t = -0.9646
Ho: diff = 0 Welch's degrees of freedom = 36.0819

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1706 Pr(|T| > |t|) = 0.3412 Pr(T > t) = 0.8294

Appendix F: T-test Statistic Details (continued)

Figure A180: GBE Revenue Ratio: Means comparison between subgroup SC and rest of population

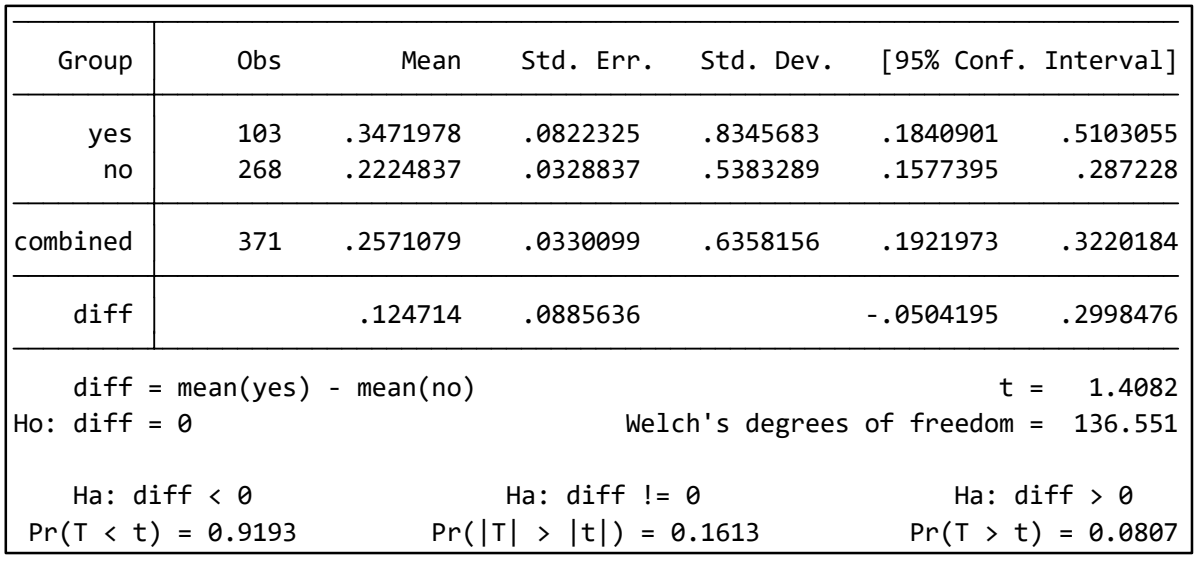


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	25	.1124287	.0396851	.1984254	.0305227	.1943347
no	346	.2675616	.0352198	.6551263	.198289	.3368341
combined	371	.2571079	.0330099	.6358156	.1921973	.3220184
diff		-.1551329	.0530598		-.2607798	-.049486

diff = mean(yes) - mean(no) t = -2.9237
Ho: diff = 0 Welch's degrees of freedom = 77.3952

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0023 Pr(|T| > |t|) = 0.0045 Pr(T > t) = 0.9977

Figure A181: GBE Revenue Ratio: Means comparison between subgroup MM and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	103	.3471978	.0822325	.8345683	.1840901	.5103055
no	268	.2224837	.0328837	.5383289	.1577395	.287228
combined	371	.2571079	.0330099	.6358156	.1921973	.3220184
diff		.124714	.0885636		-.0504195	.2998476

diff = mean(yes) - mean(no) t = 1.4082
Ho: diff = 0 Welch's degrees of freedom = 136.551

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9193 Pr(|T| > |t|) = 0.1613 Pr(T > t) = 0.0807

Appendix F: T-test Statistic Details (continued)

Figure A182: GBE Revenue Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	30	.115631	.0394201	.2159127	.0350078	.1962541
no	341	.2695545	.0356767	.6588125	.1993797	.3397294
combined	371	.2571079	.0330099	.6358156	.1921973	.3220184
diff		-.1539236	.0531674		-.2594784	-.0483687

diff = mean(yes) - mean(no) t = -2.8951
Ho: diff = 0 Welch's degrees of freedom = 94.7015

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0024 Pr(|T| > |t|) = 0.0047 Pr(T > t) = 0.9976

Figure A183: GBE Revenue Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	36	4217.01	1698.196	10189.17	769.4889	7664.53
no	335	11062.1	3196.39	58503.55	4774.505	17349.69
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		-6845.089	3619.5		-13966.24	276.0572

diff = mean(yes) - mean(no) t = -1.8912
Ho: diff = 0 Welch's degrees of freedom = 318.537

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0298 Pr(|T| > |t|) = 0.0595 Pr(T > t) = 0.9702

Appendix F: T-test Statistic Details (continued)

Figure A184: GBE Revenue Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	27	5120.918	1075.229	5587.055	2910.753	7331.083
no	344	10812.07	3117.45	57820.08	4680.34	16943.79
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		-5691.148	3297.667		-12175.91	793.6159

diff = mean(yes) - mean(no) t = -1.7258
Ho: diff = 0 Welch's degrees of freedom = 365.828

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0426 Pr(|T| > |t|) = 0.0852 Pr(T > t) = 0.9574

Figure A185: GBE Revenue Capita: Means comparison between subgroup LR and rest of population

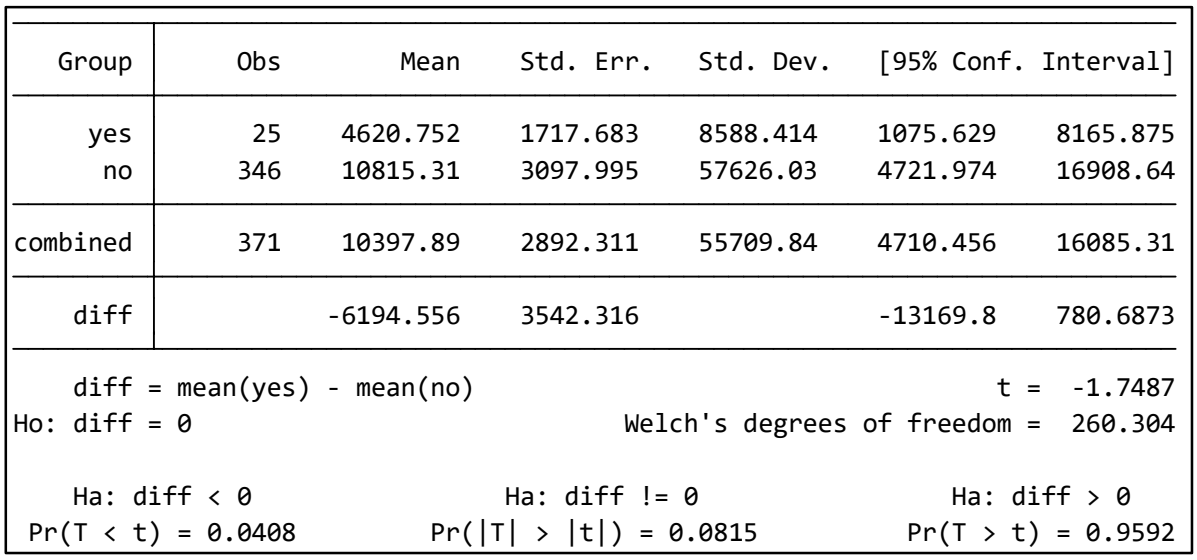
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	3878.963	1298.328	4306.066	986.1084	6771.817
no	360	10597.07	2979.944	56540.46	4736.735	16457.41
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		-6718.112	3250.495		-13120.82	-315.3996

diff = mean(yes) - mean(no) t = -2.0668
Ho: diff = 0 Welch's degrees of freedom = 243.231

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0199 Pr(|T| > |t|) = 0.0398 Pr(T > t) = 0.9801

Appendix F: T-test Statistic Details (continued)

Figure A186: GBE Revenue Capita: Means comparison between subgroup SC and rest of population

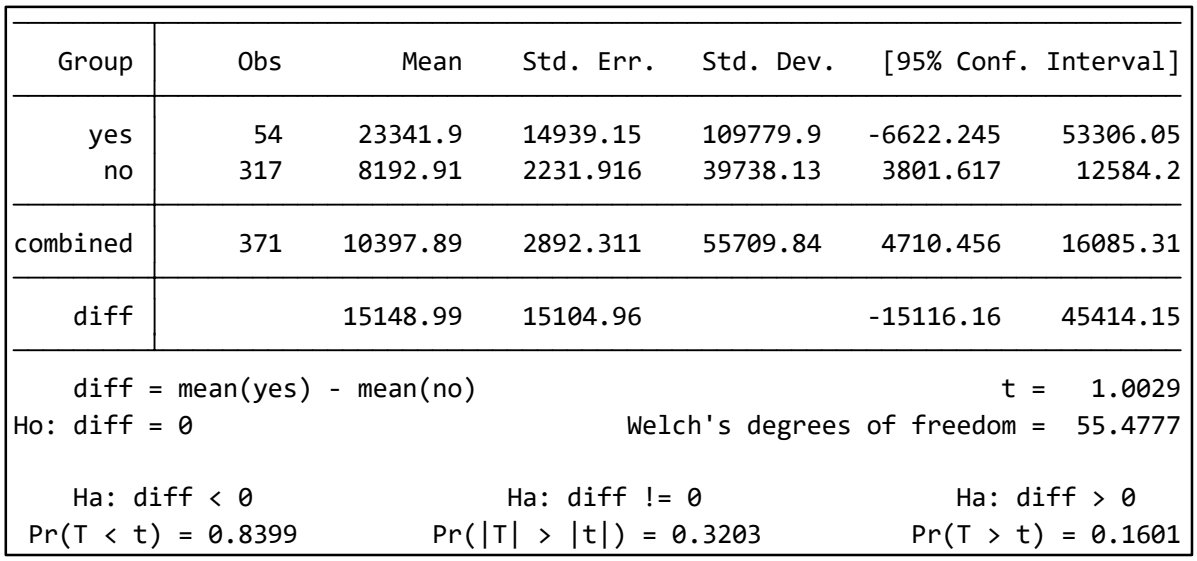


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	25	4620.752	1717.683	8588.414	1075.629	8165.875
no	346	10815.31	3097.995	57626.03	4721.974	16908.64
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		-6194.556	3542.316		-13169.8	780.6873

diff = mean(yes) - mean(no) t = -1.7487
Ho: diff = 0 Welch's degrees of freedom = 260.304

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0408 Pr(|T| > |t|) = 0.0815 Pr(T > t) = 0.9592

Figure A187: GBE Revenue Capita: Means comparison between subgroup SM and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	54	23341.9	14939.15	109779.9	-6622.245	53306.05
no	317	8192.91	2231.916	39738.13	3801.617	12584.2
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		15148.99	15104.96		-15116.16	45414.15

diff = mean(yes) - mean(no) t = 1.0029
Ho: diff = 0 Welch's degrees of freedom = 55.4777

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8399 Pr(|T| > |t|) = 0.3203 Pr(T > t) = 0.1601

Appendix F: T-test Statistic Details (continued)

Figure A188: GBE Revenue Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	16	42744.05	41288.72	165154.9	-45260.78	130748.9
no	355	8940.03	2396.401	45151.66	4227.057	13653
combined	371	10397.89	2892.311	55709.84	4710.456	16085.31
diff		33804.02	41358.21		-54290.68	121898.7

```
    diff = mean(yes) - mean(no)                                   t =   0.8173
Ho: diff = 0                     Welch's degrees of freedom =  15.1147

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7868         Pr(|T| > |t|) = 0.4264          Pr(T > t) = 0.2132
```

Figure A189: GBE Expense Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	25	.1582051	.0911869	.4559345	-.0299955	.3464056
no	346	.2974694	.0455918	.848057	.2077964	.3871423
combined	371	.288085	.0429791	.8278358	.203571	.3725989
diff		-.1392643	.1019493		-.3455733	.0670447

```
    diff = mean(yes) - mean(no)                                   t =  -1.3660
Ho: diff = 0                     Welch's degrees of freedom =  38.4345

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0899         Pr(|T| > |t|) = 0.1799          Pr(T > t) = 0.9101
```

Appendix F: T-test Statistic Details (continued)

Figure A190: GBE Expense Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	30	.1010901	.0350572	.1920161	.0293901	.1727901
no	341	.3045361	.0465615	.8598135	.2129512	.396121
combined	371	.288085	.0429791	.8278358	.203571	.3725989
diff		-.203446	.0582836		-.3184415	-.0884506

diff = mean(yes) - mean(no) t = -3.4906
Ho: diff = 0 Welch's degrees of freedom = 182.728

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0003 Pr(|T| > |t|) = 0.0006 Pr(T > t) = 0.9997

Figure A191: GBE Expense Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	16	.4021925	.3596211	1.438484	-.3643217	1.168707
no	355	.2829421	.0420594	.7924595	.2002244	.3656598
combined	371	.288085	.0429791	.8278358	.203571	.3725989
diff		.1192504	.3620723		-.6504593	.8889601

diff = mean(yes) - mean(no) t = 0.3294
Ho: diff = 0 Welch's degrees of freedom = 15.4681

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.6268 Pr(|T| > |t|) = 0.7463 Pr(T > t) = 0.3732

Appendix F: T-test Statistic Details (continued)

Figure A192: GBE Expense Ratio: Means comparison between subgroup MM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	103	.4129561	.1199519	1.217379	.1750321	.6508801
no	268	.2400935	.0374163	.6125318	.1664249	.3137621
combined	371	.288085	.0429791	.8278358	.203571	.3725989
diff		.1728626	.125652		-.0758626	.4215878

diff = mean(yes) - mean(no) t = 1.3757
Ho: diff = 0 Welch's degrees of freedom = 122.766

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9143 Pr(|T| > |t|) = 0.1714 Pr(T > t) = 0.0857

Figure A193: GBE Expense Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	54	23758.26	15163.75	111430.4	-6656.373	54172.89
no	317	6909.584	1425.092	25373.04	4105.716	9713.451
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		16848.68	15230.57		-13687.1	47384.45

diff = mean(yes) - mean(no) t = 1.1062
Ho: diff = 0 Welch's degrees of freedom = 53.9751

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8632 Pr(|T| > |t|) = 0.2735 Pr(T > t) = 0.1368

Appendix F: T-test Statistic Details (continued)

Figure A194: GBE Expense Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	16	25172.07	23900.05	95600.21	-25769.68	76113.83
no	355	8649.383	2415.686	45515	3898.483	13400.28
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		16522.69	24021.82		-34577.4	67622.78

```
    diff = mean(yes) - mean(no)                                   t =   0.6878
Ho: diff = 0                     Welch's degrees of freedom =   15.349

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7491         Pr(|T| > |t|) = 0.5018          Pr(T > t) = 0.2509
```

Figure A195: GBE Expense Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	36	4505.512	1708.515	10251.09	1037.042	7973.982
no	335	9883.838	2788.464	51037.27	4398.673	15369
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		-5378.326	3270.253		-11816.05	1059.4

```
    diff = mean(yes) - mean(no)                                   t =  -1.6446
Ho: diff = 0                     Welch's degrees of freedom =  276.806

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0506         Pr(|T| > |t|) = 0.1012          Pr(T > t) = 0.9494
```

Appendix F: T-test Statistic Details (continued)

Figure A196: GBE Expense Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	27	5226.947	1151.685	5984.332	2859.624	7594.27
no	344	9686.502	2720.376	50455.46	4335.782	15037.22
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		-4459.555	2954.12		-10270.1	1350.994

diff = mean(yes) - mean(no) t = -1.5096
Ho: diff = 0 Welch's degrees of freedom = 341.709

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0660 Pr(|T| > |t|) = 0.1321 Pr(T > t) = 0.9340

Figure A197: GBE Expense Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	3709.527	1311.723	4350.493	786.8259	6632.227
no	360	9534.665	2600.608	49343.07	4420.325	14649
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		-5825.138	2912.693		-11570.36	-79.91365

diff = mean(yes) - mean(no) t = -1.9999
Ho: diff = 0 Welch's degrees of freedom = 190.747

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0235 Pr(|T| > |t|) = 0.0469 Pr(T > t) = 0.9765

Appendix F: T-test Statistic Details (continued)

Figure A198: GBE Expense Capita: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	30	3823.091	1785.194	9777.91	171.9594	7474.223
no	341	9849.242	2740.657	50609.48	4458.463	15240.02
combined	371	9361.952	2524.193	48619.39	4398.389	14325.51
diff		-6026.151	3270.798		-12470.66	418.3557

diff = mean(yes) - mean(no) t = -1.8424
Ho: diff = 0 Welch's degrees of freedom = 230.342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0334 Pr(|T| > |t|) = 0.0667 Pr(T > t) = 0.9666

Figure A199: Trust Fund Asset Ratio: Means comparison between subgroup LC and rest of population

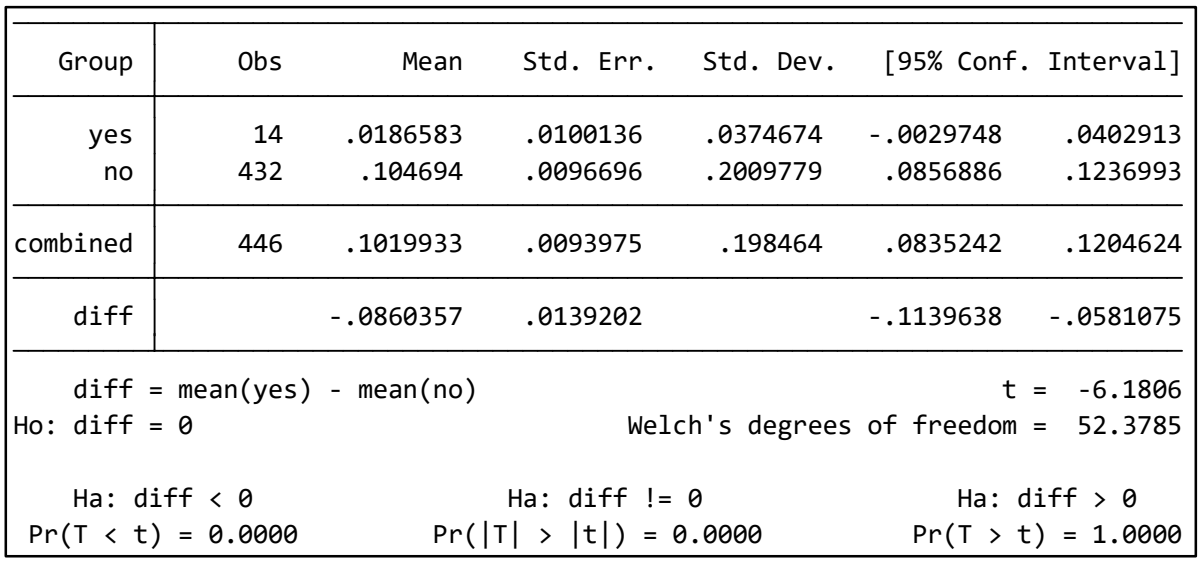
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	.1597136	.0420499	.2692509	.0747275	.2446997
no	405	.09615	.0094065	.1893015	.0776583	.1146417
combined	446	.1019933	.0093975	.198464	.0835242	.1204624
diff		.0635636	.0430892		-.0232605	.1503878

diff = mean(yes) - mean(no) t = 1.4752
Ho: diff = 0 Welch's degrees of freedom = 44.2966

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9264 Pr(|T| > |t|) = 0.1472 Pr(T > t) = 0.0736

Appendix F: T-test Statistic Details (continued)

Figure A200: Trust Fund Asset Ratio: Means comparison between subgroup LR and rest of population

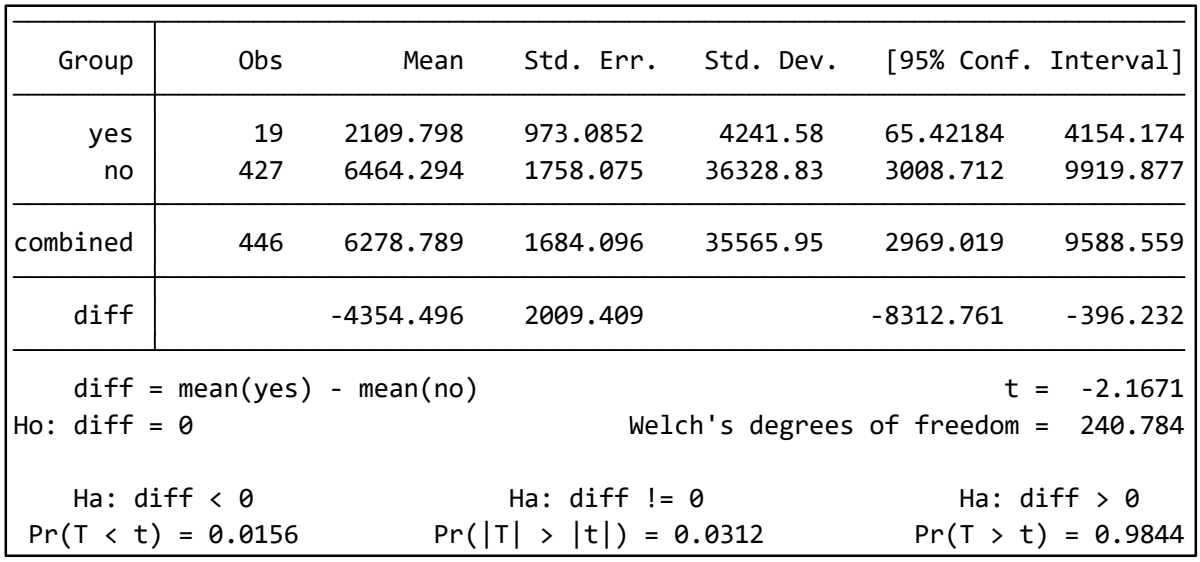


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0186583	.0100136	.0374674	-.0029748	.0402913
no	432	.104694	.0096696	.2009779	.0856886	.1236993
combined	446	.1019933	.0093975	.198464	.0835242	.1204624
diff		-.0860357	.0139202		-.1139638	-.0581075

diff = mean(yes) - mean(no) t = -6.1806
Ho: diff = 0 Welch's degrees of freedom = 52.3785

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A201: Trust Fund Asset Capita: Means comparison between subgroup SR and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	2109.798	973.0852	4241.58	65.42184	4154.174
no	427	6464.294	1758.075	36328.83	3008.712	9919.877
combined	446	6278.789	1684.096	35565.95	2969.019	9588.559
diff		-4354.496	2009.409		-8312.761	-396.232

diff = mean(yes) - mean(no) t = -2.1671
Ho: diff = 0 Welch's degrees of freedom = 240.784

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0156 Pr(|T| > |t|) = 0.0312 Pr(T > t) = 0.9844

Appendix F: T-test Statistic Details (continued)

Figure A202: Trust Fund Asset Capita: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	20669.29	14573.33	98841.13	-8682.904	50021.48
no	400	4623.882	840.1155	16802.31	2972.276	6275.488
combined	446	6278.789	1684.096	35565.95	2969.019	9588.559
diff		16045.41	14597.52		-13349.92	45440.73

```
    diff = mean(yes) - mean(no)                                   t =   1.0992
Ho: diff = 0                     Welch's degrees of freedom =  45.3128

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8613         Pr(|T| > |t|) = 0.2775          Pr(T > t) = 0.1387
```

Figure A203: Trust Fund Asset Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	254.1911	205.4264	768.6353	-189.6057	697.9879
no	432	6474.031	1737.915	36121.88	3058.188	9889.873
combined	446	6278.789	1684.096	35565.95	2969.019	9588.559
diff		-6219.84	1750.013		-9659.249	-2780.43

```
    diff = mean(yes) - mean(no)                                   t =  -3.5542
Ho: diff = 0                     Welch's degrees of freedom =   440.69

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0002         Pr(|T| > |t|) = 0.0004          Pr(T > t) = 0.9998
```

Appendix F: T-test Statistic Details (continued)

Figure A204: Trust Fund Revenue Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.001651	.0009486	.0041348	-.0003418	.0036439
no	427	.0284883	.00358	.0739776	.0214516	.035525
combined	446	.027345	.0034372	.072589	.0205899	.0341002
diff		-.0268373	.0037036		-.0341161	-.0195585

diff = mean(yes) - mean(no) t = -7.2463
Ho: diff = 0 Welch's degrees of freedom = 441.433

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A205: Trust Fund Revenue Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.013187	.0073295	.0497113	-.0015755	.0279494
no	400	.0289732	.0037323	.0746469	.0216357	.0363107
combined	446	.027345	.0034372	.072589	.0205899	.0341002
diff		-.0157863	.0082251		-.0321829	.0006104

diff = mean(yes) - mean(no) t = -1.9193
Ho: diff = 0 Welch's degrees of freedom = 71.9521

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0295 Pr(|T| > |t|) = 0.0589 Pr(T > t) = 0.9705

Appendix F: T-test Statistic Details (continued)

Figure A206: Trust Fund Revenue Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0028405	.0025672	.0096056	-.0027056	.0083866
no	432	.0281392	.0035412	.0736029	.0211789	.0350994
combined	446	.027345	.0034372	.072589	.0205899	.0341002
diff		-.0252987	.0043739		-.0339664	-.016631

```
    diff = mean(yes) - mean(no)                                   t =  -5.7841
Ho: diff = 0                     Welch's degrees of freedom =  110.306

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Figure A207: Trust Fund Revenue Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.003839	.002634	.0149002	-.0015331	.0092111
no	414	.0291619	.0036827	.0749309	.0219228	.036401
combined	446	.027345	.0034372	.072589	.0205899	.0341002
diff		-.0253229	.0045277		-.0342463	-.0163995

```
    diff = mean(yes) - mean(no)                                   t =  -5.5929
Ho: diff = 0                     Welch's degrees of freedom =  218.966

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Appendix F: T-test Statistic Details (continued)

Figure A208: Trust Fund Revenue Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	45.56408	20.43993	89.09558	2.621385	88.50677
no	427	904.6196	166.1169	3432.637	578.1087	1231.13
combined	446	868.023	159.247	3363.092	555.0534	1180.993
diff		-859.0555	167.3697		-1188.005	-530.1056

```
    diff = mean(yes) - mean(no)                                   t =  -5.1327
Ho: diff = 0                     Welch's degrees of freedom =  436.905

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Figure A209: Trust Fund Revenue Capita: Means comparison between subgroup MR and rest of population

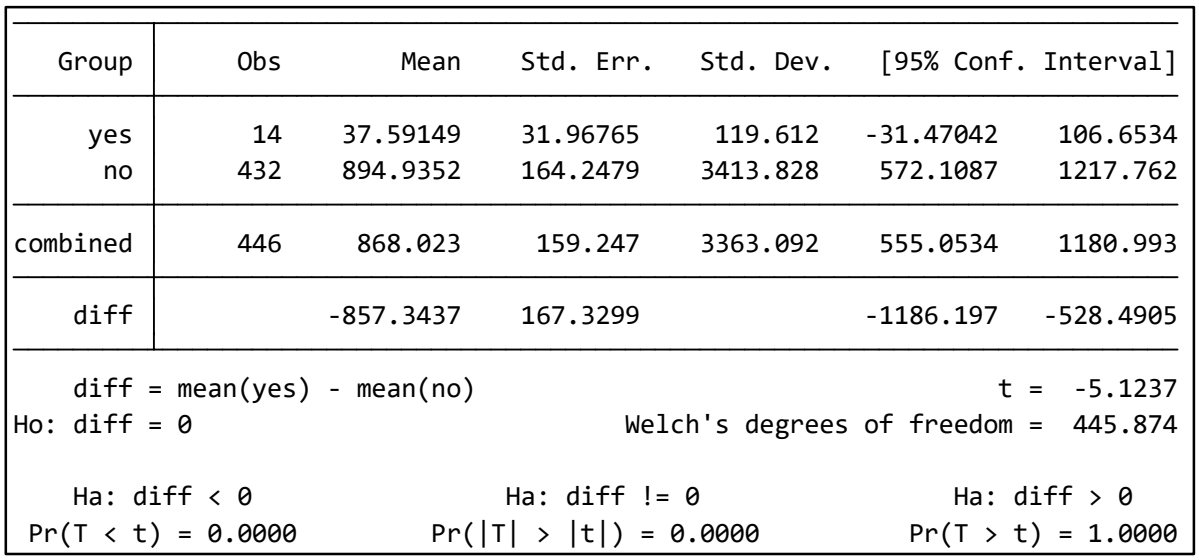
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	382.3685	199.6736	1354.252	-19.79472	784.5316
no	400	923.8733	175.9061	3518.122	578.0547	1269.692
combined	446	868.023	159.247	3363.092	555.0534	1180.993
diff		-541.5048	266.1061		-1067.729	-15.28063

```
    diff = mean(yes) - mean(no)                                   t =  -2.0349
Ho: diff = 0                     Welch's degrees of freedom =  136.487

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0219         Pr(|T| > |t|) = 0.0438          Pr(T > t) = 0.9781
```

Appendix F: T-test Statistic Details (continued)

Figure A210: Trust Fund Revenue Capita: Means comparison between subgroup LR and rest of population

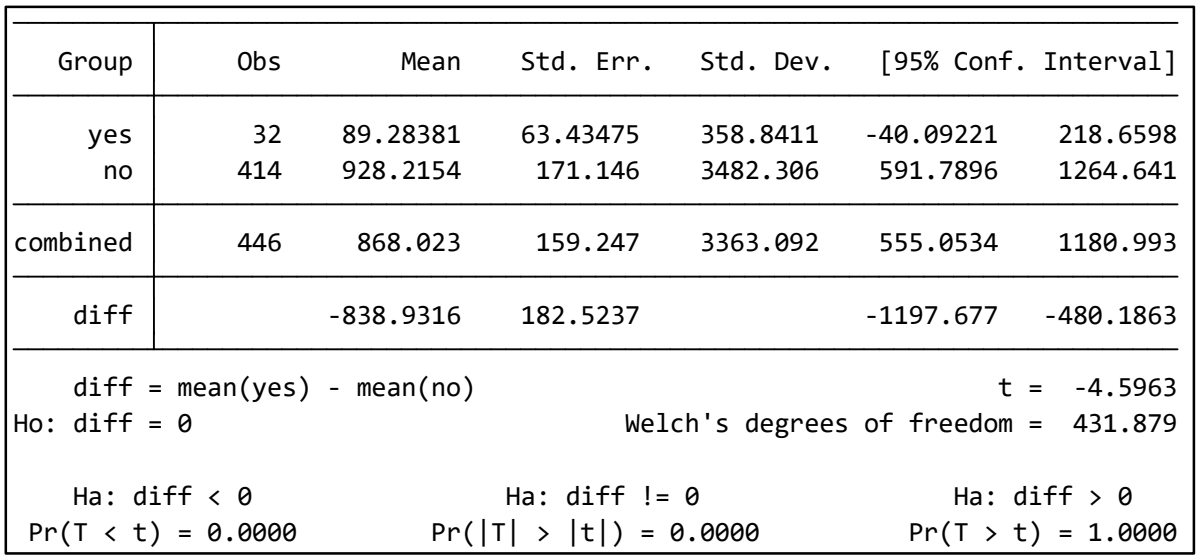


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	37.59149	31.96765	119.612	-31.47042	106.6534
no	432	894.9352	164.2479	3413.828	572.1087	1217.762
combined	446	868.023	159.247	3363.092	555.0534	1180.993
diff		-857.3437	167.3299		-1186.197	-528.4905

diff = mean(yes) - mean(no) t = -5.1237
Ho: diff = 0 Welch's degrees of freedom = 445.874

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A211: Trust Fund Revenue Capita: Means comparison between subgroup SC and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	89.28381	63.43475	358.8411	-40.09221	218.6598
no	414	928.2154	171.146	3482.306	591.7896	1264.641
combined	446	868.023	159.247	3363.092	555.0534	1180.993
diff		-838.9316	182.5237		-1197.677	-480.1863

diff = mean(yes) - mean(no) t = -4.5963
Ho: diff = 0 Welch's degrees of freedom = 431.879

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A212: Tangible Capital Asset (TCA) Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	28	50660.07	7488.865	39627.35	35294.18	66025.95
no	379	44152.64	1955.662	38072.68	40307.3	47997.98
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		6507.424	7740.007		-9276.81	22291.66

```
    diff = mean(yes) - mean(no)                                   t =   0.8408
Ho: diff = 0                     Welch's degrees of freedom =  31.0785

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7965         Pr(|T| > |t|) = 0.4069          Pr(T > t) = 0.2035
```

Figure A213: TCA Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	56	65208.58	5933.779	44404.34	53317.02	77100.14
no	351	41312.4	1925.349	36071.4	37525.69	45099.11
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		23896.18	6238.326		11446.15	36346.2

```
    diff = mean(yes) - mean(no)                                   t =   3.8305
Ho: diff = 0                     Welch's degrees of freedom =  67.5093

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9999         Pr(|T| > |t|) = 0.0003          Pr(T > t) = 0.0001
```

Appendix F: T-test Statistic Details (continued)

Figure A214: TCA Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	15	93627.86	25829.42	100036.9	38229.26	149026.5
no	392	42724.27	1643.271	32535.1	39493.52	45955.03
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		50903.59	25881.64		-4559.226	106366.4

```
    diff = mean(yes) - mean(no)                                   t =   1.9668
Ho: diff = 0                     Welch's degrees of freedom =  14.1298

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9654         Pr(|T| > |t|) = 0.0692          Pr(T > t) = 0.0346
```

Figure A215: TCA Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	40	27962.46	3113.416	19690.97	21664.98	34259.94
no	367	46413.72	2049.156	39256.19	42384.12	50443.32
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		-18451.26	3727.251		-25868.03	-11034.48

```
    diff = mean(yes) - mean(no)                                   t =  -4.9504
Ho: diff = 0                     Welch's degrees of freedom =  80.4905

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Appendix F: T-test Statistic Details (continued)

Figure A216: TCA Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	33	25542.56	1947.39	11186.9	21575.86	29509.26
no	374	46281.89	2029.123	39241.37	42291.94	50271.85
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		-20739.33	2812.413		-26302.71	-15175.96

```
    diff = mean(yes) - mean(no)                                   t =  -7.3742
Ho: diff = 0                     Welch's degrees of freedom =  131.624

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Figure A217: TCA Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	25671.91	2728.969	9050.965	19591.39	31752.44
no	396	45126.12	1936.459	38535.04	41319.06	48933.17
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		-19454.2	3346.213		-26346.97	-12561.43

```
    diff = mean(yes) - mean(no)                                   t =  -5.8138
Ho: diff = 0                     Welch's degrees of freedom =  24.9207

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Appendix F: T-test Statistic Details (continued)

Figure A218: Gross Cash Outflow From Capital Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	15	.7452518	.0573468	.2221032	.6222551	.8682484
no	391	.5250584	.015574	.3079562	.4944389	.5556779
combined	406	.5331936	.0152773	.3078298	.5031608	.5632264
diff		.2201934	.0594239		.0944955	.3458912

diff = mean(yes) - mean(no) t = 3.7055
Ho: diff = 0 Welch's degrees of freedom = 16.4431

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9991 Pr(|T| > |t|) = 0.0018 Pr(T > t) = 0.0009

Figure A219: Gross Cash Outflow From Capital Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	40	-3251.128	826.0412	5224.343	-4921.954	-1580.302
no	367	-4338.933	356.6267	6831.984	-5040.228	-3637.639
combined	407	-4232.024	331.7896	6693.603	-4884.264	-3579.784
diff		1087.805	899.737		-714.953	2890.564

diff = mean(yes) - mean(no) t = 1.2090
Ho: diff = 0 Welch's degrees of freedom = 55.4859

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8841 Pr(|T| > |t|) = 0.2318 Pr(T > t) = 0.1159

Appendix F: T-test Statistic Details (continued)

Figure A220: Gross Cash Outflow From Capital Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	33	-2422.758	482.8035	2773.495	-3406.197	-1439.32
no	374	-4391.665	357.4761	6913.26	-5094.586	-3688.743
combined	407	-4232.024	331.7896	6693.603	-4884.264	-3579.784
diff		1968.906	600.7399		772.7631	3165.049

diff = mean(yes) - mean(no) t = 3.2775
Ho: diff = 0 Welch's degrees of freedom = 77.3355

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9992 Pr(|T| > |t|) = 0.0016 Pr(T > t) = 0.0008

Figure A221: Gross Cash Outflow From Capital Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	-2910.931	1457.894	4835.289	-6159.323	337.4601
no	396	-4268.721	338.6328	6738.708	-4934.469	-3602.972
combined	407	-4232.024	331.7896	6693.603	-4884.264	-3579.784
diff		1357.789	1496.706		-1924.818	4640.396

diff = mean(yes) - mean(no) t = 0.9072
Ho: diff = 0 Welch's degrees of freedom = 11.3286

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8084 Pr(|T| > |t|) = 0.3832 Pr(T > t) = 0.1916

Appendix F: T-test Statistic Details (continued)

Figure A222: Gross Cash Outflow From Capital Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	56	-5948.245	1147.819	8589.488	-8248.525	-3647.965
no	351	-3958.21	336.873	6311.313	-4620.76	-3295.66
combined	407	-4232.024	331.7896	6693.603	-4884.264	-3579.784
diff		-1990.035	1196.232		-4378.963	398.893

diff = mean(yes) - mean(no) t = -1.6636
Ho: diff = 0 Welch's degrees of freedom = 65.1617

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0505 Pr(|T| > |t|) = 0.1010 Pr(T > t) = 0.9495

Figure A223: Gross Cash Outflow From Capital Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	15	-7927.362	3298.896	12776.57	-15002.79	-851.9327
no	392	-4090.62	319.9741	6335.164	-4719.705	-3461.535
combined	407	-4232.024	331.7896	6693.603	-4884.264	-3579.784
diff		-3836.741	3314.378		-10931.3	3257.817

diff = mean(yes) - mean(no) t = -1.1576
Ho: diff = 0 Welch's degrees of freedom = 14.3024

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1330 Pr(|T| > |t|) = 0.2660 Pr(T > t) = 0.8670

Appendix F: T-test Statistic Details (continued)

Figure A224: Net Cash Flow From Capital Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	33	-2382.55	481.4553	2765.75	-3363.243	-1401.858
no	374	-4296.435	359.0613	6943.915	-5002.473	-3590.397
combined	407	-4141.255	333.1602	6721.254	-4796.19	-3486.321
diff		1913.885	600.6032		718.198	3109.571

```
    diff = mean(yes) - mean(no)                                   t =   3.1866
Ho: diff = 0                     Welch's degrees of freedom =  78.0926

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9990         Pr(|T| > |t|) = 0.0021          Pr(T > t) = 0.0010
```

Figure A225: Net Cash Flow From Capital Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	11	-2910.931	1457.894	4835.289	-6159.323	337.4601
no	396	-4175.431	340.076	6767.427	-4844.016	-3506.846
combined	407	-4141.255	333.1602	6721.254	-4796.19	-3486.321
diff		1264.5	1497.033		-2018.427	4547.426

```
    diff = mean(yes) - mean(no)                                   t =   0.8447
Ho: diff = 0                     Welch's degrees of freedom =  11.3402

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7921         Pr(|T| > |t|) = 0.4158          Pr(T > t) = 0.2079
```

Appendix F: T-test Statistic Details (continued)

Figure A226: Net Cash Flow From Capital Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	56	-5850.709	1148.442	8594.152	-8152.238	-3549.18
no	351	-3868.522	338.6527	6344.656	-4534.572	-3202.472
combined	407	-4141.255	333.1602	6721.254	-4796.19	-3486.321
diff		-1982.187	1197.332		-4373.243	408.8686

diff = mean(yes) - mean(no) t = -1.6555
Ho: diff = 0 Welch's degrees of freedom = 65.2614

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0513 Pr(|T| > |t|) = 0.1026 Pr(T > t) = 0.9487

Figure A227: Net Cash Flow From Capital Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	15	-7900.438	3299.957	12780.68	-14978.14	-822.7342
no	392	-3997.409	321.4157	6363.706	-4629.328	-3365.49
combined	407	-4141.255	333.1602	6721.254	-4796.19	-3486.321
diff		-3903.028	3315.573		-11000.03	3193.972

diff = mean(yes) - mean(no) t = -1.1772
Ho: diff = 0 Welch's degrees of freedom = 14.305

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1292 Pr(|T| > |t|) = 0.2583 Pr(T > t) = 0.8708

Appendix F: T-test Statistic Details (continued)

Figure A228: Net Cash Flow From Operating Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	9058.596	2205.335	12475.26	4560.785	13556.41
no	414	4088.692	419.4167	8533.867	3264.234	4913.15
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		4969.904	2244.864		404.9073	9534.901

diff = mean(yes) - mean(no) t = 2.2139
Ho: diff = 0 Welch's degrees of freedom = 33.4267

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9831 Pr(|T| > |t|) = 0.0338 Pr(T > t) = 0.0169

Figure A229: Net Cash Flow From Operating Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	65	9559.747	1958.717	15791.68	5646.76	13472.73
no	381	3572.73	349.504	6822.046	2885.526	4259.934
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		5987.018	1989.655		2016.995	9957.041

diff = mean(yes) - mean(no) t = 3.0091
Ho: diff = 0 Welch's degrees of freedom = 68.2574

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9982 Pr(|T| > |t|) = 0.0037 Pr(T > t) = 0.0018

Appendix F: T-test Statistic Details (continued)

Figure A230: Net Cash Flow From Operating Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	6495.937	3081.999	13434.12	20.89847	12970.98
no	427	4354.03	421.413	8708.068	3525.722	5182.337
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		2141.908	3110.676		-4374.585	8658.4

diff = mean(yes) - mean(no) t = 0.6886
Ho: diff = 0 Welch's degrees of freedom = 18.7545

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.7502 Pr(|T| > |t|) = 0.4995 Pr(T > t) = 0.2498

Figure A231: Net Cash Flow From Operating Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	2176.913	456.3303	2921.94	1254.635	3099.191
no	405	4674.914	462.9135	9315.955	3764.894	5584.934
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		-2498.001	650.0202		-3782.118	-1213.884

diff = mean(yes) - mean(no) t = -3.8430
Ho: diff = 0 Welch's degrees of freedom = 153.845

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Appendix F: T-test Statistic Details (continued)

Figure A232: Net Cash Flow From Operating Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	359.3008	675.5992	3939.386	-1015.216	1733.818
no	412	4782.469	451.4377	9163.185	3895.054	5669.884
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		-4423.168	812.5456		-6043.733	-2802.604

diff = mean(yes) - mean(no) t = -5.4436
Ho: diff = 0 Welch's degrees of freedom = 70.0156

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A233: Net Cash Flow From Operating Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	2621.103	1325.708	4960.347	-242.9164	5485.122
no	432	4504.394	435.22	9045.878	3648.976	5359.811
combined	446	4445.277	423.7364	8948.767	3612.504	5278.05
diff		-1883.291	1395.321		-4835.384	1068.802

diff = mean(yes) - mean(no) t = -1.3497
Ho: diff = 0 Welch's degrees of freedom = 16.4001

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0977 Pr(|T| > |t|) = 0.1954 Pr(T > t) = 0.9023

Appendix F: T-test Statistic Details (continued)

Figure A234: Gross Cash Inflows From Investing Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	25	.4549919	.0946097	.4730484	.2597271	.6502567
no	353	.2925757	.0205214	.3855614	.2522157	.3329356
combined	378	.3033175	.0202288	.3932924	.2635421	.3430928
diff		.1624162	.0968097		-.0363966	.3612291

diff = mean(yes) - mean(no) t = 1.6777
Ho: diff = 0 Welch's degrees of freedom = 26.4994

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9474 Pr(|T| > |t|) = 0.1052 Pr(T > t) = 0.0526

Figure A235: Gross Cash Inflows From Investing Ratio: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	39	.3856417	.0677159	.4228856	.2485581	.5227254
no	339	.2938465	.0211435	.3892931	.2522571	.3354359
combined	378	.3033175	.0202288	.3932924	.2635421	.3430928
diff		.0917952	.07094		-.0509892	.2345796

diff = mean(yes) - mean(no) t = 1.2940
Ho: diff = 0 Welch's degrees of freedom = 46.1258

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8989 Pr(|T| > |t|) = 0.2021 Pr(T > t) = 0.1011

Appendix F: T-test Statistic Details (continued)

Figure A236: Gross Cash Inflows From Investing Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	429.4663	381.4575	1662.735	-371.9462	1230.879
no	427	2401.282	588.0565	12151.59	1245.428	3557.135
combined	446	2317.281	563.5155	11900.72	1209.798	3424.763
diff		-1971.815	700.9424		-3355.02	-588.6106

diff = mean(yes) - mean(no) t = -2.8131
Ho: diff = 0 Welch's degrees of freedom = 178.407

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0027 Pr(|T| > |t|) = 0.0055 Pr(T > t) = 0.9973

Figure A237: Gross Cash Inflows From Investing Capita: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	1079.993	389.4632	2641.468	295.5737	1864.412
no	400	2459.569	626.4412	12528.82	1228.031	3691.106
combined	446	2317.281	563.5155	11900.72	1209.798	3424.763
diff		-1379.576	737.6382		-2830.533	71.38085

diff = mean(yes) - mean(no) t = -1.8703
Ho: diff = 0 Welch's degrees of freedom = 336.908

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0312 Pr(|T| > |t|) = 0.0623 Pr(T > t) = 0.9688

Appendix F: T-test Statistic Details (continued)

Figure A238: Gross Cash Inflows From Investing Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	176.2821	117.9978	441.5073	-78.63663	431.2008
no	432	2386.665	581.4812	12085.86	1243.773	3529.556
combined	446	2317.281	563.5155	11900.72	1209.798	3424.763
diff		-2210.383	593.3328		-3376.462	-1044.304

diff = mean(yes) - mean(no) t = -3.7254
Ho: diff = 0 Welch's degrees of freedom = 445.491

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Figure A239: Gross Cash Inflows From Investing Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	5476.19	3350.684	18954.33	-1357.574	12309.95
no	414	2073.114	549.0463	11171.44	993.8398	3152.387
combined	446	2317.281	563.5155	11900.72	1209.798	3424.763
diff		3403.077	3395.369		-3506.503	10312.66

diff = mean(yes) - mean(no) t = 1.0023
Ho: diff = 0 Welch's degrees of freedom = 32.7939

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8382 Pr(|T| > |t|) = 0.3236 Pr(T > t) = 0.1618

Appendix F: T-test Statistic Details (continued)

Figure A240: Gross Cash Outflows From Investing Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.0445929	.0257092	.1120636	-.00942	.0986059
no	426	.1471079	.0122825	.2535083	.1229658	.1712499
combined	445	.1427308	.011847	.2499119	.1194477	.1660139
diff		-.1025149	.0284925		-.1608699	-.0441599

```
    diff = mean(yes) - mean(no)                                   t =  -3.5980
Ho: diff = 0                     Welch's degrees of freedom =  28.0982

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0006         Pr(|T| > |t|) = 0.0012          Pr(T > t) = 0.9994
```

Figure A241: Gross Cash Outflows From Investing Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.0578944	.0217372	.1474291	.0141134	.1016754
no	399	.1525115	.0128895	.257467	.1271715	.1778514
combined	445	.1427308	.011847	.2499119	.1194477	.1660139
diff		-.0946171	.0252714		-.1448843	-.0443499

```
    diff = mean(yes) - mean(no)                                   t =  -3.7440
Ho: diff = 0                     Welch's degrees of freedom =  82.6326

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0002         Pr(|T| > |t|) = 0.0003          Pr(T > t) = 0.9998
```

Appendix F: T-test Statistic Details (continued)

Figure A242: Gross Cash Outflows From Investing Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0386012	.0181872	.0680502	-.0006898	.0778922
no	431	.1461132	.0121843	.2529524	.1221651	.1700614
combined	445	.1427308	.011847	.2499119	.1194477	.1660139
diff		-.107512	.0218913		-.1522671	-.062757

```
    diff = mean(yes) - mean(no)                                   t =  -4.9112
Ho: diff = 0                     Welch's degrees of freedom =  29.2674

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Figure A243: Gross Cash Outflows From Investing Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.2255234	.0617041	.3490512	.0996771	.3513698
no	413	.1363159	.0118061	.2399291	.1131081	.1595237
combined	445	.1427308	.011847	.2499119	.1194477	.1660139
diff		.0892075	.0628234		-.0385414	.2169565

```
    diff = mean(yes) - mean(no)                                   t =   1.4200
Ho: diff = 0                     Welch's degrees of freedom =  33.4566

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9176         Pr(|T| > |t|) = 0.1649          Pr(T > t) = 0.0824
```

Appendix F: T-test Statistic Details (continued)

Figure A244: Gross Cash Outflows From Investing Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	-374.96	203.458	886.853	-802.4095	52.48946
no	427	-3087.432	634.3613	13108.43	-4334.3	-1840.565
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		2712.472	666.1903		1403.012	4021.933

diff = mean(yes) - mean(no) t = 4.0716
Ho: diff = 0 Welch's degrees of freedom = 422.464

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 0.0000

Figure A245: Gross Cash Outflows From Investing Capita: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	-1133.383	936.0401	6348.533	-3018.665	751.8984
no	400	-3183.306	668.673	13373.46	-4497.868	-1868.743
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		2049.923	1150.345		-231.7731	4331.618

diff = mean(yes) - mean(no) t = 1.7820
Ho: diff = 0 Welch's degrees of freedom = 102.034

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9611 Pr(|T| > |t|) = 0.0777 Pr(T > t) = 0.0389

Appendix F: T-test Statistic Details (continued)

Figure A246: Gross Cash Outflows From Investing Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	-191.6574	111.4237	416.9095	-432.3737	49.059
no	432	-3061.978	627.1563	13035.2	-4294.644	-1829.313
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		2870.321	636.9775		1618.47	4122.172

diff = mean(yes) - mean(no) t = 4.5062
Ho: diff = 0 Welch's degrees of freedom = 445.885

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A247: Gross Cash Outflows From Investing Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	-1214.673	461.3753	2954.243	-2147.147	-282.199
no	405	-3149.769	667.3056	13429.27	-4461.593	-1837.944
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		1935.095	811.273		337.9852	3532.206

diff = mean(yes) - mean(no) t = 2.3853
Ho: diff = 0 Welch's degrees of freedom = 274.392

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9911 Pr(|T| > |t|) = 0.0177 Pr(T > t) = 0.0089

Appendix F: T-test Statistic Details (continued)

Figure A248: Gross Cash Outflows From Investing Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	-1079.248	428.1236	2496.368	-1950.272	-208.2242
no	412	-3128.067	656.6335	13328.21	-4418.846	-1837.288
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		2048.818	783.8733		505.4267	3592.21

```
    diff = mean(yes) - mean(no)                                   t =   2.6137
Ho: diff = 0                     Welch's degrees of freedom =  265.772

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9953         Pr(|T| > |t|) = 0.0095          Pr(T > t) = 0.0047
```

Figure A249: Gross Cash Outflows From Investing Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	-8805.247	4220.5	23874.75	-17413.01	-197.4816
no	414	-2520.99	564.6016	11487.94	-3630.841	-1411.139
combined	446	-2971.879	607.9202	12838.49	-4166.63	-1777.127
diff		-6284.257	4258.097		-14955.7	2387.187

```
    diff = mean(yes) - mean(no)                                   t =  -1.4758
Ho: diff = 0                     Welch's degrees of freedom =  32.1908

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0749         Pr(|T| > |t|) = 0.1497          Pr(T > t) = 0.9251
```

Appendix F: T-test Statistic Details (continued)

Figure A250: Earned Revenue Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.3191751	.048195	.2726318	.2208809	.4174694
no	414	.1895742	.009479	.1928685	.1709411	.2082072
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		.129601	.0491183		.0297366	.2294653

diff = mean(yes) - mean(no) t = 2.6385
Ho: diff = 0 Welch's degrees of freedom = 33.5982

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9937 Pr(|T| > |t|) = 0.0125 Pr(T > t) = 0.0063

Figure A251: Earned Revenue Ratio: Means comparison between subgroup MC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	76	.2801405	.0266453	.2322881	.2270604	.3332206
no	370	.1821801	.009949	.1913729	.1626162	.2017439
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		.0979604	.0284421		.0415148	.154406

diff = mean(yes) - mean(no) t = 3.4442
Ho: diff = 0 Welch's degrees of freedom = 97.5654

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9996 Pr(|T| > |t|) = 0.0008 Pr(T > t) = 0.0004

Appendix F: T-test Statistic Details (continued)

Figure A252: Earned Revenue Ratio: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	.2489387	.0334826	.2143931	.1812679	.3166095
no	405	.1938045	.0099547	.2003353	.1742349	.2133741
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		.0551342	.0349311		-.0151103	.1253788

diff = mean(yes) - mean(no) t = 1.5784
Ho: diff = 0 Welch's degrees of freedom = 47.7131

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9395 Pr(|T| > |t|) = 0.1211 Pr(T > t) = 0.0605

Figure A253: Earned Revenue Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.0789281	.0489879	.2135331	-.0239915	.1818478
no	427	.20421	.0096843	.2001157	.1851751	.2232449
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		-.1252819	.0499359		-.2295855	-.0209782

diff = mean(yes) - mean(no) t = -2.5089
Ho: diff = 0 Welch's degrees of freedom = 19.5922

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0105 Pr(|T| > |t|) = 0.0210 Pr(T > t) = 0.9895

Appendix F: T-test Statistic Details (continued)

Figure A254: Earned Revenue Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.1270616	.0241997	.1641306	.0783208	.1758024
no	400	.2071312	.0102259	.2045181	.1870278	.2272346
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		-.0800696	.0262716		-.1325685	-.0275707

diff = mean(yes) - mean(no) t = -3.0478
Ho: diff = 0 Welch's degrees of freedom = 63.04

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0017 Pr(|T| > |t|) = 0.0034 Pr(T > t) = 0.9983

Figure A255: Earned Revenue Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.1144611	.0363167	.1358846	.0360037	.1929185
no	432	.2016085	.0097838	.2033532	.1823785	.2208384
combined	446	.1988729	.0095671	.2020456	.1800705	.2176753
diff		-.0871474	.0376115		-.1671986	-.0070961

diff = mean(yes) - mean(no) t = -2.3170
Ho: diff = 0 Welch's degrees of freedom = 15.2532

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0174 Pr(|T| > |t|) = 0.0348 Pr(T > t) = 0.9826

Appendix F: T-test Statistic Details (continued)

Figure A256: Earned Revenue Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	6506.204	1487.059	9521.822	3500.746	9511.662
no	405	8131.306	747.0836	15034.77	6662.649	9599.962
combined	446	7981.913	692.0243	14614.66	6621.871	9341.955
diff		-1625.102	1664.175		-4950.233	1700.029

diff = mean(yes) - mean(no) t = -0.9765
Ho: diff = 0 Welch's degrees of freedom = 63.4455

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1663 Pr(|T| > |t|) = 0.3325 Pr(T > t) = 0.8337

Figure A257: Earned Revenue Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	3744.118	619.7482	3613.722	2483.231	5005.005
no	412	8331.634	744.8865	15119.55	6867.371	9795.896
combined	446	7981.913	692.0243	14614.66	6621.871	9341.955
diff		-4587.516	968.9911		-6499.873	-2675.158

diff = mean(yes) - mean(no) t = -4.7343
Ho: diff = 0 Welch's degrees of freedom = 175.731

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A258: Earned Revenue Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	2455.218	1064.904	3984.505	154.633	4755.803
no	432	8161.019	712.0378	14799.43	6761.52	9560.517
combined	446	7981.913	692.0243	14614.66	6621.871	9341.955
diff		-5705.801	1281.022		-8325.027	-3086.575

diff = mean(yes) - mean(no) t = -4.4541
Ho: diff = 0 Welch's degrees of freedom = 29.1946

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 0.9999

Figure A259: Earned Revenue Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	20437.85	4937.55	27931	10367.65	30508.05
no	414	7019.135	619.0011	12594.81	5802.349	8235.921
combined	446	7981.913	692.0243	14614.66	6621.871	9341.955
diff		13418.71	4976.2		3283.081	23554.34

diff = mean(yes) - mean(no) t = 2.6966
Ho: diff = 0 Welch's degrees of freedom = 32.0448

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9945 Pr(|T| > |t|) = 0.0111 Pr(T > t) = 0.0055

Appendix F: T-test Statistic Details (continued)

Figure A260: Earned and Other Revenue Ratio: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	.4275272	.0449843	.2544698	.3357811	.5192734
no	414	.3298052	.010759	.2189138	.3086559	.3509545
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		.097722	.0462531		.0038111	.1916329

diff = mean(yes) - mean(no) t = 2.1128
Ho: diff = 0 Welch's degrees of freedom = 34.8738

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9791 Pr(|T| > |t|) = 0.0419 Pr(T > t) = 0.0209

Figure A261: Earned and Other Revenue Ratio: Means comparison between subgroup MC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	76	.4199893	.0267897	.2335469	.3666215	.473357
no	370	.3197326	.0112758	.2168937	.2975597	.3419054
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		.1002567	.0290659		.0426179	.1578955

diff = mean(yes) - mean(no) t = 3.4493
Ho: diff = 0 Welch's degrees of freedom = 104.008

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9996 Pr(|T| > |t|) = 0.0008 Pr(T > t) = 0.0004

Appendix F: T-test Statistic Details (continued)

Figure A262: Earned and Other Revenue Ratio: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	.3833561	.0351527	.2250872	.3123098	.4544024
no	405	.3321053	.0110446	.222269	.3103931	.3538174
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		.0512508	.036847		-.0228094	.125311

diff = mean(yes) - mean(no) t = 1.3909
Ho: diff = 0 Welch's degrees of freedom = 48.6503

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9147 Pr(|T| > |t|) = 0.1706 Pr(T > t) = 0.0853

Figure A263: Earned and Other Revenue Ratio: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.2767485	.0575025	.2506474	.1559403	.3975567
no	427	.3394895	.0107141	.2213962	.3184304	.3605486
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		-.062741	.0584921		-.1849909	.0595089

diff = mean(yes) - mean(no) t = -1.0726
Ho: diff = 0 Welch's degrees of freedom = 19.4116

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1483 Pr(|T| > |t|) = 0.2966 Pr(T > t) = 0.8517

Appendix F: T-test Statistic Details (continued)

Figure A264: Earned and Other Revenue Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.2586841	.0306043	.2075686	.1970439	.3203244
no	400	.3458019	.0111471	.2229414	.3238876	.3677162
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		-.0871177	.0325712		-.1523119	-.0219236

```
    diff = mean(yes) - mean(no)                                   t =  -2.6747
Ho: diff = 0                     Welch's degrees of freedom =  58.1736

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0048         Pr(|T| > |t|) = 0.0097          Pr(T > t) = 0.9952
```

Figure A265: Earned and Other Revenue Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.2143025	.0408651	.1529034	.1260187	.3025862
no	432	.340787	.0107614	.2236716	.3196357	.3619384
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		-.1264846	.0422583		-.2164786	-.0364905

```
    diff = mean(yes) - mean(no)                                   t =  -2.9931
Ho: diff = 0                     Welch's degrees of freedom =  15.1497

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0045         Pr(|T| > |t|) = 0.0090          Pr(T > t) = 0.9955
```

Appendix F: T-test Statistic Details (continued)

Figure A266: Earned and Other Revenue Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	23975.76	5030.026	28454.12	13716.96	34234.56
no	414	12460.09	1032.011	20998.32	10431.44	14488.74
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		11515.67	5134.803		1078.584	21952.76

```
    diff = mean(yes) - mean(no)                                   t =   2.2427
Ho: diff = 0                     Welch's degrees of freedom =  33.8317

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9842         Pr(|T| > |t|) = 0.0316          Pr(T > t) = 0.0158
```

Figure A267: Earned and Other Revenue Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	65	18895.22	2680.072	21607.43	13541.16	24249.28
no	381	12329.43	1111.505	21695.71	10143.96	14514.9
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		6565.794	2901.419		800.0128	12331.58

```
    diff = mean(yes) - mean(no)                                   t =   2.2630
Ho: diff = 0                     Welch's degrees of freedom =  88.1956

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9870         Pr(|T| > |t|) = 0.0261          Pr(T > t) = 0.0130
```

Appendix F: T-test Statistic Details (continued)

Figure A268: Earned and Other Revenue Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	21481.57	9387.32	40918.38	1759.544	41203.6
no	427	12921.67	993.849	20536.87	10968.21	14875.12
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		8559.905	9439.783		-11237.67	28357.48

diff = mean(yes) - mean(no) t = 0.9068
Ho: diff = 0 Welch's degrees of freedom = 18.4507

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8119 Pr(|T| > |t|) = 0.3762 Pr(T > t) = 0.1881

Figure A269: Earned and Other Revenue Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	9017.795	1610.894	10314.75	5762.057	12273.53
no	405	13718.45	1122.23	22584.45	11512.31	15924.59
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		-4700.653	1963.258		-8601.934	-799.3707

diff = mean(yes) - mean(no) t = -2.3943
Ho: diff = 0 Welch's degrees of freedom = 88.4556

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0094 Pr(|T| > |t|) = 0.0188 Pr(T > t) = 0.9906

Appendix F: T-test Statistic Details (continued)

Figure A270: Earned and Other Revenue Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	9096.181	2849.102	16612.98	3299.639	14892.72
no	412	13632.11	1090.553	22135.82	11488.36	15775.87
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		-4535.932	3050.687		-10684.49	1612.625

```
    diff = mean(yes) - mean(no)                                   t =  -1.4869
Ho: diff = 0                     Welch's degrees of freedom =  43.9237

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0721         Pr(|T| > |t|) = 0.1442          Pr(T > t) = 0.9279
```

Figure A271: Earned and Other Revenue Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	4972.859	1319.568	4937.371	2122.106	7823.612
no	432	13555.74	1061.571	22064.33	11469.24	15642.24
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		-8582.884	1693.574		-12011	-5154.768

```
    diff = mean(yes) - mean(no)                                   t =  -5.0679
Ho: diff = 0                     Welch's degrees of freedom =  38.1166

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Appendix F: T-test Statistic Details (continued)

Figure A272: Federal & Provincial Government Revenue Ratio: Means comparison between subgroup MR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	46	.6694749	.0340236	.2307591	.6009479	.7380019
no	400	.5537656	.0112453	.2249069	.531658	.5758731
combined	446	.5656997	.0107957	.227992	.5444828	.5869167
diff		.1157093	.0358338		.0439184	.1875002

diff = mean(yes) - mean(no) t = 3.2291
Ho: diff = 0 Welch's degrees of freedom = 55.7488

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9990 Pr(|T| > |t|) = 0.0021 Pr(T > t) = 0.0010

Figure A273: Federal & Provincial Government Revenue Ratio: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.7590109	.0438628	.1641195	.6642512	.8537707
no	432	.559435	.0109294	.2271634	.5379534	.5809166
combined	446	.5656997	.0107957	.227992	.5444828	.5869167
diff		.1995759	.0452039		.10318	.2959719

diff = mean(yes) - mean(no) t = 4.4150
Ho: diff = 0 Welch's degrees of freedom = 14.9182

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9997 Pr(|T| > |t|) = 0.0005 Pr(T > t) = 0.0003

Appendix F: T-test Statistic Details (continued)

Figure A274: Federal & Provincial Government Revenue Capita: Means comparison between subgroup SC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	32	19334.75	2240.945	12676.7	14764.31	23905.18
no	414	16164.13	593.6364	12078.71	14997.2	17331.06
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		3170.616	2318.241		-1532.001	7873.234

diff = mean(yes) - mean(no) t = 1.3677
Ho: diff = 0 Welch's degrees of freedom = 35.7792

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9100 Pr(|T| > |t|) = 0.1799 Pr(T > t) = 0.0900

Figure A275: Federal & Provincial Government Revenue Capita: Means comparison between subgroup SM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	65	22629.55	2107.241	16989.12	18419.85	26839.25
no	381	15327.4	551.918	10773.01	14242.21	16412.6
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		7302.147	2178.32		2961.065	11643.23

diff = mean(yes) - mean(no) t = 3.3522
Ho: diff = 0 Welch's degrees of freedom = 73.3045

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9994 Pr(|T| > |t|) = 0.0013 Pr(T > t) = 0.0006

Appendix F: T-test Statistic Details (continued)

Figure A276: Federal & Provincial Government Revenue Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	28378.34	6111.195	26638.08	15539.2	41217.49
no	427	15858.25	523.817	10824.14	14828.66	16887.84
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		12520.09	6133.603		-351.2595	25391.44

diff = mean(yes) - mean(no) t = 2.0412
Ho: diff = 0 Welch's degrees of freedom = 18.2949

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9720 Pr(|T| > |t|) = 0.0559 Pr(T > t) = 0.0280

Figure A277: Federal & Provincial Government Revenue Capita: Means comparison between subgroup LC and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	41	11818.42	1821.97	11666.3	8136.082	15500.76
no	405	16854.58	601.2387	12099.69	15672.64	18036.53
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		-5036.165	1918.609		-8890.61	-1181.72

diff = mean(yes) - mean(no) t = -2.6249
Ho: diff = 0 Welch's degrees of freedom = 49.582

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0057 Pr(|T| > |t|) = 0.0115 Pr(T > t) = 0.9943

Appendix F: T-test Statistic Details (continued)

Figure A278: Federal & Provincial Government Revenue Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	12755.61	677.3071	3949.345	11377.61	14133.6
no	412	16691.68	617.3393	12530.62	15478.14	17905.21
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		-3936.072	916.4348		-5752.449	-2119.696

diff = mean(yes) - mean(no) t = -4.2950
Ho: diff = 0 Welch's degrees of freedom = 108.827

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A279: Federal & Provincial Government Revenue Capita: Means comparison between subgroup LR and rest of population

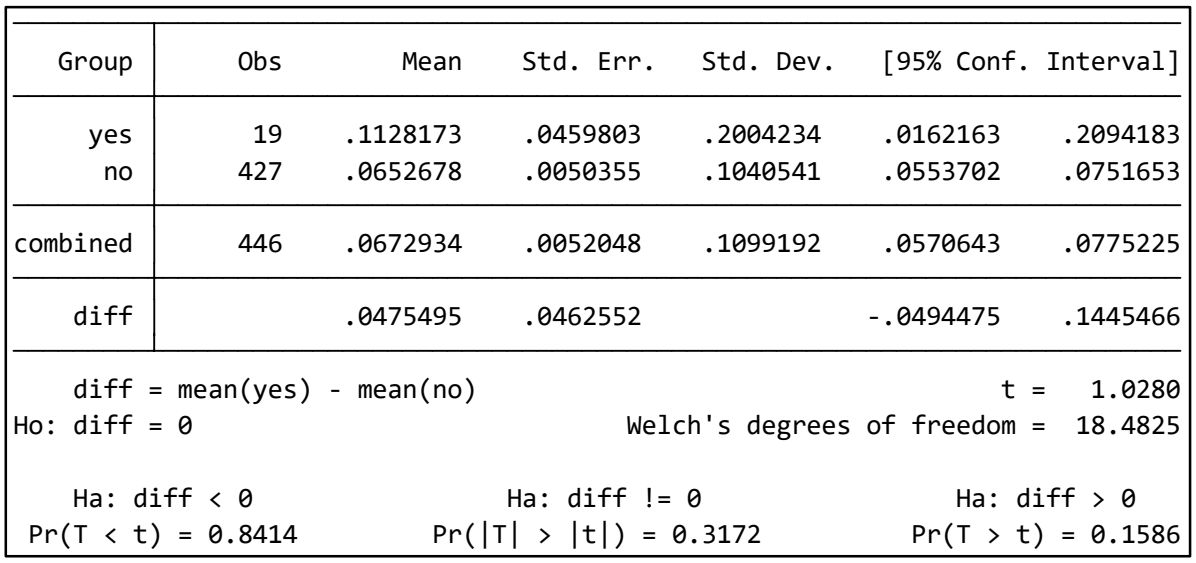
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	14408.32	961.14	3596.257	12331.91	16484.74
no	432	16455.89	592.2561	12309.81	15291.82	17619.96
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		-2047.569	1128.963		-4366.426	271.2873

diff = mean(yes) - mean(no) t = -1.8137
Ho: diff = 0 Welch's degrees of freedom = 26.4119

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0406 Pr(|T| > |t|) = 0.0811 Pr(T > t) = 0.9594

Appendix F: T-test Statistic Details (continued)

Figure A280: Tribal Government & Other First Nation Entity Revenue Ratio: Means comparison between subgroup SR and rest of population

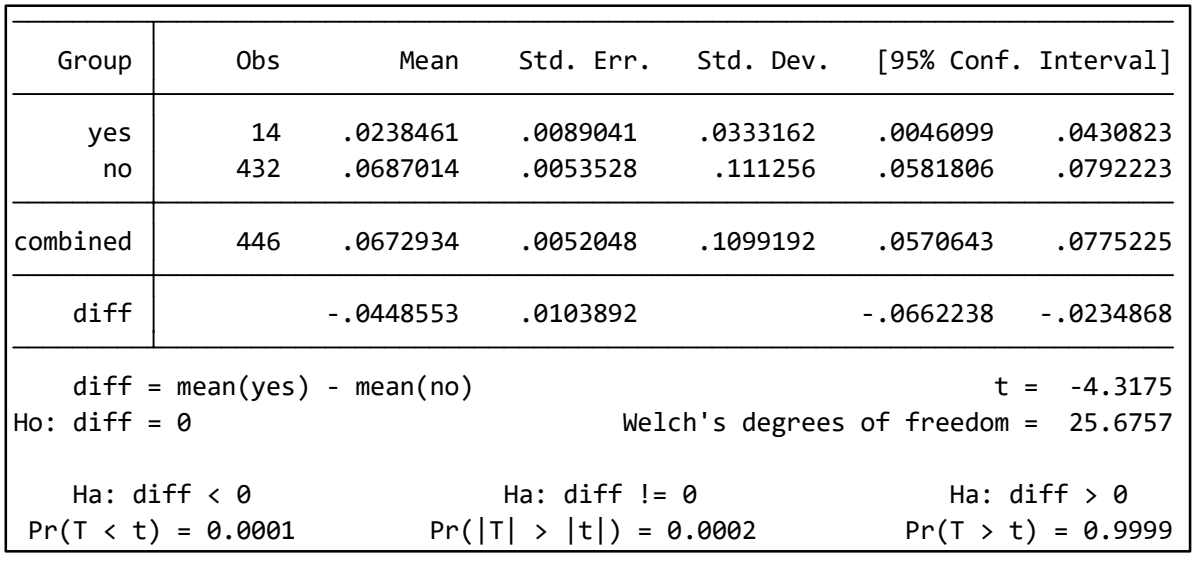


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	.1128173	.0459803	.2004234	.0162163	.2094183
no	427	.0652678	.0050355	.1040541	.0553702	.0751653
combined	446	.0672934	.0052048	.1099192	.0570643	.0775225
diff		.0475495	.0462552		-.0494475	.1445466

diff = mean(yes) - mean(no) t = 1.0280
Ho: diff = 0 Welch's degrees of freedom = 18.4825

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8414 Pr(|T| > |t|) = 0.3172 Pr(T > t) = 0.1586

Figure A281: Tribal Government & Other First Nation Entity Revenue Ratio: Means comparison between subgroup LR and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	.0238461	.0089041	.0333162	.0046099	.0430823
no	432	.0687014	.0053528	.111256	.0581806	.0792223
combined	446	.0672934	.0052048	.1099192	.0570643	.0775225
diff		-.0448553	.0103892		-.0662238	-.0234868

diff = mean(yes) - mean(no) t = -4.3175
Ho: diff = 0 Welch's degrees of freedom = 25.6757

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Appendix F: T-test Statistic Details (continued)

Figure A282: Tribal Government & Other First Nation Entity Revenue Capita: Means comparison between subgroup SR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	19	6178.18	3749.455	16343.5	-1699.133	14055.49
no	427	1778.781	151.2696	3125.832	1481.454	2076.109
combined	446	1966.2	216.729	4577.037	1540.26	2392.139
diff		4399.398	3752.505		-3482.285	12281.08

diff = mean(yes) - mean(no) t = 1.1724
Ho: diff = 0 Welch's degrees of freedom = 18.0652

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.8719 Pr(|T| > |t|) = 0.2563 Pr(T > t) = 0.1281

Figure A283: Tribal Government & Other First Nation Entity Revenue Capita: Means comparison between subgroup LM and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	34	793.7466	216.366	1261.62	353.5466	1233.947
no	412	2062.955	233.3348	4736.179	1604.277	2521.634
combined	446	1966.2	216.729	4577.037	1540.26	2392.139
diff		-1269.209	318.2128		-1898.147	-640.2709

diff = mean(yes) - mean(no) t = -3.9886
Ho: diff = 0 Welch's degrees of freedom = 144.911

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 0.9999

Appendix F: T-test Statistic Details (continued)

Figure A284: Tribal Government & Other First Nation Entity Revenue Capita: Means comparison between subgroup LR and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
yes	14	441.3934	153.0446	572.6404	110.7606	772.0261
no	432	2015.615	223.3058	4641.324	1576.711	2454.519
combined	446	1966.2	216.729	4577.037	1540.26	2392.139
diff		-1574.221	270.7178		-2110.009	-1038.434

diff = mean(yes) - mean(no) t = -5.8150
Ho: diff = 0 Welch's degrees of freedom = 124.926

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A285: Business and Economic Development Expenses Capita: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	7911.201	1279.19	13777.29	5377.373	10445.03
No	330	4315.381	427.061	7757.948	3475.266	5155.496
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		3595.82	1348.594		929.8883	6261.752

diff = mean(Yes) - mean(No) t = 2.6663
Ho: diff = 0 Welch's degrees of freedom = 141.903

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9957 Pr(|T| > |t|) = 0.0086 Pr(T > t) = 0.0043

Appendix F: T-test Statistic Details (continued)

Figure A286: Business and Economic Development Expenses Capita: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	89	2820.369	562.884	5310.237	1701.756	3938.983
No	357	5856.477	558.2075	10547.02	4758.678	6954.276
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		-3036.108	792.7383		-4596.524	-1475.692

diff = mean(Yes) - mean(No) t = -3.8299
Ho: diff = 0 Welch's degrees of freedom = 282.816

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Figure A287: Tangible Capital Asset Capita: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	99	65399.8	5643.372	56150.84	54200.71	76598.89
No	308	37914.78	1545.464	27122.79	34873.74	40955.83
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		27485.02	5851.163		15893.2	39076.84

diff = mean(Yes) - mean(No) t = 4.6974
Ho: diff = 0 Welch's degrees of freedom = 113.352

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A288: Tangible Capital Asset Capita: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	84	26711.83	1696.454	15548.26	23337.66	30086.01
No	323	49252.44	2273.295	40856.11	44780.06	53724.83
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		-22540.61	2836.516		-28118.94	-16962.27

diff = mean(Yes) - mean(No) t = -7.9466
Ho: diff = 0 Welch's degrees of freedom = 357.898

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A289: Earned and Other Revenue Capita: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	20720.38	2534.373	27296.03	15700.27	25740.48
No	330	10673.14	1037.183	18841.36	8632.797	12713.49
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		10047.23	2738.393		4638.094	15456.37

diff = mean(Yes) - mean(No) t = 3.6690
Ho: diff = 0 Welch's degrees of freedom = 155.907

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9998 Pr(|T| > |t|) = 0.0003 Pr(T > t) = 0.0002

Appendix F: T-test Statistic Details (continued)

Figure A290: Earned and Other Revenue Capita: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	89	8411.458	1331.099	12557.56	5766.179	11056.74
No	357	14501.63	1237.477	23381.45	12067.94	16935.31
combined	446	13286.33	1031.429	21782.46	11259.25	15313.4
diff		-6090.169	1817.464		-9668.906	-2511.433

diff = mean(Yes) - mean(No) t = -3.3509
Ho: diff = 0 Welch's degrees of freedom = 261.345

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0005 Pr(|T| > |t|) = 0.0009 Pr(T > t) = 0.9995

Figure A291: Federal and Provincial Revenue Capita: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	22662.25	1669.951	17985.92	19354.4	25970.1
No	330	14187.4	451.8722	8208.665	13298.47	15076.32
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		8474.856	1730.007		5052.851	11896.86

diff = mean(Yes) - mean(No) t = 4.8987
Ho: diff = 0 Welch's degrees of freedom = 132.506

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A292: Federal and Provincial Revenue Capita: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	89	12583.85	889.6298	8392.751	10815.89	14351.8
No	357	17340.9	673.9387	12733.7	16015.49	18666.3
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		-4757.049	1116.08		-6957.587	-2556.511

diff = mean(Yes) - mean(No) t = -4.2623
Ho: diff = 0 Welch's degrees of freedom = 203.892

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A293: Education Index: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	50.17422	1.324639	14.2668	47.55037	52.79808
No	330	43.31509	.7837214	14.23701	41.77335	44.85683
combined	446	45.09908	.6886828	14.54409	43.74561	46.45256
diff		6.859133	1.539119		3.824368	9.893898

diff = mean(Yes) - mean(No) t = 4.4565
Ho: diff = 0 Welch's degrees of freedom = 202.395

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A294: Workforce Index: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	62.30776	1.28144	13.80154	59.76947	64.84605
No	330	53.70403	.6740948	12.24554	52.37795	55.03011
combined	446	55.94177	.6252669	13.20483	54.71293	57.17061
diff		8.603729	1.447927		5.747022	11.46044

diff = mean(Yes) - mean(No) t = 5.9421
Ho: diff = 0 Welch's degrees of freedom = 183.686

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A295: Workforce Index: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	89	48.72213	1.244446	11.74008	46.24906	51.19521
No	357	57.74162	.6851974	12.94642	56.39408	59.08917
combined	446	55.94177	.6252669	13.20483	54.71293	57.17061
diff		-9.01949	1.420613		-11.82689	-6.212089

diff = mean(Yes) - mean(No) t = -6.3490
Ho: diff = 0 Welch's degrees of freedom = 147.39

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A296: Language Index: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	20.07	1.668806	17.9736	16.76442	23.37558
No	330	31.72994	1.402396	25.4758	28.97114	34.48873
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		-11.65994	2.179824		-15.95037	-7.369506

diff = mean(Yes) - mean(No) t = -5.3490
Ho: diff = 0 Welch's degrees of freedom = 287.557

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A297: Language Index: Means comparison between large population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	89	38.70483	3.035053	28.63264	32.6733	44.73636
No	357	26.20244	1.18699	22.42751	23.86804	28.53683
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		12.50239	3.25891		6.048258	18.95653

diff = mean(Yes) - mean(No) t = 3.8364
Ho: diff = 0 Welch's degrees of freedom = 116.938

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9999 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.0001

Appendix F: T-test Statistic Details (continued)

Figure A298: Housing Index: Means comparison between small population communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	67.84302	1.785914	19.23488	64.30546	71.38057
No	330	61.4403	.9613682	17.46412	59.5491	63.33151
combined	446	63.10558	.8588904	18.13866	61.4176	64.79357
diff		6.402714	2.02823		2.401564	10.40386

diff = mean(Yes) - mean(No) t = 3.1568
Ho: diff = 0 Welch's degrees of freedom = 187.021

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9991 Pr(|T| > |t|) = 0.0019 Pr(T > t) = 0.0009

Figure A299: Nation Wellness Index: Means comparison between small population communities and rest of population

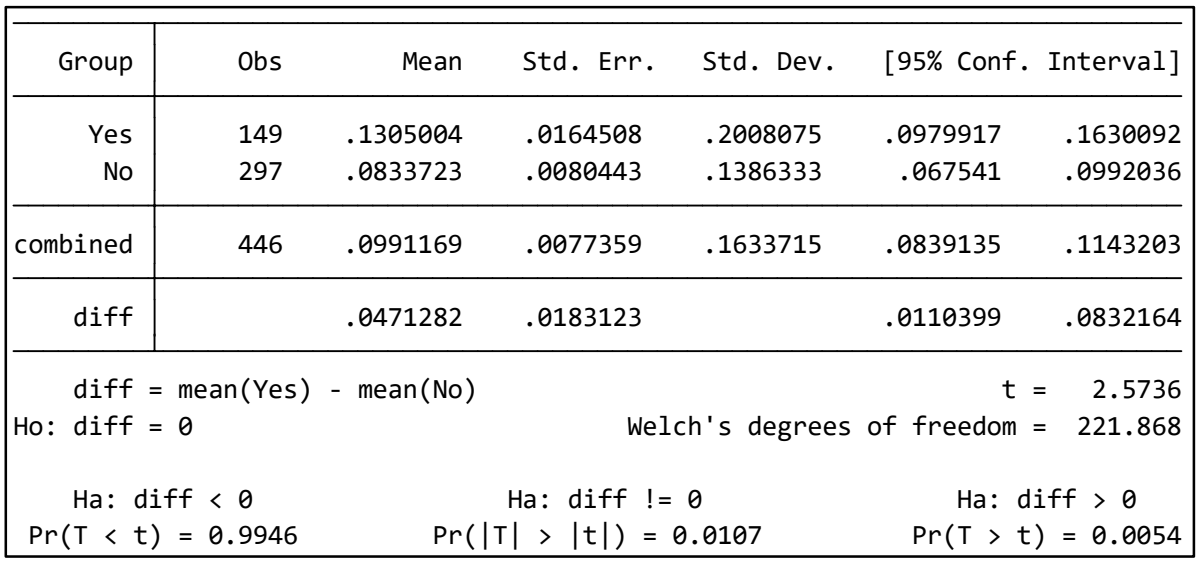
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	116	70.73586	1.129702	12.16727	68.49814	72.97359
No	330	62.87767	.5824229	10.58024	61.73192	64.02341
combined	446	64.9215	.5459382	11.52951	63.84856	65.99444
diff		7.858196	1.271001		5.350301	10.36609

diff = mean(Yes) - mean(No) t = 6.1827
Ho: diff = 0 Welch's degrees of freedom = 180.895

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A300: Gross Business Sales Ratio: Means comparison between geographically close communities and rest of population

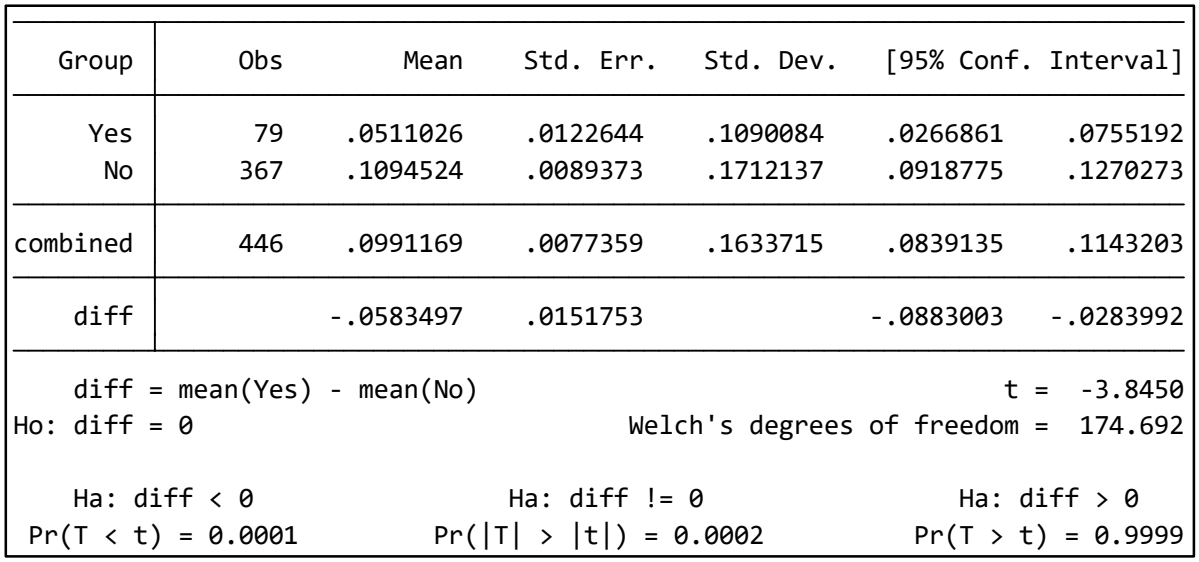


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	.1305004	.0164508	.2008075	.0979917	.1630092
No	297	.0833723	.0080443	.1386333	.067541	.0992036
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		.0471282	.0183123		.0110399	.0832164

diff = mean(Yes) - mean(No) t = 2.5736
Ho: diff = 0 Welch's degrees of freedom = 221.868

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9946 Pr(|T| > |t|) = 0.0107 Pr(T > t) = 0.0054

Figure A301: Gross Business Sales Ratio: Means comparison between geographically remote communities and rest of population



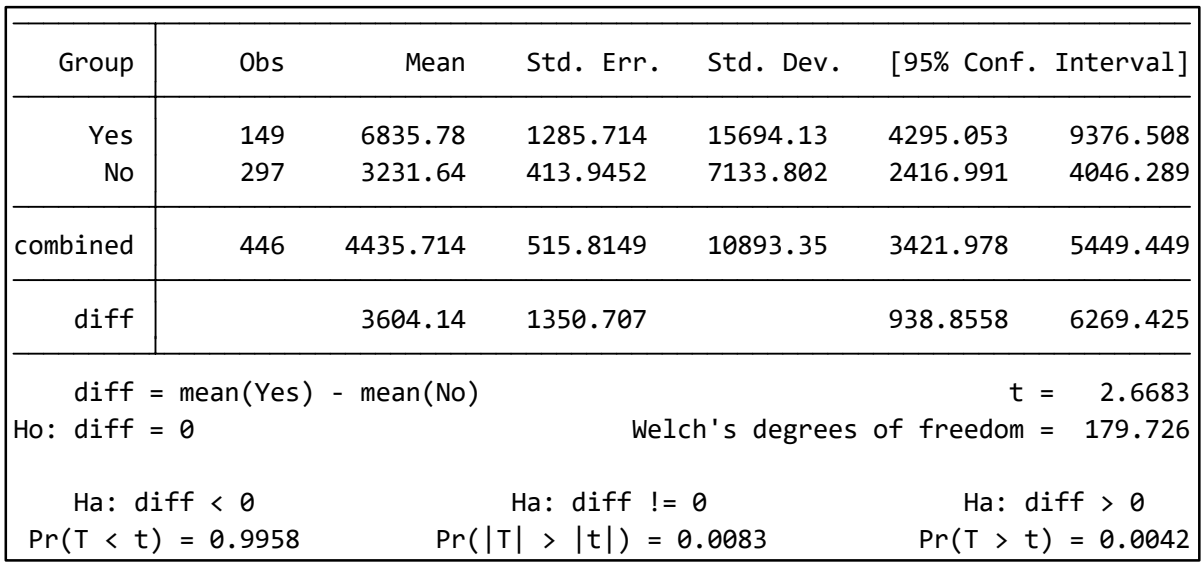
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	.0511026	.0122644	.1090084	.0266861	.0755192
No	367	.1094524	.0089373	.1712137	.0918775	.1270273
combined	446	.0991169	.0077359	.1633715	.0839135	.1143203
diff		-.0583497	.0151753		-.0883003	-.0283992

diff = mean(Yes) - mean(No) t = -3.8450
Ho: diff = 0 Welch's degrees of freedom = 174.692

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Appendix F: T-test Statistic Details (continued)

Figure A302: Gross Business Sales Capita: Means comparison between geographically close communities and rest of population

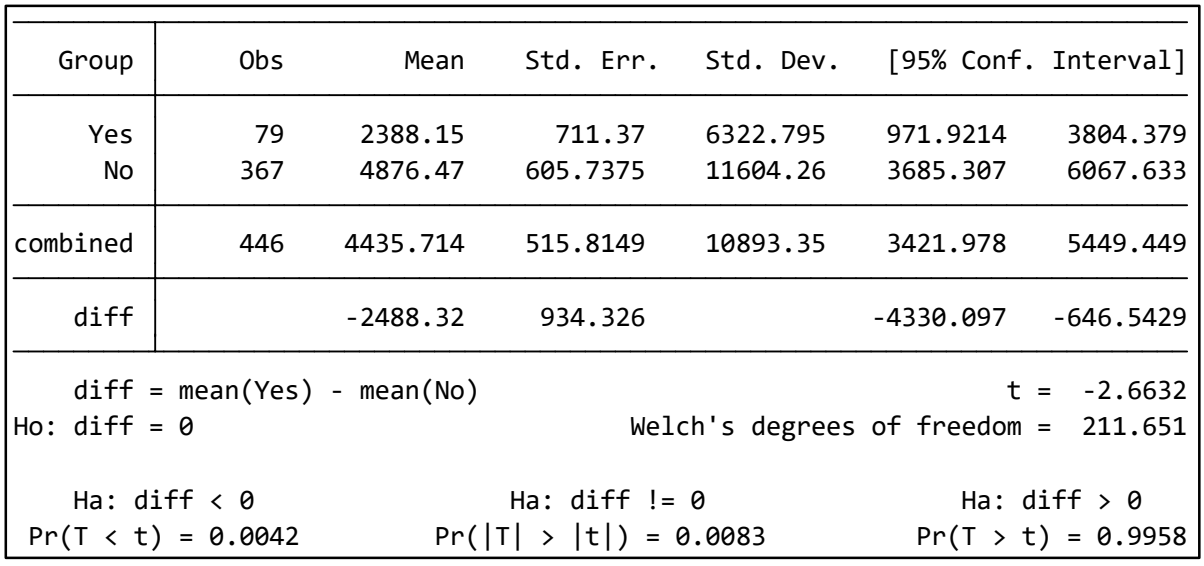


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	6835.78	1285.714	15694.13	4295.053	9376.508
No	297	3231.64	413.9452	7133.802	2416.991	4046.289
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		3604.14	1350.707		938.8558	6269.425

diff = mean(Yes) - mean(No) t = 2.6683
Ho: diff = 0 Welch's degrees of freedom = 179.726

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9958 Pr(|T| > |t|) = 0.0083 Pr(T > t) = 0.0042

Figure A303: Gross Business Sales Capita: Means comparison between geographically remote communities and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	2388.15	711.37	6322.795	971.9214	3804.379
No	367	4876.47	605.7375	11604.26	3685.307	6067.633
combined	446	4435.714	515.8149	10893.35	3421.978	5449.449
diff		-2488.32	934.326		-4330.097	-646.5429

diff = mean(Yes) - mean(No) t = -2.6632
Ho: diff = 0 Welch's degrees of freedom = 211.651

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0042 Pr(|T| > |t|) = 0.0083 Pr(T > t) = 0.9958

Appendix F: T-test Statistic Details (continued)

Figure A304: Business and Economic Development Expense Ratio: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	.1574323	.0155218	.1894682	.1267592	.1881053
No	297	.1217009	.0081829	.1410211	.1055969	.1378049
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		.0357314	.0175467		.0011615	.0703012

diff = mean(Yes) - mean(No) t = 2.0364
Ho: diff = 0 Welch's degrees of freedom = 233.796

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9786 Pr(|T| > |t|) = 0.0428 Pr(T > t) = 0.0214

Figure A305: Business and Economic Development Expense Ratio: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	.0811063	.0128697	.1143884	.0554846	.1067279
No	367	.144946	.0086458	.1656302	.1279443	.1619477
combined	446	.1336381	.0075543	.1595369	.1187915	.1484846
diff		-.0638397	.0155042		-.0944599	-.0332196

diff = mean(Yes) - mean(No) t = -4.1176
Ho: diff = 0 Welch's degrees of freedom = 159.359

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A306: Business and Economic Development Expense Capita: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	6601.698	1063.089	12976.65	4500.905	8702.492
No	297	4572.801	445.0002	7668.995	3697.036	5448.567
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		2028.897	1152.468		-243.5126	4301.306

diff = mean(Yes) - mean(No) t = 1.7605
Ho: diff = 0 Welch's degrees of freedom = 202.018

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9601 Pr(|T| > |t|) = 0.0798 Pr(T > t) = 0.0399

Figure A307: Business and Economic Development Expense Capita: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	3532.193	836.7609	7437.294	1866.33	5198.056
No	367	5620.523	532.8751	10208.42	4572.641	6668.404
combined	446	5250.617	464.0525	9800.191	4338.61	6162.623
diff		-2088.329	992.0306		-4048.425	-128.2331

diff = mean(Yes) - mean(No) t = -2.1051
Ho: diff = 0 Welch's degrees of freedom = 150.591

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0185 Pr(|T| > |t|) = 0.0369 Pr(T > t) = 0.9815

Appendix F: T-test Statistic Details (continued)

Figure A308: Tangible Capital Asset Capita: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	140	37313.76	2523.125	29854.02	32325.09	42302.42
No	267	48421	2534.459	41413.4	43430.85	53411.15
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		-11107.24	3576.261		-18139.68	-4074.809

diff = mean(Yes) - mean(No) t = -3.1058
Ho: diff = 0 Welch's degrees of freedom = 368.589

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0010 Pr(|T| > |t|) = 0.0020 Pr(T > t) = 0.9990

Figure A309: Tangible Capital Asset Capita: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	64	58521.24	7590.655	60725.24	43352.53	73689.95
No	343	42002.84	1713.43	31733.17	38632.65	45373.03
combined	407	44600.33	1891.862	38166.89	40881.26	48319.4
diff		16518.4	7781.638		997.4677	32039.34

diff = mean(Yes) - mean(No) t = 2.1227
Ho: diff = 0 Welch's degrees of freedom = 69.7575

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9813 Pr(|T| > |t|) = 0.0373 Pr(T > t) = 0.0187

Appendix F: T-test Statistic Details (continued)

Figure A310: Earned and Other Revenue Ratio: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	.4115279	.0192492	.2349663	.3734891	.4495666
No	297	.2993353	.012002	.2068383	.2757153	.3229553
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		.1121926	.0226843		.0675296	.1568556

diff = mean(Yes) - mean(No) t = 4.9458
Ho: diff = 0 Welch's degrees of freedom = 266.846

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A311: Earned and Other Revenue Ratio: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	.2551636	.0235118	.2089773	.2083553	.301972
No	367	.3543932	.011588	.2219936	.3316058	.3771806
combined	446	.3368167	.0105484	.2227679	.3160859	.3575475
diff		-.0992296	.0262123		-.151128	-.0473311

diff = mean(Yes) - mean(No) t = -3.7856
Ho: diff = 0 Welch's degrees of freedom = 120.021

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Appendix F: T-test Statistic Details (continued)

Figure A312: Federal and Provincial Revenue Ratio: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	.5091485	.0181068	.2210222	.4733672	.5449299
No	297	.5940705	.013143	.2265023	.5682049	.6199361
combined	446	.5656997	.0107957	.227992	.5444828	.5869167
diff		-.084922	.022374		-.128949	-.0408949

diff = mean(Yes) - mean(No) t = -3.7956
Ho: diff = 0 Welch's degrees of freedom = 304.827

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

Figure A313: Federal and Provincial Revenue Ratio: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	.6707453	.0266111	.2365244	.6177667	.7237239
No	367	.5430877	.0114819	.2199619	.5205089	.5656665
combined	446	.5656997	.0107957	.227992	.5444828	.5869167
diff		.1276576	.0289825		.0702195	.1850957

diff = mean(Yes) - mean(No) t = 4.4046
Ho: diff = 0 Welch's degrees of freedom = 109.718

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A314: Federal and Provincial Revenue Capita: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	13720.03	804.3512	9818.358	12130.53	15309.52
No	297	17731.91	751.6689	12954.03	16252.62	19211.2
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		-4011.884	1100.903		-6176.538	-1847.23

diff = mean(Yes) - mean(No) t = -3.6442
Ho: diff = 0 Welch's degrees of freedom = 378.369

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0002 Pr(|T| > |t|) = 0.0003 Pr(T > t) = 0.9998

Figure A315: Federal and Provincial Revenue Capita: Means comparison between geographically remote communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	20014.3	1778.226	15805.22	16474.12	23554.48
No	367	15611.8	577.4553	11062.45	14476.26	16747.35
combined	446	16391.62	574.6314	12135.48	15262.29	17520.95
diff		4402.496	1869.637		691.0613	8113.931

diff = mean(Yes) - mean(No) t = 2.3547
Ho: diff = 0 Welch's degrees of freedom = 95.5265

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9897 Pr(|T| > |t|) = 0.0206 Pr(T > t) = 0.0103

Appendix F: T-test Statistic Details (continued)

Figure A316: Education Index: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	51.73537	.9725718	11.87175	49.81345	53.65729
No	297	41.76976	.8493425	14.6373	40.09825	43.44128
combined	446	45.09908	.6886828	14.54409	43.74561	46.45256
diff		9.965605	1.291231		7.426265	12.50494

diff = mean(Yes) - mean(No) t = 7.7179
Ho: diff = 0 Welch's degrees of freedom = 358.497

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A317: Education Index: Means comparison between geographically remote communities and rest of population

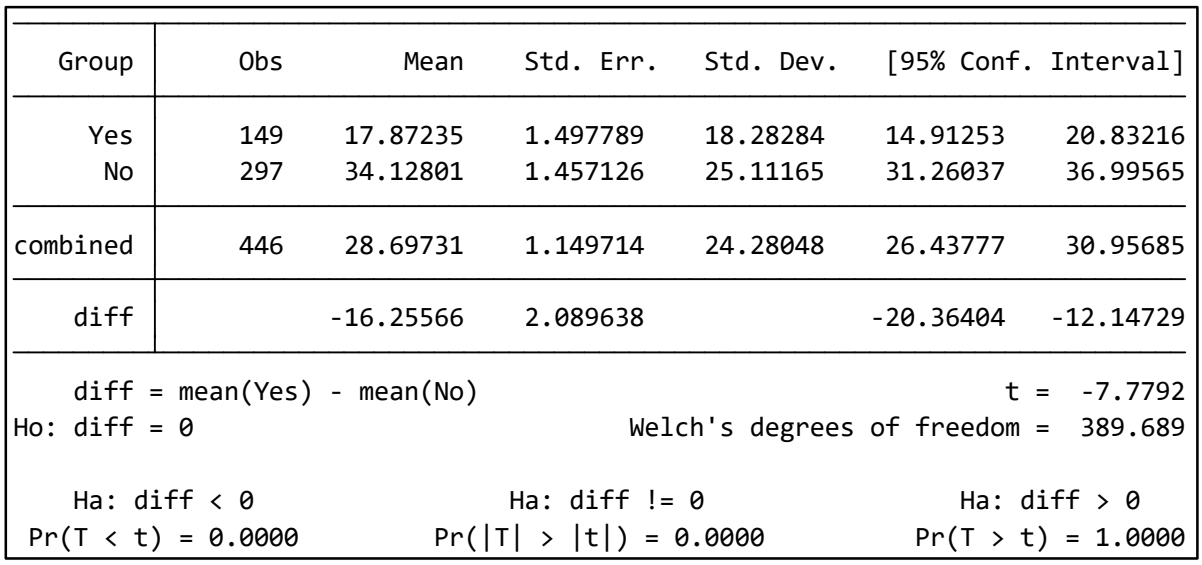
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	32.35456	1.642157	14.59581	29.08527	35.62384
No	367	47.84245	.6789604	13.00701	46.5073	49.17761
combined	446	45.09908	.6886828	14.54409	43.74561	46.45256
diff		-15.4879	1.776982		-19.01056	-11.96523

diff = mean(Yes) - mean(No) t = -8.7158
Ho: diff = 0 Welch's degrees of freedom = 106.997

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A318: Language Index: Means comparison between geographically close communities and rest of population

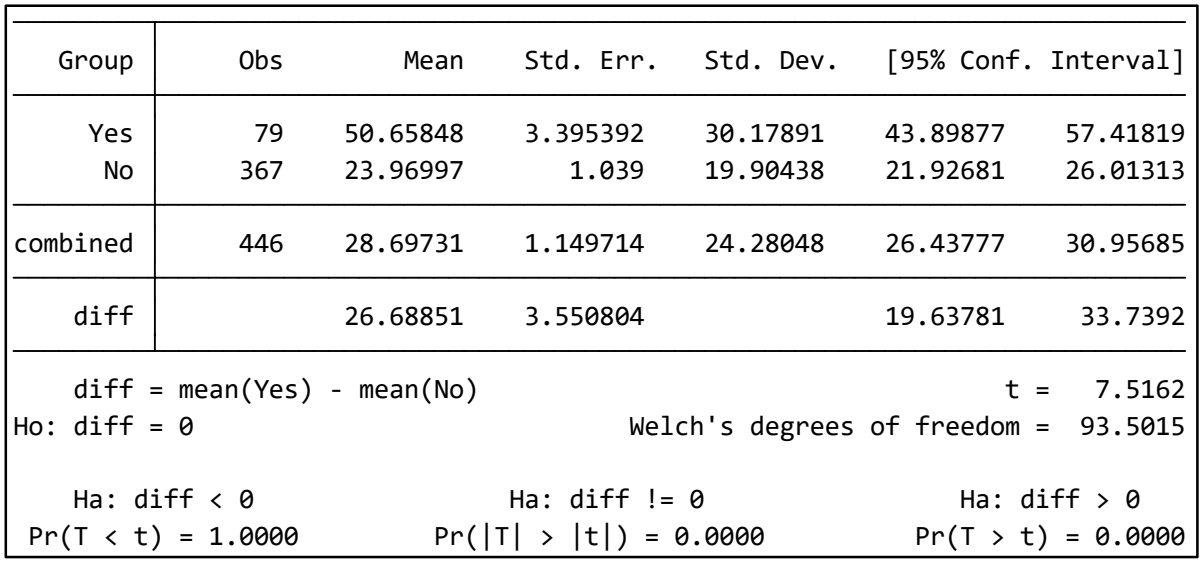


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	17.87235	1.497789	18.28284	14.91253	20.83216
No	297	34.12801	1.457126	25.11165	31.26037	36.99565
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		-16.25566	2.089638		-20.36404	-12.14729

diff = mean(Yes) - mean(No) t = -7.7792
Ho: diff = 0 Welch's degrees of freedom = 389.689

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Figure A319: Language Index: Means comparison between geographically remote communities and rest of population



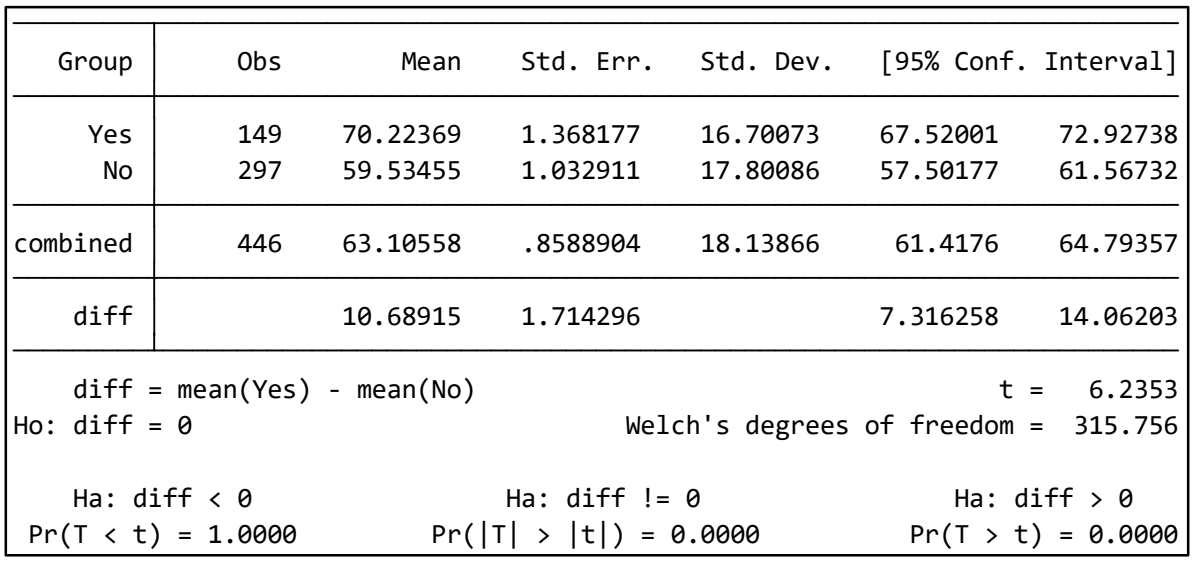
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	50.65848	3.395392	30.17891	43.89877	57.41819
No	367	23.96997	1.039	19.90438	21.92681	26.01313
combined	446	28.69731	1.149714	24.28048	26.43777	30.95685
diff		26.68851	3.550804		19.63781	33.7392

diff = mean(Yes) - mean(No) t = 7.5162
Ho: diff = 0 Welch's degrees of freedom = 93.5015

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Appendix F: T-test Statistic Details (continued)

Figure A320: Housing Index: Means comparison between geographically close communities and rest of population

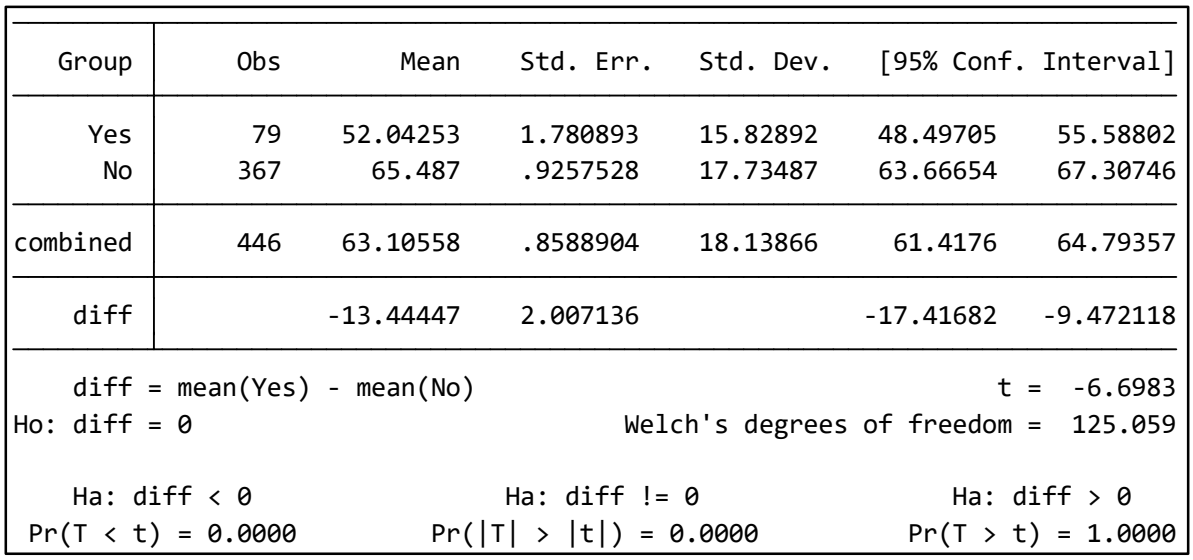


Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	70.22369	1.368177	16.70073	67.52001	72.92738
No	297	59.53455	1.032911	17.80086	57.50177	61.56732
combined	446	63.10558	.8588904	18.13866	61.4176	64.79357
diff		10.68915	1.714296		7.316258	14.06203

diff = mean(Yes) - mean(No) t = 6.2353
Ho: diff = 0 Welch's degrees of freedom = 315.756

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Figure A321: Housing Index: Means comparison between geographically remote communities and rest of population



Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	79	52.04253	1.780893	15.82892	48.49705	55.58802
No	367	65.487	.9257528	17.73487	63.66654	67.30746
combined	446	63.10558	.8588904	18.13866	61.4176	64.79357
diff		-13.44447	2.007136		-17.41682	-9.472118

diff = mean(Yes) - mean(No) t = -6.6983
Ho: diff = 0 Welch's degrees of freedom = 125.059

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

Appendix F: T-test Statistic Details (continued)

Figure A322: Income Index: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	107	34.23654	1.054612	10.90899	32.14567	36.32741
No	196	29.25153	.6818596	9.546034	27.90676	30.5963
combined	303	31.01191	.5923212	10.31047	29.84631	32.17751
diff		4.985011	1.255842		2.508328	7.461694

diff = mean(Yes) - mean(No) t = 3.9695
Ho: diff = 0 Welch's degrees of freedom = 196.181

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9999 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 0.0001

Figure A323: Nation Wellness Index: Means comparison between geographically close communities and rest of population

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Yes	149	66.47174	.8073121	9.8545	64.8764	68.06709
No	297	64.14377	.7094155	12.22585	62.74763	65.53991
combined	446	64.9215	.5459382	11.52951	63.84856	65.99444
diff		2.327974	1.07472		.2144625	4.441485

diff = mean(Yes) - mean(No) t = 2.1661
Ho: diff = 0 Welch's degrees of freedom = 360.343

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9845 Pr(|T| > |t|) = 0.0310 Pr(T > t) = 0.0155

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography

This appendix provides detailed analysis of the mean trends present within Tables 16 – 29 by: population subcategory and geography subcategory respectively. For general discussions about this analysis and the median value trends, refer Chapter 3, subheadings Descriptive Statistics by Population and Descriptive Statistics by Geographic Remoteness. The general trends in the descriptive statistics by population include:

- Business and economic development expenses capita are higher for small populations, and lower for large populations:
    - T-test for small population (M = \$7,911, SD = \$13,777) and rest of population (M = \$4,315, SD = \$7,758); $t(142) = 2.67$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A285).
    - T-test for large populations (M = \$2,820, SD = \$5,310) and rest of population (M = \$5,856, SD = \$10,547); $t(283) = -3.83$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A286).
- Tangible capital assets capita is higher for small populations, and lower for large populations:
    - T-test for small populations (M = \$65,400, SD = \$56,151) and rest of population (M = \$37,915, SD = \$27,123); $t(113) = 4.70$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A287).
    - T-test for large populations (M = \$26,712, SD = \$15,548) and rest of population (M = \$49,252, SD = \$40,856); $t(358) = -7.95$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A288).
- Earned and other revenue capita is higher for small populations, and lower for large populations:
    - T-test for small populations (M = \$20,720, SD = \$27,296) and rest of population (M = \$10,673, SD = \$18,841); $t(156) = 3.67$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A289).

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography (continued)

  - T-test for large populations (M = \$8,411, SD = \$12,558) and rest of population (M = \$14,502, SD = \$23,381); $t(261) = -3.35$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A290).

- Federal and provincial revenue capita is higher for small populations, and lower for large populations:
  - T-test for small populations (M = \$22,662, SD = \$17,986) and rest of population (M = \$14,187, SD = \$8,209); $t(133) = 4.90$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A291).
  - T-test for large populations (M = \$12,584, SD = \$8,393) and rest of population (M = \$17,341, SD = \$12,734); $t(204) = -4.26$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A292).
- Education index is higher for small populations:
  - T-test for small populations (M = 50.17, SD = 14.27) and rest of population (M = 43.32, SD = 14.24); $t(202) = 4.46$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A293).
- Workforce index is higher for small populations, and lower for large populations:
  - T-test for small populations (M = 62.31, SD = 13.80) and rest of population (M = 53.70, SD = 12.25); $t(184) = 5.94$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A294).
  - T-test for large populations (M = 48.72, SD = 11.74) and rest of population (M = 57.74, SD = 12.95); $t(147) = -6.35$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A295).
- Language index is lower for small populations, and higher for large populations:
  - T-test for small populations (M = 20.07, SD = 17.97) and rest of population (M = 31.73, SD = 25.48); $t(288) = -5.35$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A296).

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography (continued)

  - T-test for large populations (M = 38.70, SD = 28.63) and rest of population (M = 26.20, SD = 22.43); $t(117) = 3.84$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A297).

- Housing index is higher for small populations
  - T-test for small populations (M = 67.84, SD = 19.23) and rest of population (M = 61.44, SD = 17.46); $t(187) = 3.16$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A298).
- The Nation wellness index is higher for small populations
  - T-test for small populations (M = 70.74, SD = 12.17) and rest of population (M = 62.88, SD = 10.58); $t(181) = 6.18$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A299).

The general trends in the descriptive statistics by geographic zone include:

- Gross business sales ratio is higher for geographically close communities, and lower for geographically remote communities:
  - T-test for geographically close communities (M = 0.131, SD = 0.201) and rest of population (M = 0.083, SD = 0.139); $t(222) = 2.57$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A300).
  - T-test for geographically remote communities (M = 0.051, SD = 0.109) and rest of population (M = 0.109, SD = 0.171); $t(175) = -3.85$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A301).
- Gross business sales capita is higher for geographically close communities, and lower for geographically remote communities:
  - T-test for geographically close communities (M = \$6,836, SD = \$15,694) and rest of population (M = \$3,232, SD = \$7,134); $t(180) = 2.67$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A302).
  - T-test for geographically remote communities (M = \$2,388, SD = \$6,323) and rest of population (M = \$4,876, SD = \$11,604); $t(212) = -2.66$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A303).

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography (continued)

- Business and economic development expense ratio is higher geographically close communities, and lower for geographically remote communities:
    - T-test for geographically close communities (M = 0.157, SD = 0.189) and rest of population (M = 0.122, SD = 0.141); $t(234) = 2.04$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A304).
    - T-test for geographically remote communities (M = 0.081, SD = 0.114) and rest of population (M = 0.145, SD = 0.166); $t(159) = -4.12$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A305).
- Business and economic development expense capita is higher geographically close communities, and lower for geographically remote communities:
    - T-test for geographically close communities (M = $6,602, SD = $12,977) and rest of population (M = $4,573, SD = $7,669); $t(202) = 1.76$, $p = 0.08$. The difference is not statistically significant (Appendix F, Figure A306).
    - T-test for geographically remote communities (M = $3,532, SD = $7,437) and rest of population (M = $5,621, SD = $10,208); $t(151) = -2.11$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A307).
- Tangible capital asset (TCA) capita is lower for geographically close communities, and higher for geographically remote communities:
    - T-test for geographically close communities (M = $37,314, SD = $29,854) and rest of population (M = $48,421, SD = $41,413); $t(369) = -3.11$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A308).
    - T-test for geographically remote communities (M = $58,521, SD = $60,725) and rest of population (M = $42,003, SD = $31,733); $t(70) = 2.12$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A309).
- Earned and other revenue ratio is higher for geographically close communities, and lower for geographically remote communities:

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography (continued)

  - T-test for geographically close communities (M = 0.412, SD = 0.235) and rest of population (M = 0.299, SD = 0.207); $t(267) = 4.95$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A310).
  - T-test for geographically remote communities (M = 0.255, SD = 0.209) and rest of population (M = 0.354, SD = 0.222); $t(120) = -3.79$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A311).
- Federal and provincial revenue ratio is lower for geographically close communities, and higher for geographically remote communities:
  - T-test for geographically close communities (M = 0.509, SD = 0.221) and rest of population (M = 0.594, SD = 0.227); $t(305) = -3.80$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A312).
  - T-test for geographically remote communities (M = 0.671, SD = 0.237) and rest of population (M = 0.543, SD = 0.220); $t(110) = 4.40$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A313).
- Federal and provincial revenue capita is lower for geographically close communities, and higher for geographically remote communities:
  - T-test for geographically close communities (M = \$13,720, SD = \$9,818) and rest of population (M = \$17,732, SD = \$12,954); $t(378) = -3.64$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A314).
  - T-test for geographically remote communities (M = \$20,014, SD = \$15,805) and rest of population (M = \$15,612, SD = \$11,062); $t(96) = 2.35$, $p = 0.02$. The difference is statistically significant (Appendix F, Figure A315).
- Education index is higher for geographically close communities, and lower for geographically remote communities:
  - T-test for geographically close communities (M = 51.7, SD = 11.9) and rest of population (M = 41.8, SD = 14.6); $t(358) = 7.72$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A316).

Appendix G: Descriptive Statistics Analysis and T-Test Results by Population and Geography (continued)

  - T-test for geographically remote communities (M = 32.4, SD = 14.6) and rest of population (M = 47.8, SD = 13.0); $t(107) = -8.72$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A317).

- Language index is lower for geographically close communities, and higher for geographically remote communities:
  - T-test for geographically close communities (M = 17.9, SD = 18.3) and rest of population (M = 34.1, SD = 25.1); $t(390) = -7.78$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A318).
  - T-test for geographically remote communities (M = 50.7, SD = 30.2) and rest of population (M = 24.0, SD = 19.9); $t(94) = 7.52$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A319).
- Housing index is higher for geographically close communities, and lower for geographically remote communities:
  - T-test for geographically close communities (M = 70.2, SD = 16.7) and rest of population (M = 59.5, SD = 17.8); $t(316) = 6.24$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A320).
  - T-test for geographically remote communities (M = 52.0, SD = 15.8) and rest of population (M = 65.5, SD = 17.7); $t(125) = -6.70$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A321).
- Income index is higher for geographically close communities:
  - T-test for geographically close communities (M = 34.2, SD = 10.9) and rest of population (M = 29.3, SD = 9.5); $t(196) = 3.97$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A322).
- Nation wellness index is higher for geographically close communities:
  - T-test for geographically close communities (M = 66.5, SD = 9.9) and rest of population (M = 64.1, SD = 12.2); $t(360) = 2.17$, $p = 0.03$. The difference is statistically significant (Appendix F, Figure A323).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup

This appendix reviews the demographic indices of the First Nation communities. The indices reviewed are: education, workforce, language, housing, income, and the overall Nation wellness index (NWI). As the mean and median values are very similar, only the mean values will be discussed in this appendix. High level discussion of the results presented in this appendix are provided throughout Chapter 3 of this manuscript.

The education index measures the level of education of the community, and is measured by high school graduation rates, trades and apprenticeship training, and post-secondary education. This index, along with all the other indices, are measured on a scale of 0-100. Refer to Appendix D, Figure A1. The total population mean is 45.1. Two key patterns exist for the education index:

- Education levels are higher for geographically close communities. The means for these subgroups are: SC 53.8, MC 50.8, and LC 51.9.
    - T-test between SC (M = 53.77, SD = 12.17) and rest of population (M = 44.43, SD = 14.51); $t(39) = 4.12$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A109).
    - T-test for MC (M = 50.80, SD = 10.75) and rest of population (M = 43.93, SD = 14.95); $t(144) = 4.71$, $p = 0.00$. The difference is statistically significant. (Appendix F, Figure A110).
    - T-test for LC (M = 51.89, SD = 13.59) and rest of population (M = 44.41, SD = 14.48); $t(50) = 3.34$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A111).
- Education levels are much lower for geographically remote communities that have a medium and high population. The means for geographically remote subgroups are: SR 46.3, MR 28.6, and LR 25.8.
    - T-test for SR (M = 46.28, SD = 16.90) and rest of population (M = 45.05, SD = 14.48); $t(19) = 0.31$, $p = 0.76$. The difference is not statistically significant (Appendix F, Figure A112).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup (continued)

- T-test for MR (M = 28.61, SD = 11.09) and rest of population (M = 47.00, SD = 13.68); $t(63) = -10.38$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A113).
- T-test for LR (M = 25.77, SD = 10.02) and rest of population (M = 45.73, SD = 14.24); $t(15) = -7.22$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A114).

The workforce index measures the employment rate and participation rate of the community. Refer to Appendix D, Figure A3. The total population mean is 55.9. There are not drastic differences between the subgroups, but the following patterns exist:

- Workforce levels are slightly higher for small populations. The means for these subgroups are: SC: 59.6, SM 63.1, and SR 64.1. The mean income decreases with large populations.
  - T-test for SC (M = 59.60, SD = 12.09) and rest of population (M = 55.66, SD = 13.26); $t(37) = 1.76$, $p = 0.09$. The difference is not statistically significant (Appendix F, Figure A115).
  - T-test for SM (M = 63.12, SD = 13.39) and rest of population (M = 54.72, SD = 12.79); $t(86) = 4.70$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A116).
  - T-test for SR (M = 64.11, SD = 17.57) and rest of population (M = 55.58, SD = 12.88); $t(19) = 2.09$, $p = 0.05$. The difference is statistically significant (Appendix F, Figure A117).
- Workforce levels are lower for large populations that are geographically medium and remote: LM 42.7 and LR 47.8.
  - T-test for LM (M = 42.66, SD = 8.08) and rest of population (M = 57.04, SD = 12.95); $t(49) = -9.43$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A118).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup (continued)

- T-test for LR (M = 47.82, SD = 9.42) and rest of population (M = 56.20, SD = 13.23); $t(15) = -3.23$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A119).

The language index measures the percentage of the population with knowledge of Indigenous language. This is also an effective measure for the degree of cultural knowledge that is passed on within a community. Refer to Appendix D, Figure A5. This index has a significant amount of variation between the subgroups. The total population mean is 28.7. The key patterns are:

- Language knowledge is much lower for geographically close communities. The means for these subgroups are: SC 10.7, MC 16.2, and LC 26.6.
  - T-test for SC (M = 10.74, SD = 13.60) and rest of population (M = 30.09, SD = 24.38); $t(49) = -7.20$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A132).
  - T-test for MC (M = 16.20, SD = 14.06) and rest of population (M = 31.26, SD = 25.14); $t(192) = -7.26$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A133).
  - T-test for LC (M = 26.55, SD = 24.49) and rest of population (M = 28.92, SD = 24.28); $t(49) = -0.59$, $p = 0.56$. The difference is not statistically significant (Appendix F, Figure A134).
- Language knowledge is much higher for geographically remote communities. The means for these subgroups are: SR 36.2, MR 52.4, and LR 64.5.
  - T-test for SR (M = 36.21, SD = 23.80) and rest of population (M = 28.36, SD = 24.27); $t(20) = 1.40$, $p = 0.18$. The difference is not statistically significant (Appendix F, Figure A135).
  - T-test for MR (M = 52.42, SD = 30.57) and rest of population (M = 25.97, SD = 21.90); $t(51) = 5.70$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A136).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup (continued)

  - T-test for LR (M = 64.48, SD = 30.38) and rest of population (M = 27.54, SD = 23.19); $t(14) = 4.51$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A137).

- Language knowledge is also progressively higher with larger populations.

The housing index measures the degree of residential housing in need of major repair. Refer to Appendix D, Figure A7. The total population mean is 63.1. Significant variation exists between the subgroups, with the following major patterns:

- The state of housing is higher for geographically close communities. The means for these subgroups are: SC 70.4, MC 69.1, and LC 72.2.
  - T-test for SC (M = 70.40, SD = 18.71) and rest of population (M = 62.54, SD = 17.99); $t(36) = 2.30$, $p = 0.03$. The difference is statistically significant (Appendix F, Figure A120).
  - T-test for MC (M = 69.06, SD = 14.69) and rest of population (M = 61.88, SD = 18.55); $t(131) = 3.70$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A121).
  - T-test for LC (M = 72.24, SD = 18.70) and rest of population (M = 62.18, SD = 17.85); $t(48) = 3.30$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A122).
- The state of housing is much lower for geographically remote communities with medium and high populations. The means for geographically remote subgroups are: SR 60.8, MR 51.2, and LR 43.0.
  - T-test for SR (M = 60.75, SD = 17.95) and rest of population (M = 63.21, SD = 18.16); $t(20) = -0.58$, $p = 0.57$. The difference is not statistically significant (Appendix F, Figure A123).
  - T-test for MR (M = 51.21, SD = 14.16) and rest of population (M = 64.47, SD = 18.06); $t(64) = -5.83$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A124).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup (continued)

- T-test for LR (M = 42.96, SD = 12.69) and rest of population (M = 63.76, SD = 17.92); $t(15) = -5.94$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A125).

The income index measures the level of personal income of the communities. Note that no Census data is available for communities with small populations. Statistics Canada deemed that the quality of this data was too poor to post publicly. As such, no analysis can be completed for communities with small populations. Refer to Appendix D, Figure A9. The total population mean is 31.0. While patterns exist between the subgroups, the difference are more subtle compared to the other indices. The pattern that exists include:

- Income levels are progressively higher for communities that are more geographically close. The means for the geographically close subgroups are: MC 32.6 and LC 36.8.
  - T-test for MC (M = 32.62, SD = 6.59) and rest of population (M = 30.56, SD = 11.10); $t(181) = 1.90$, $p = 0.06$. The difference is not statistically significant (Appendix F, Figure A138).
  - T-test for LC (M = 36.84, SD = 15.28) and rest of population (M = 30.10, SD = 9.00); $t(45) = 2.75$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A139).

The Nation wellness index (NWI) is an overall measure for the wellness of the communities. This index is comprised of the previously listed five sub-indices. Note that if no income index information was available (for small populations), the NWI was based on the other available sub-indices. Refer to Appendix D, Figure A11. The total population mean is 64.9. Variations between the subgroups exist, with the following patterns:

- Nation wellness is higher for communities with small populations. The means for these subgroups are: SC 68.7, SM 71.0, and SR 73.2.
  - T-test for SC (M = 68.65, SD = 10.03) and rest of population (M = 64.63, SD = 11.60); $t(38) = 2.16$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A126).

Appendix H: Descriptive Statistics Analysis and T-test Results of Demographic Indices by Subgroup (continued)

  - T-test for SM (M = 71.04, SD = 12.45) and rest of population (M = 63.88, SD = 11.05); $t(83) = 4.36$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A127).
  - T-test for SR (M = 73.19, SD = 14.37) and rest of population (M = 64.55, SD = 11.27); $t(19) = 2.59$, $p = 0.02$. The difference is statistically significant (Appendix F, Figure A128).

- Nation wellness is lower for communities with larger populations, with the exception of large populations that are also geographically close. The means for the large population subgroups are: LC 68.2, LM 58.7, and LR 58.5.
  - T-test for LC (M = 68.21, SD = 12.03) and rest of population (M = 64.59, SD = 11.44); $t(48) = 1.85$, $p = 0.07$. The difference is not statistically significant (Appendix F, Figure A129).
  - T-test for LM (M = 58.72, SD = 10.10) and rest of population (M = 65.43, SD = 11.50); $t(41) = -3.68$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A130).
  - T-test for LR (M = 58.49, SD = 9.35) and rest of population (M = 65.13, SD = 11.54); $t(15) = -2.60$, $p = 0.02$. The difference is statistically significant (Appendix F, Figure A131).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup

This appendix reviews the investing financial indicators, which are based off of the 2016 audited financial statements of the First Nation governments. Accounting ratios (referred to as ratio) are reviewed, as well as per capita measures (referred to as capita). Note that the financial indicators are summarized in Appendix A. The categories of indicators that will be reviewed include: business activity, government business entity activity, trust activity, capital activity, and other activity. The financial indicators are reviewed by the subgroups as defined in Table 1. Refer to Appendix E for the detailed data tables and graphs. Both the mean and median values are evaluated in this appendix. A high-level discussion of the analysis presented in this appendix are provided throughout Chapter 3 of this manuscript.

Business Activity Indicators

Business activity indicators measure the general level of business activities carried on by the First Nation governments. Note that this includes businesses that are controlled by the First Nation government. Business entities that are owned, but maintain independence from the government, will be reviewed in the next section.

The investment asset ratio measures total investment assets (excluding government business entities and trust funds) divided by total financial assets. Refer to Appendix E, Figure A13. The total population mean is 0.28. The patterns that exist include:

- The mean ratio increases slightly with larger populations. The means for these subgroups are: LC 0.31, LM 0.32, and LR 0.34. As the difference is not significant, no further analysis will be conducted.
- The mean ratio is much larger for communities with small populations that are geographically close. The mean for this subgroup, SC, is 0.44.
    - T-test for SC (M = 0.436, SD = 1.079) and rest of population (M = 0.268, SD = 0.291); $t(31) = 0.88$, $p = 0.39$. The difference is not statistically significant (Appendix F, Figure A140).
- The median and mean values are very similar for the subgroups LC, LM, and LR, while the median values are relatively much lower for the other subgroups. Also, the

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

coefficients of variation for these subgroups are very high.

The investment asset capita measures total investment assets (excluding government business entities and trust funds) divided by community population. Refer to Appendix E, Figure A15. The total population mean is $14,306. The patterns that exist are:

- The mean capita measure is higher for communities with small populations. The means for these subgroups are: SC $30,015, SM $25,820, and SR $25,912.
    - T-test for SC (*M* = $30,015, *SD* = $77,735) and rest of population (*M* = $13,092, *SD* = $45,943); *t*(33) = 1.22, *p* = 0.23. The difference is not statistically significant (Appendix F, Figure A141).
    - T-test for SM (*M* = $25,820, *SD* = $92,335) and rest of population (*M* = $12,342, *SD* = $36,701); *t*(68) = 1.16, *p* = 0.25. The difference is not statistically significant (Appendix F, Figure A142).
    - T-test for SR (*M* = $25,912, *SD* = $75,352) and rest of population (*M* = $13,790, *SD* = $47,538); *t*(19) = 0.70, *p* = 0.50. The difference is not statistically significant (Appendix F, Figure A143).
- The mean capita measure is much lower for larger populations. The means for these subgroups are: LC $5,312, LM $7,356, and LR $11,346.
    - T-test for LC (*M* = $5,312, *SD* = $7,442) and rest of population (*M* = $15,217, *SD* = $51,264); *t*(416) = -3.54, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A144).
    - T-test for LM (*M* = $7,356, *SD* = $14,186) and rest of population (*M* = $14,880, *SD* = $50,765); *t*(133) = -2.16, *p* = 0.03. The difference is statistically significant (Appendix F, Figure A145).
    - T-test for LR (*M* = $11,346, *SD* = $25,408) and rest of population (*M* = $14,402, *SD* = $49,570); *t*(17) = -0.42, *p* = 0.68. The difference is not statistically significant (Appendix F, Figure A146).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- The mean capita measure is also much lower for medium populations that are geographically remote. The means for MR is $7,256.
    - T-test for MR (*M* = $7,256, *SD* = $14,499) and rest of population (*M* = $15,117, *SD* = 51,435); *t*(224) = -2.35, *p* = 0.02. The difference is statistically significant (Appendix F, Figure A147).
- The median values are significantly lower than the mean values for all subgroups, with a greatest difference for the subgroups SC, SM, and SR that have median values less than a tenth of the mean.

Gross business sales ratio measures gross business sales divided by total revenue. Refer to Appendix E, Figure A17. The total population mean is 0.10. The patterns that exist are:

- The mean ratio is much lower for geographically remote communities. The means for these subgroups are: SR 0.03, MR 0.06, and LR 0.05. Communities that are geographically closer have progressively higher mean ratios. Subgroup SC's mean is much higher at 0.16.
    - T-test for SR (*M* = 0.026, *SD* = 0.072) and rest of population (*M* = 0.102, *SD* = 0.166); *t*(28) = -4.13, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A148).
    - T-test for MR (*M* = 0.061, *SD* = 0.125) and rest of population (*M* = 0.104, *SD* = 0.167); *t*(66) = -2.11, *p* = 0.04. The difference is statistically significant (Appendix F, Figure A149).
    - T-test for LR (*M* = 0.053, *SD* = 0.092) and rest of population (*M* = 0.101, *SD* = 0.165); *t*(16) = -1.84, *p* = 0.08. The difference is not statistically significant (Appendix F, Figure A150).
    - T-test for SC (*M* = 0.156, *SD* = 0.233) and rest of population (*M* = 0.095, *SD* = 0.156); *t*(33) = 1.47, *p* = 0.15. The difference is not statistically significant (Appendix F, Figure A151).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- The median values for all subgroups, except LM, are zero or nearly zero and are substantially lower than the mean values.

Gross business sales capita measures gross business sales divided by community population. Refer to Appendix E, Figure A19. The total population mean is $4,436. The patterns that exist are:

- The mean capita measure is much lower for geographically remote communities. The means for these subgroups are: SR $1,361, MR $3,247, and LR $961. The trends show that this measure is progressively higher when communities are more geographically close, and have smaller populations. Note that subgroup SC's mean is much higher at $11,674.
    - T-test for SR (*M* = $1,361, *SD* = $3,196) and rest of population (*M* = $4,573, *SD* = $11,094); *t*(45) = -3.53, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A152).
    - T-test for MR (*M* = $3,247, *SD* = $7,907) and rest of population (*M* = $4,572, *SD* = $11,185); *t*(69) = -1.03, *p* = 0.31. The difference is not statistically significant (Appendix F, Figure A153).
    - T-test for LR (*M* = $961, *SD* = $1,715) and rest of population (*M* = $4,548, *SD* = $11,047); *t*(76) = -5.11, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A154).
    - T-test for SC (*M* = $11,674, *SD* = $24,189) and rest of population (*M* = $3,876, *SD* = $8,920); *t*(32) = 1.81, *p* = 0.08. The difference is not statistically significant (Appendix F, Figure A155).
- The median values for all subgroups, except LM, are zero or nearly zero and are substantially lower than the mean values.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

Business and economic development expense ratio measures business and economic expenses divided by total expenses. Refer to Appendix E, Figure A21. The total population mean is 0.13. The patterns that exist are:

- The mean ratio is much lower for geographically remote communities. The means for these subgroups are: SR 0.07, MR 0.08, and LR 0.08. The trends show that this ratio is progressively higher when communities are more geographically close, and have smaller populations. Note that subgroup SC's mean is much higher at 0.20.
    - T-test for SR (M = 0.072, SD = 0.101) and rest of population (M = 0.136, SD = 0.161); $t(23) = -2.63$, $p = 0.02$. The difference is statistically significant (Appendix F, Figure A156).
    - T-test for MR (M = 0.084, SD = 0.127) and rest of population (M = 0.139, SD = 0.162); $t(64) = -2.70$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A157).
    - T-test for LR (M = 0.084, SD = 0.090) and rest of population (M = 0.135, SD = 0.161); $t(16) = -2.03$, $p = 0.06$. The difference is not statically significant (Appendix F, Figure A158).
    - T-test for SC (M = 0.196, SD = 0.226) and rest of population (M = 0.129, SD = 0.153); $t(33) = 1.67$, $p = 0.11$. The difference is not statistically significant (Appendix F, Figure A159).
- The median values are substantially lower than the mean values, except for the subgroups LM and LR.

Business and economic development expense capita measures business and economic development expenses divided by community population. Refer to Appendix E, Figure A23. The total population mean is $5,251. The patterns that exist are:

- The mean capita measure is much lower for geographically remote communities. The means for these subgroups are: SR $4,292, MR $3,777, and LR $1,697. The trends show that this capita measure is progressively higher when communities are more

geographically close, and have smaller populations. Note that subgroup SC's mean is much higher at $11,736.

  - T-test for SR (*M* = $4,292, *SD* = $10,340) and rest of population (*M* = $5,293, *SD* = $9,786); *t*(20) = -0.41, *p* = 0.68. The difference is not statically significant (Appendix F, Figure A160).
  - T-test for MR (*M* = $3,777, *SD* = $7,129) and rest of population (*M* = $5,420, *SD* = $10,055); *t*(69) = -1.41, *p* = 0.16. The difference is not statically significant (Appendix F, Figure A161).
  - T-test for LR (*M* = $1,697, *SD* = $1,796) and rest of population (*M* = $5,366, *SD* = $9,932); *t*(55) = -5.42, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A162).
  - T-test for SC (*M* = $11,736, *SD* = $20,248) and rest of population (*M* = $4,749, *SD* = $8,319); *t*(32) = 1.94, *p* = 0.06. The difference is not statistically significant (Appendix F, Figure A163).

- The median values for all subgroups are substantially lower than the mean values.

Government Business Entity (GBE) Activity Indicators

The GBE asset ratio measures GBE assets divided by total financial assets. Refer to Appendix E, Figure A25. The total population mean is 0.38. The patterns that emerge are:

- The mean ratio is much lower for small population communities that are geographically close and remote. The subgroup means for small populations are: SC 0.14, SM, 0.47, and SR 0.21. No other major trends appear.
  - T-test for SC (*M* = 0.136, *SD* = 0.237) and rest of population (*M* = 0.397, *SD* = 0.824); *t*(85) = -4.03, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A164).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SR (M = 0.214, SD = 0.472) and rest of population (M = 0.387, SD = 0.812); $t(20) = -1.37$, $p = 0.18$. The difference is not statically significant (Appendix F, Figure A165).

- The median values for all subgroups, except LM and LR, are substantially lower than the mean values. Subgroups LM and LR's medians are less than the means, but are relatively closer in value (approximately two-thirds the value).

The GBE asset capita measures GBE assets divided by community population. Refer to Appendix E, Figure A27. The total population mean is $14,481. The patterns are:

- The mean capita measure is lower for large populations. The subgroup means are: LC $6,765, LM $6,890, and LR $7,629.
  - T-test for LC (M = $6,765, SD = $11,461) and rest of population (M = $15,310, SD = $62,532); $t(305) = -2.18$, $p = 0.03$. The difference is statistically significant (Appendix F, Figure A166).
  - T-test for LM (M = $6,890, SD = $10,360) and rest of population (M = $15,077, SD = $61,765); $t(244) = -2.11$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A167).
  - T-test for LR (M = $7,629, SD = $9,172) and rest of population (M = $14,690, SD = $60,444); $t(59) = -1.67$, $p = 0.10$. The difference is not statistically significant (Appendix F, Figure A168).
- The mean capita measure is much higher for small populations if the communities are geographically medium or remote. The subgroup means are: SM $31,387 and SR $50,022.
  - T-test for SM (M = $31,387, SD = $104,674) and rest of population (M = $11,601, SD = $47,541); $t(57) = 1.37$, $p = 0.18$. The difference is not statistically significant (Appendix F, Figure A169).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SR (*M* = $50,022, *SD* = $178,501) and rest of population (*M* = $12,879, *SD* = $47,950); *t*(15) = 0.83, *p* = 0.42. The difference is not statistically significant (Appendix F, Figure A170).

- The median values for all subgroups, except LR, are substantially lower than the mean values. This is most notable in the subgroups SM and SR.

GBE equity ratio measures GBE equity divided by accumulated surplus. Refer to Appendix E, Figure A33. The total population mean is 0.10. The patterns are:

- The mean ratio is higher for small populations that are geographically close and medium. The subgroup means for small populations are: SC 0.15, SM 0.16, and SR 0.08.
  - T-test for SC (*M* = 0.152, *SD* = 0.329) and rest of population (*M* = 0.093, *SD* = 0.379); *t*(36) = 0.93, *p* = 0.36. The difference is not statistically significant (Appendix F, Figure A171).
  - T-test for SM (*M* = 0.164, *SD* = 0.800) and rest of population (*M* = 0.086, *SD* = 0.256); *t*(58) = 0.74, *p* = 0.46. The difference is not statistically significant (Appendix F, Figure A172).
  - T-test for SR (*M* = 0.082, *SD* = 0.310) and rest of population (*M* = 0.098, *SD* = 0.378); *t*(20) = -0.21, *p* = 0.83. The difference is not statistically significant (Appendix F, Figure A173).
- The median values are zero or near zero for all subgroups except LC and LM.

GBE equity capita measures GBE equity divided by community population. Refer to Appendix E, Figure A35. The total population mean is $7,113. The patterns are:

- The mean capita measure is much higher for small populations. The subgroup means are: SC $13,271, SM $10,233, and SR $33,531.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SC (*M* = $13,271, *SD* = $30,276) and rest of population (*M* = $6,624, *SD* = $39,603); *t*(38) = 1.13, *p* = 0.27. The difference is not statistically significant (Appendix F, Figure A174).
  - T-test for SM (*M* = $10,233, *SD* = $61,240) and rest of population (*M* = $6,606, *SD* = $34,161); *t*(62) = 0.44, *p* = 0.66. The difference is not statistically significant (Appendix F, Figure A175).
  - T-test for SR (*M* = $33,531, *SD* = $136,073) and rest of population (*M* = $5,893, *SD* = $27,359); *t*(17) = 0.86, *p* = 0.40. The difference is not statistically significant (Appendix F, Figure A176).
- The mean capita measure is lower for large population. The subgroup means are: LC $3,612, LM $2,739 and LR $4,243.
  - T-test for LC (*M* = $3,612, *SD* = $8,716) and rest of population (*M* = $7,472, *SD* = $40,850); *t*(267) = -1.51, *p* = 0.13. The difference is not statistically significant (Appendix F, Figure A177).
  - T-test for LM (*M* = $2,739, *SD* = $4,749) and rest of populations (*M* = $7,498, *SD* = $40,639); *t*(394) = -2.11, *p* = 0.04. The difference is statistically significant (Appendix F, Figure A178).
  - T-test for LR (*M* = $4,243, *SD* = $8,081) and rest of population (*M* = $7,120, *SD* = $39,563); *t*(36) = -0.96, *p* = 0.34. The difference is not statistically significant (Appendix F, Figure A179).
- The median values are substantially lower compared to the mean values for all subgroups.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

GBE revenue ratio measures GBE revenue divided by total revenue. Refer to Appendix E, Figure A37. The total population mean is 0.26. The patterns are:

- Most subgroups are closely aligned with the total population mean. Three subgroups' means are exceptions, which are: small population and geographically close (SC 0.11), medium populations that are geographically medium (MM 0.35), and medium populations that are geographically remote (MR 0.12).
    - T-test for SC (M = 0.112, SD = 0.198) and rest of population (M = 0.268, SD = 0.655); $t(77) = -2.92$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A180).
    - T-test for MM (M = 0.347, SD = 0.835) and rest of population (M = 0.222, SD = 0.538); $t(137) = 1.41$, $p = 0.16$. The difference is not statistically significant (Appendix F, Figure A181).
    - T-test for MR (M = 0.116, SD = 0.216) and rest of population (M = 0.270, SD = 0.659); $t(95) = -2.90$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A182).
- The median values are zero or near zero for all subgroups except LM and LR.

GBE revenue capita measures GBE revenue divided by community population. Refer to Appendix E, Figure A39. The total population mean is $10,398. The patterns are:

- The mean capita measure is lower for large populations. The subgroup means are: LC $4,217, LM $5,121, and LR $3,879.
    - T-test for LC (M = $4,217, SD = $10,189) and rest of population (M = $11,062, SD = $58,504); $t(319) = -1.89$, $p = 0.06$. The difference is not statistically significant (Appendix F, Figure A183).
    - T-test for LM (M = $5,121, SD = $5,587) and rest of population (M = $10,812, SD = $57,820); $t(366) = -1.73$, $p = 0.09$. The difference is not statistically significant (Appendix F, Figure A184).

  - T-test for LR (*M* = $3,879, *SD* = $4,306) and rest of population (*M* = $10,597, *SD* = $56,540); *t*(243) = -2.07, *p* = 0.04. The difference is statistically significant (Appendix F, Figure A185).

- The mean capita measure is much higher small populations that are geographically medium and remote, but is lower for small populations that are geographically close. The subgroup means for small population communities are: SC $4,621, SM $23,342, and SR $42,744.
  - T-test for SC (*M* = $4,621, *SD* = $8,588) and rest of population (*M* = $10,815, *SD* = $57,626); *t*(260) = -1.75, *p* = 0.08. The difference is not statistically significant (Appendix F, Figure A186).
  - T-test for SM (*M* = $23,342, *SD* = $109,780) and rest of population (*M* = $8,193, *SD* = $39,738); *t*(55) = 1.00, *p* = 0.32. The difference is not statistically significant (Appendix F, Figure A187).
  - T-test for SR (*M* = $42,744, *SD* = $165,155) and rest of population (*M* = $8,940, *SD* = $45,152); *t*(15) = 0.82, *p* = 0.43. The difference is not statistically significant (Appendix F, Figure A188).
- The median values are substantially lower compared to the mean values for all subgroups except LM and LR.

GBE expense ratio measures GBE expenses divided by total expenses. Refer to Appendix E, Figure A41. The total population mean is 0.29. The patterns are:

- No distinct patterns emerge based on geographic location or population. Two specific subgroups' means differ significantly from the total population. The ratio is much lower for small populations that are geographically close (SC 0.16), is much lower for medium populations that are geographically remote (MR 0.10), is much higher for small populations that are geographically remote (SR 0.40), and higher for medium populations that are geographically medium (MM 0.41).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SC (M = 0.158, SD = 0.456) and rest of population (M = 0.297, SD = 0.848); $t(38) = -1.37$, $p = 0.18$. The difference is not statistically significant (Appendix F, Figure A189).
  - T-test for MR (M = 0.101, SD = 0.192) and rest of population (M = 0.305, SD = 0.860); $t(183) = -3.49$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A190).
  - T-test for SR (M = 0.402, SD = 1.438) and rest of population (M = 0.283, SD = 0.792); $t(15) = 0.33$, $p = 0.75$. The difference is not statistically significant (Appendix F, Figure A191).
  - T-test for MM (M = 0.413, SD = 1.217) and rest of population (M = 0.240, SD = 0.613); $t(123) = 1.38$, $p = 0.17$. The difference is not statistically significant (Appendix F, Figure A192).
- The median values are substantially lower compared to the mean values for all subgroups except LM and LR.

GBE expense capita measures GBE expenses divided by community population. Refer to Appendix E, Figure A43. The total population mean is $9,362. The patterns are:

- The mean is much higher for small populations that are geographically medium and remote: SM $23,758 and SR $25,172
  - T-test for SM (M = $23,758, SD = $111,430) and rest of population (M = $6,910, SD = $25,373); $t(54) = 1.11$, $p = 0.27$. The difference is not statistically significant (Appendix F, Figure A193).
  - T-test for SR (M = $25,172, SD = $95,600) and rest of population (M = $8,649, SD = $45,515); $t(15) = 0.69$, $p = 0.50$. The difference is not statistically significant (Appendix F, Figure A194).
- The mean is much lower for large populations: LC $4,506, LM $5,227, and LR $3,710. The mean is also much lower for the subgroup MR $3,823.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for LC (*M* = $4,506, *SD* = $10,251) and rest of population (*M* = $9,884, *SD* = $51,037); *t*(277) = -1.64, *p* = 0.10. The difference is not statistically significant (Appendix F, Figure A195).
  - T-test for LM (*M* = $5,227, *SD* = $5,984) and rest of population (*M* = $9,687, *SD* = $50,455), *t*(342) = -1.51, *p* = 0.13. The difference is not statistically significant (Appendix F, Figure A196).
  - T-test for LR (*M* = $3,710, *SD* = $4,350) and rest of population (*M* = $9,535, *SD* = $49,343); *t*(191) = -2.00, *p* = 0.05. The difference is statistically significant (Appendix F, Figure A197).
  - T-test for MR (*M* = $3,823, *SD* = $9,778) and rest of population (*M* = $9,849, *SD* = $50,609); *t*(230) = -1.84, *p* = 0.07. The difference is not statistically significant (Appendix F, Figure A198).
- The median values are substantially lower compared to the mean values for all subgroups except LM.

GBE net income ratio and capita measure were originally going to be evaluated in this study. Upon reviewing the results, the results have a significantly large coefficient of variation. As a result, this information will not be included in this study. The raw data is included in Appendix E, figures A45-A48 for reference purposes.

Trust Fund Activity Indicators

Trust fund asset ratio measures trust fund assets divided by total financial assets. Refer to Appendix E, Figure A49. The total population mean is 0.10. The patters are:

- No clear patterns emerge regarding population or geographic remoteness. Most subgroup means are similar to the total population mean, with two exceptions: geographically close communities with small populations (LC 0.16) and geographically remote communities with large populations (LR 0.02).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for LC (M = 0.160, SD = 0.269) and rest of population (M = 0.096, SD = 0.189); $t(44) = 1.48$, $p = 0.15$. The difference is not statistically significant (Appendix F, Figure A199).
  - T-test for LR (M = 0.019, SD = 0.037) and rest of population (M = 0.105, SD = 0.201); $t(52) = -6.18$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A200).
- The median values are zero or near zero for all subgroups.

Trust fund asset capita measures trust fund assets divided by community population. Refer to Appendix E, Figure A51. The total population mean is $6,279. The patterns are:

- Geographically remote communities have either much higher or lower mean capita measures. The subgroup means are: SR $2,110, MR $20,669, and LR $254. The medium population subgroup is unusually high. Once the outlier is adjusted for, it is likely that geographically remote communities have a lower capita measure.
  - T-test for SR (M = $2,110, SD = $4,242) and rest of population (M = $6,464, SD = $36,329); $t(241) = -2.17$, $p = 0.03$. The difference is statistically significant (Appendix F, Figure A201).
  - T-test for MR (M = $20,669, SD = $98,841) and rest of population (M = $4,624, SD = $16,802); $t(45) = 1.10$, $p = 0.28$. The difference is not statistically significant (Appendix F, Figure A202).
  - T-test for LR (M = $254, SD = 769) and rest of population (M = $6,474, SD = $36,122); $t(441) = -3.55$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A203).
- The median values are substantially lower than the mean values for all subgroups.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

Trust fund revenue ratios measures trust fund revenue divided by total revenue. Refer to Appendix E, Figure A53. The total population mean is 0.03. The patterns are:

- Geographically remote communities have a very low, or zero, mean ratio. The subgroup means are: SR 0.00, MR 0.01, and LR 0.00.
    - T-test for SR (M = 0.002, SD = 0.004) and rest of population (M = 0.028, SD = 0.074); $t(442) = -7.25$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A204).
    - T-test for MR (M = 0.013, SD = 0.050) and rest of population (M = 0.029, SD = 0.075); $t(72) = -1.92$, $p = 0.06$. The difference is not statistically significant (Appendix F, Figure A205).
    - T-test for LR (M = 0.003, SD = 0.001) and rest of population (M = 0.028, SD = 0.074); $t(110) = -5.78$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A206).
- Geographically close with small populations also have a zero mean ratio: SC 0.00.
    - Test for SC (M = 0.004, SD = 0.015) and rest of population (M = 0.029, SD = 0.075); $t(219) = -5.59$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A207).
- The median values are zero for all subgroups.

Trust fund revenue capita measures trust fund revenue divided by community population. Refer to Appendix E, Figure A55. The total population mean is $868. The patterns are:

- Geographically remote communities have a very low mean capita measure, at: SR $46, MR $382, and LR $38.
    - T-test for SR (M = $46, SD = $89) and rest of population (M = $905, SD = $3,433); $t(437) = -5.13$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A208).

  - T-test for MR (*M* = $382, *SD* = $1,354) and rest of population (*M* = $924, *SD* = $3,518); *t*(136) = -2.03, *p* = 0.04. The difference is statistically significant (Appendix F, Figure A209).
  - T-test for LR (*M* = $38, *SD* = $120) and rest of population (*M* = $895, *SD* = $3,414); *t*(446) = -5.12, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A210).
- Geographically close with small populations also have a low mean capita measure: SC $89.
  - T-test for SC (*M* = $89, *SD* = $359) and rest of population (*M* = $928, *SD* = $3,482); *t*(432) = -4.60, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A211).
- The median values are zero or near zero for all subgroups.

Capital Activity Indicators

Tangible capital asset (TCA) ratio measures TCA divided by total assets. Refer to Appendix E, Figure A57. The total population mean is 0.65. The patterns are:

- Geographically close communities have a marginally lower mean ratio. Aside from this, all the subgroup means are similar to the total population.
- The median values are very similar to the mean values for all subgroups.

TCA capita measures TCA divided by community population. Refer to Appendix E, Figure A59. The total population mean is $44,600. The patterns are:

- Small population communities have a much higher mean capita measure: SC $50,660, SM $65,209, and SR $93,628.
  - T-test SC (*M* = $50,660, *SD* = $39,627) and rest of population (*M* = $44,153, *SD* = $38,073); *t*(31) = 0.84, *p* = 0.41. The difference is not statistically significant (Appendix F, Figure A212).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test SM (*M* = $65,209, *SD* = $44,404) and rest of population (*M* = $41,312, *SD* = $36,071); *t*(68) = 3.83, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A213).
  - T-test SR (*M* = $93,628, *SD* = $100,037) and rest of population (*M* = $42,724, *SD* = $32,535); *t*(14) = 1.97; *p* = 0.07. The difference is not statistically significant (Appendix F, Figure A214).

- Large population communities have a lower mean capita measure: LC $27,962, LM $25,543, and LR $25,672.
  - T-test LC (*M* = $27,962, *SD* = $19,691) and rest of population (*M* = $46,414, *SD* = $39,256); *t*(80) = -4.95, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A215).
  - T-test LM (*M* = $25,543, *SD* = $11,187) and rest of population (*M* = $46,282, *SD* = $39,241); *t*(132) = -7.37, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A216).
  - T-test LR (*M* = $25,672, *SD* = $9,051) and rest of population (*M* = $45,126, *SD* = $38,535); *t*(25) = -5.81, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A217).
- The median values are slightly lower than the mean values for all of the subgroups, except for SR which has a substantially lower median value (median is half of mean). Note that the variability between the median values is less than between the mean values.

Gross cash inflows from capital represents only a minor amount of cash inflows. Due to the insignificant amount, this ratio and capita measure will not be reviewed. The raw data is available for reference in Appendix E, Figures A61 – A64.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

Gross cash outflow from capital ratio measures gross cash outflows from capital divided by total gross cash outflows (excluding operating cash flows). Refer to Appendix E, Figure A65. The total population mean is 0.53. The patterns are:

- Most of the subgroup means are very similar to the population mean. Only one exception exists, which is small populations that are geographically remote: SR 0.75.
    - T-test for SR (M = 0.745, SD = 0.222) and rest of population (M = 0.525, SD = 0.308); $t(16) = 3.71$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A218).
- The median values are very similar to the mean values for all subgroups.

Gross cash outflow from capital capita measures gross cash outflows from capital divided by community population. Refer to Appendix E, Figure A67. The total population mean is $4,232. The patterns are:

- The mean capita measure is lower for communities with large populations. The subgroup means are: LC $3,251, LM $2,423, and LR $2,911.
    - T-test for LC (M = $3,251, SD = $5,224) and rest of population (M = $4,339, SD = $6,832); $t(55) = 1.21$, $p = 0.23$. The difference is not statistically significant (Appendix F, Figure A219).
    - T-test for LM (M = $2,423, SD = $2,773) and rest of population (M = $4,392, SD = $6,913); $t(77) = 3.28$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A220).
    - T-test for LR (M = $2,911, SD = $4,835) and rest of population (M = $4,269, SD = $6,739); $t(11) = 0.91$, $p = 0.38$. The difference is not statistically significant (Appendix F, Figure A221).
- The mean capita measure is higher for communities with small populations that are geographically medium and remote. The subgroup means are: SM: $5,948 and SR $7,927.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SM (M = \$5,948, SD = \$8,589) and rest of population (M = \$3,958, SD = \$6,311); $t(65) = -1.66$, $p = 0.10$. The difference is not statistically significant (Appendix F, Figure A222).
  - T-test for SR (M = \$7,927, SD = \$12,777) and rest of population (M = \$4,091, SD = \$6,335); $t(14) = -1.16$, $p = 0.27$. The difference is not statistically significant (Appendix F, Figure A223).
- The median values are lower than the median values for all subgroups, with the most significant difference present for the subgroups SC, SM, and SR.

Net cash flow from capital ratio has significant variation, and does not provide valuable insight. This ratio will not be analyzed. The raw data can be viewed in Appendix E, Figures A69-A70.

Net cash flow from capital capita measures net cash flows from capital divided by community population. Refer to Appendix E, Figure A71. The total population mean is \$4,141. The patterns are:

- The mean capita measure is lower for large populations. The subgroup means are: LC \$3,150, LM \$2,383, and LR \$2,911.
  - T-test for LM (M = \$2,383, SD = \$2,766) and rest of population (M = \$4,296, SD = \$6,944); $t(78) = 3.19$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A224).
  - T-test for LR (M = \$2,911, SD = \$4,835) and rest of population (M = \$4,175, SD = \$6,767); $t(11) = 0.84$, $p = 0.42$. The difference is not statistically significant (Appendix F, Figure A225).
- The mean capita measure is higher for small populations that are geographically medium and remote. The subgroup means are: SM: \$5,851 and SR \$7,900.
- The median values are lower than the median values for all subgroups, with the most significant difference present for the subgroups SC, SM, and SR.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- T-test for SM (M = \$5,851, SD = \$8,594) and rest of population (M = \$3,869, SD = \$6,345); $t(65) = -1.66$, $p = 0.10$. The difference is not statistically significant (Appendix F, Figure A226).
- T-test for SR (M = \$7,900, SD = \$12,781) and rest of population (M = \$3,997, SD = \$6,364); $t(14) = -1.18$, $p = 0.26$. The difference is not statistically significant (Appendix F, Figure A227).

Other Ratios

Long term debt ratio measures long term debt divided by total liabilities. Refer to Appendix E, Figure A73. The total population ratio is 0.52. The patterns are:

- The mean ratios for large populations are slightly higher. The subgroup means are: LC 0.59, LM 0.66, LR 0.63. As the differences are only slight, further analysis will not be conducted.
- The median and mean values are very similar for all subgroups.

Long term debt capita measures long term debt divided by community population. Refer to Appendix E, Figure A75. The total population mean is \$11,563. The patterns are:

- Small populations have a higher mean capita measure: SC \$15,290, SM \$14,848, and SR \$15,907. The difference is not significant, and will not be evaluated further.
- The median values are approximately half of the mean values for the subgroups SC, SM, and SR. The median values are slightly less than the mean values for the other subgroups.

Net cash flow from operating ratio has significant variances, and does not provide valuable insight. No further analysis of this ratio will be conducted. The raw data is available in Appendix E, Figures A93-A94.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

Net cash flow from operating capita measures net cash flows from operating divided by community population. Refer to Appendix E, Figure A95. The total population mean is $4,445. The patterns are:

- Small populations have a higher mean capita measure: SC $9,059, SM $9,560, and SR $6,496.
    - T-test for SC (*M* = $9,059, *SD* = $12,475) and rest of population (*M* = $4,089, *SD* = $8,534); *t*(33) = 2.21, *p* = 0.03. The difference is statistically significant (Appendix F, Figure A228).
    - T-test for SM (*M* = $9,560, *SD* = $15,792) and rest of population (*M* = $3,573, *SD* = $6,822); *t*(68) = 3.01, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A229).
    - T-test for SR (*M* = $6,496, *SD* = $13,434) and rest of population (*M* = $4,354, *SD* = $8,708); *t*(19) = 0.69, *p* = 0.50. The difference is not statistically significant (Appendix F, Figure A230).
- Large populations have a lower mean capita measure: LC: $2,177, LM $359, and LR $2,621.
    - T-test for LC (*M* = $2,177, *SD* = $2,922) and rest of population (*M* = $4,675, *SD* = $9,316); *t*(154) = -3.84, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A231).
    - T-test for LM (*M* = $359, *SD* = $3,940) and rest of population (*M* = $4,782, *SD* = $9,163); *t*(70) = -5.44, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A232).
    - T-test for LR (*M* = $2,621, *SD* = $4,960) and rest of population (*M* = $4,504, *SD* = $9,046); *t*(16) = -1.35, *p* = 0.20. The difference is not statistically significant (Appendix F, Figure A233).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- The median values are less than half of the mean values for the subgroups SC, SM, SR, MR, and SR. The median values show mixed results for the other subgroups.

Gross cash inflows from investing ratio measures gross cash inflows from investing divided by total gross cash inflows (excluding operating). Refer to Appendix E, Figure A97. The total population mean is 0.30. The patterns are:

- Geographically close communities with small or large populations have higher mean ratios: SC 0.45 and LC 0.39.
    - T-test for SC (M = 0.455, SD = 0.473) and rest of population (M = 0.293, SD = 0.386); $t(26) = 1.68$, $p = 0.11$. The difference is not statistically significant (Appendix F, Figure A234).
    - T-test for LC (M = 0.386, SD = 0.423) and rest of population (M = 0.294, SD = 0.389); $t(46) = 1.29$, $p = 0.20$. The difference is not statistically significant (Appendix F, Figure A235).
- The median values show mixed results amoung the subgroups with no distinct patterns to note.

Gross cash inflows from investing capita measures gross cash inflows from investing divided by community population. Refer to Appendix E, Figure A99. The total population mean is $2,317. The patterns are:

- Geographically remote communities have a much lower mean capita measure: SR $429, MR $1,080, and LR $176.
    - T-test for SR (M = $429, SD = $1,663) and rest of population (M = $2,401, SD = $12,152); $t(178) = -2.81$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A236).
    - T-test for MR (M = $1,080, SD = $2,641) and rest of population (M = $2,460, SD = $12,529); $t(337) = -1.87$, $p = 0.06$. The difference is not statistically significant (Appendix F, Figure A237).

  - T-test for LR (*M* = $176, *SD* = $442) and rest of population (*M* = $2,387, *SD* = $12,086); *t*(445) = -3.73, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A238).

- Small populations that are geographically close have a much higher mean capita measure: SC $5,476.
  - T-test for SC (*M* = $5,476, *SD* = $18,954) and rest of population (*M* = $2,073, *SD* = $11,171); *t*(33) = 1.00, *p* = 0.32. The difference is not statistically significant (Appendix F, Figure A239).
- The median values are zero or near zero for all subgroups, which are substantially lower than the mean values.

Gross cash outflows from investing ratio measures gross cash outflows from investing divided by total gross cash outflows (excluding operating). Refer to Appendix E, Figure A101. The total population mean is 0.14. The patterns are:

- Geographically remote communities have lower mean ratios: SR 0.04, MR 0.06, LR 0.04.
  - T-test for SR (*M* = 0.045, *SD* = 0.112) and rest of population (*M* = 0.147, *SD* = 0.254); *t*(28) = -3.60, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A240).
  - T-test for MR (*M* = 0.058, *SD* = 0.147) and rest of population (*M* = 0.153, *SD* = 0.257); *t*(83) = -3.74, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A241).
  - T-test for LR (*M* = 0.039, *SD* = 0.068) and rest of population (*M* = 0.146, *SD* = 0.253); *t*(29) = -4.91, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A242).
- Small populations that are geographically close have a high mean ratio: SC 0.23

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SC (M = 0.226, SD = 0.349) and rest of population (M = 0.136, SD = 0.240); $t(33) = 1.42$, $p = 0.16$. The difference is not statically significant (Appendix F, Figure A243).
- The median values are zero or near zero for all subgroups, which are substantially lower than the mean values.

Gross cash outflows from investing capita measures gross cash outflows from investing divided by community population. Refer to Appendix E, Figure A103. The total population mean is $2,972. The patterns are:

- Geographically remote communities have lower mean ratios: SR $375, MR $1,133, and LR $192.
  - T-test for SR (M = $375, SD = $887) and rest of population (M = $3,087, SD = $13,108); $t(422) = 4.07$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A244).
  - T-test for MR (M = $1,133, SD = $6,349) and rest of population (M = $3,183, SD = $13,373); $t(102) = 1.78$, $p = 0.08$. The difference is not statistically significant (Appendix F, Figure A245).
  - T-test for LR (M = $192, SD = $417) and rest of population (M = $3,062, SD = $13,035); $t(446) = 4.51$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A246).
- Large populations have lower mean ratios: LC $1,215, LM $1,079, and LR $192
  - T-test for LC (M = $1,215, SD = $2,954) and rest of population (M = $3,150, SD = $13,429); $t(274) = 2.39$; $p = 0.02$. The difference is statistically significant (Appendix F, Figure A247).
  - T-test for LM (M = $1,079, SD = $2,496) and rest of population (M = $3,128, SD = $13,328); $t(266) = 2.61$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A248).
  - T-test for LR: see above. The difference is statistically significant.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- Small populations that are geographically close have a much higher mean capita measure: SC $8,805
    - T-test for SC (*M* = $8,805, *SD* = $23,875) and rest of population (*M* = $2,521, *SD* = $11,488); *t*(32) = -1.48; *p* = 0.15. The difference is not statistically significant (Appendix F, Figure A249).
- The median values are zero or near zero for all subgroups, which are substantially lower than the mean values.

The financial indicators for net cash flows from investing (both ratio and capita) have significant variation and do not provide valuable analysis. These indicators will not be reviewed further. The raw data is available for reference in Appendix E, Figures A105 – A108.

Earned revenue ratio measures earned revenue divided by total revenue. Refer to Appendix E, Figure A77. The total population mean is 0.20. The patterns are:

- Geographically close have higher mean ratios: SC 0.32, MC 0.28, and LC 0.25.
    - T-test for SC (*M* = 0.319, *SD* = 0.273) and rest of population (*M* = 0.190, *SD* = 0.193); *t*(34) = 2.64, *p* = 0.01. The difference is statistically significant (Appendix F, Figure A250).
    - T-test for MC (*M* = 0.280, *SD* = 0.232) and rest of population (*M* = 0.182, *SD* = 0.191); *t*(98) = 3.44, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A251).
    - T-test for LC (*M* = 0.249, *SD* = 0.214) and rest of population (*M* = 0.194, *SD* = 0.200); *t*(48) = 1.58, *p* = 0.12. The difference is not statistically significant (Appendix F, Figure A252).
- Geographically remote have lower mean ratios: SR: 0.08, MR 0.13, and LR 0.11.
    - T-test for SR (*M* = 0.079, *SD* = 0.214) and rest of population (*M* = 0.204, *SD* = 0.200); *t*(20) = -2.51, *p* = 0.02. The difference is statistically significant (Appendix F, Figure A253).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for MR (M = 0.127, SD = 0.164) and rest of population (M = 0.207, SD = 0.205); $t(63) = -3.05$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A254).
  - T-test for LR (M = 0.114, SD = 0.136) and rest of population (M = 0.202, SD = 0.203); $t(15) = -2.32$, $p = 0.03$. The difference is statistically significant (Appendix F, Figure A255).
- The median values are very similar, but slightly lower, than the mean values for all of the subgroups except SR and MR. The median values for the SR and MR subgroups are significantly lower at approximately half of the mean values.

Earned revenue capita measures earned revenue divided by community population. Refer to Appendix E, Figure A79. The total population mean is $7,982. The patterns are:

- Large populations have a much lower mean capita measure: LC: $6,506, LM $3,744, and LR $2,455
  - T-test for LC (M = $6,506, SD = $9,522) and rest of population (M = $8,131, SD = $15,035); $t(63) = -0.98$, $p = 0.33$. The difference is not statistically significant (Appendix F, Figure A256).
  - T-test for LM (M = $3,744, SD = $3,614) and rest of population (M = $8,332, SD = $15,120); $t(176) = -4.73$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A257).
  - T-test for LR (M = $2,455, SD = $3,985) and rest of population (M = $8,161, SD = $14,799); $t(29) = -4.45$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A258).
- Small populations that are geographically close have a much higher mean capita measure: SC $20,438
  - T-test for SC (M = $20,438, SD = $27,931) and rest of population (M = $7,019, SD = $12,595); $t(32) = 2.70$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A259).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- The median values are significantly lower than the median values for all subgroups except LM, many of which have median values less than half of the mean values.

Earned and other revenue ratio measures earned and other revenue divided by total revenue. Refer to Appendix E, Figure A81. The total population mean is 0.34. The patterns are:

- Geographically close communities have slightly higher mean ratios: SC: 0.43, MC 0.42, and LC 0.38
    - T-test for SC (M = 0.428, SD = 0.255) and rest of population (M = 0.330, SD = 0.219); $t(35) = 2.11$, $p = 0.04$. The difference is statistically significant (Appendix F, Figure A260).
    - T-test for MC (M = 0.420, SD = 0.234) and rest of population (M = 0.320, SD = 0.217); $t(104) = 3.45$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A261).
    - T-test for LC (M = 0.383, SD = 0.225) and rest of population (M = 0.332, SD = 0.222); $t(49) = 1.39$, $p = 0.17$. The difference is not statistically significant (Appendix F, Figure A262).
- Geographically remote communities have slightly lower mean ratios: SR 0.28, MR 0.26, and LR 0.21
    - T-test for SR (M = 0.277, SD = 0.251) and rest of population (M = 0.339, SD = 0.221); $t(19) = -1.07$, $p = 0.30$. The difference is not statistically significant (Appendix F, Figure A263).
    - T-test for MR (M = 0.259, SD = 0.208) and rest of population (M = 0.346, SD = 0.223); $t(58) = -2.67$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A264).
    - T-test for LR (M = 0.214, SD = 0.153) and rest of population (M = 0.341, SD = 0.224); $t(15) = -2.99$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A265).
- The median values are very similar to the mean values for all subgroups.

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

Earned and other revenue capita measures earned and other revenue divided by community population. Refer to Appendix E, Figure A83. The total population mean is $13,286. The patterns are:

- Small populations have a much higher mean capita measure: SC $23,976, SM $18,895, and SR $21,482
    - T-test for SC (*M* = $23,976, *SD* = $28,454) and rest of population (*M* = $12,460, *SD* = $20,998); *t*(34) = 2.24, *p* = 0.03. The difference is statistically significant (Appendix F, Figure A266).
    - T-test for SM (*M* = $18,895, *SD* = $21,607) and rest of population (*M* = $12,329, *SD* = $21,696); *t*(88) = 2.26, *p* = 0.03. The difference is statistically significant (Appendix F, Figure A267).
    - T-test for SR (*M* = $21,482, *SD* = $40,918) and rest of population (*M* = $12,922, *SD* = $20,537); *t*(18) = 0.91, *p* = 0.38. The difference is not statistically significant (Appendix F, Figure A268).
- Large populations have a lower mean capita measure: LC $9,018, LM $9,096, and LR $4,973
    - T-test for LC (*M* = $9,018, *SD* = $10,315) and rest of population (*M* = $13,718, *SD* = $22,584); *t*(88) = -2.39, *p* = 0.02. The difference is statistically significant (Appendix F, Figure A269).
    - T-test for LM (*M* = $9,096, *SD* = $16,613) and rest of population (*M* = $13,632, *SD* = $22,136); *t*(44) = -1.49, *p* = 0.14. The difference is not statistically significant (Appendix F, Figure A270).
    - T-test for LR (*M* = $4,973, *SD* = $4,937) and rest of population (*M* = $13,556, *SD* = $22,064); *t*(38) = -5.07, *p* = 0.00. The difference is statistically significant (Appendix F, Figure A271).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

- The medians are lower than the means for all of the subgroups, with the median values often at half the mean value. The median values are smaller for large population (similar to the pattern of the means), however the variation between the subgroups is less pronounced for the median values compared to the mean values.

Federal & provincial gov't revenue ratio measures federal & provincial transfers divided by total revenue. Refer to Appendix E, Figure A85. The total population mean is 0.57. The patterns are:

- Geographically remote mean ratios are higher with medium and large populations: SR 0.61, MR 0.67, and LR 0.76. The other subgroups are largely aligned with the total population mean.
    - T-test for MR (M = 0.669, SD = 0.231) and rest of population (M = 0.554, SD = 0.225); $t(56) = 3.23$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A272).
    - T-test for LR (M = 0.759, SD = 0.164) and rest of population (M = 0.559, SD = 0.227); $t(15) = 4.42$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A273).
- The median values are very similar to the mean values for all subgroups.

Federal & Provincial gov't revenue capita measures federal & provincial transfers divided by community population. Refer to Appendix E, Figure A87. The total population mean is $16,392. The patterns are:

- Small population mean capita measures are higher: SC $19,335, SM $22,630, and SR $28,378. The capita measures progressively decline with larger populations. The capita measure also progressively declines with more geographically close communities.
    - T-test for SC (M = $19,335, SD = $12,677) and rest of population (M = $16,164, SD = $12,079); $t(36) = 1.37$, $p = 0.18$. The difference is not statistically significant (Appendix F, Figure A274).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SM (M = $22,630, SD = $16,989) and rest of population (M = $15,327, SD = $10,773); $t(73) = 3.35$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A275).
  - T-test for SR (M = $28,378, SD = $26,638) and rest of population (M = $15,858, SD = $10,824); $t(18) = 2.04$, $p = 0.06$. The difference is not statistically significant (Appendix F, Figure A276).

- Large population mean capita measures are lower: LC $11,818, LM $12,756, LR $14,408.
  - T-test for LC (M = $11,818, SD = $11,666) and rest of population (M = $16,854, SD = $12,100); $t(50) = -2.62$, $p = 0.01$. The difference is statistically significant (Appendix F, Figure A277).
  - T-test for LM (M = $12,756, SD = $3,949) and rest of population (M = $16,692, SD = $12,531); $t(109) = -4.30$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A278).
  - T-test for LR (M = $14,408, SD = $3,596) and rest of population (M = $16,456, SD = $12,310); $t(26) = -1.81$, $p = 0.08$. The difference is not statistically significant (Appendix F, Figure A279).
- The median values are very similar the mean values for all of the subgroups except SC, SM, and SR. The subgroups SC, SM, and SR maintain median values lower than the means, with median values approximately three quarters of the mean values.

Tribal gov't and other First Nation entity revenue ratio measures Tribal gov't transfers & other First Nation entity (e.g. First Nation NPOs) transfers divided by total revenue. Refer to Appendix E, Figure A89. The total population mean is 0.07. The patterns are:

- Most subgroup means are similar to the total population with the following exceptions: small populations that are geographically remote (SR 0.11) and large populations that are geographically remote (LR 0.02).

Appendix I: Descriptive Statistics Analysis and T-test Results of Financial Indicator by Subgroup (continued)

  - T-test for SR (M = 0.113, SD = 0.200) and rest of population (M = 0.065, SD = 0.104); $t(18) = 1.03$, $p = 0.32$. The difference is not statistically significant (Appendix F, Figure A280).
  - T-test for LR (M = 0.024, SD = 0.033) and rest of population (M = 0.069, SD = 0.111); $t(26) = -4.32$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A281).
- The median values are significantly lower than the mean values, with the median values often half (or less than half) of the mean values.

Tribal gov't and other First Nation entity revenue capita measures Tribal gov't transfers & other First Nation entity (e.g. NPOs) transfers divided by community population. Refer to Appendix E, Figure A91. The total mean population is $1,966. The patterns are:

- Most subgroup means are similar to the total population. The most distinct differences include the following subgroups: small populations that are geographically remote (SR $6,178), and large populations that are geographically medium or remote (LM $794 and LR $441).
  - T-test for SR (M = $6,178, SD = $16,344) and rest of population (M = $1,779, SD = $3,126); $t(18) = 1.17$, $p = 0.26$. The difference is not statistically significant (Appendix F, Figure A282).
  - T-test for LM (M = $794, SD = $1,262) and rest of population (M = $2,063, SD = $4,736); $t(145) = -3.99$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A283).
  - T-test for LR (M = $441, SD = $573) and rest of population (M = $2,016, SD = $4,641); $t(125) = -5.82$, $p = 0.00$. The difference is statistically significant (Appendix F, Figure A284).
- The median values are significantly lower than the mean values, with the median values often half (or less than half) of the mean values.

Appendix J: R Results Between Business Activity Indicators and Demographic Indices

Notes:
1) * indicates statistical significance at the 5% level
2) Highlighted cells indicate an r value between -0.40 and 0.40.

Figure A324: R Summary of Business Activity Financial Indicators - Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.00	0.01	-0.02	0.09	0.21*	0.06
Investment asset capita	0.10*	0.16*	-0.08	0.19*	0.27*	0.20*
Gross business sales ratio	0.17*	0.12*	-0.16*	0.14*	0.07	0.08
Gross business sales capita	0.17*	0.18*	-0.16*	0.18*	0.04	0.14*
Business and Ec Dev expense ratio	0.21*	0.19*	-0.24*	0.19*	0.04	0.09*
Business and Ec Dev expense capita	0.17*	0.23*	-0.20*	0.18*	-0.01	0.13*

Figure A325: R Summary of Business Activity Financial Indicators - Subgroup SC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	0.12	-0.03	-0.06	-0.04	n/a	-0.01
Investment asset capita	0.23	-0.07	-0.17	0.24	n/a	0.15
Gross business sales ratio	0.18	0.20	-0.21	0.49*	n/a	0.38*
Gross business sales capita	0.20	0.13	-0.13	0.55*	n/a	0.44*
Business and Ec Dev expense ratio	0.03	0.15	-0.33	0.50*	n/a	0.24
Business and Ec Dev expense capita	0.04	0.19	-0.21	0.58*	n/a	0.38*

Appendix J: R Results Between Business Activity Indicators and Demographic Indices (continued)

Figure A326: R Summary of Business Activity Financial Indicators - Subgroup SM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.07	0.12	0.01	0.21	n/a	0.14
Investment asset capita	0.17	0.24	0.03	0.20	n/a	0.28*
Gross business sales ratio	0.12	0.11	-0.08	-0.03	n/a	0.04
Gross business sales capita	0.10	0.22	0.00	-0.05	n/a	0.10
Business and Ec Dev expense ratio	0.26*	0.22	-0.01	-0.03	n/a	0.17
Business and Ec Dev expense capita	0.21	0.21	-0.01	-0.09	n/a	0.11

Figure A327: R Summary of Business Activity Financial Indicators - Subgroup SR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.23	-0.12	-0.34	0.39	n/a	-0.17
Investment asset capita	-0.20	-0.13	-0.14	0.52*	n/a	0.01
Gross business sales ratio	0.14	-0.15	0.25	-0.30	n/a	0.00
Gross business sales capita	0.11	-0.05	-0.02	-0.46*	n/a	-0.19
Business and Ec Dev expense ratio	0.31	0.30	0.16	-0.28	n/a	0.23
Business and Ec Dev expense capita	0.12	0.22	-0.25	-0.39	n/a	-0.17

Appendix J: R Results Between Business Activity Indicators and Demographic Indices (continued)

Figure A328: R Summary of Business Activity Financial Indicators - Subgroup MC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.17	-0.09	-0.02	0.04	0.27*	-0.07
Investment asset capita	-0.09	0.04	-0.01	0.07	0.28*	0.05
Gross business sales ratio	0.19	0.23*	-0.15	0.09	0.03	0.11
Gross business sales capita	0.13	0.20	-0.12	0.05	-0.04	0.07
Business and Ec Dev expense ratio	0.22	0.19	-0.29*	0.18	0.10	0.11
Business and Ec Dev expense capita	0.14	0.21	-0.17	0.08	-0.01	0.07

Figure A329: R Summary of Business Activity Financial Indicators - Subgroup MM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.05	0.10	0.03	0.20*	0.24*	0.19*
Investment asset capita	0.02	0.27*	-0.10	0.17	0.37*	0.21*
Gross business sales ratio	0.17	0.19*	-0.01	0.17	0.24*	0.23*
Gross business sales capita	0.17	0.23*	0.01	0.20*	0.25*	0.27*
Business and Ec Dev expense ratio	0.13	0.23*	-0.04	0.24*	0.10	0.22*
Business and Ec Dev expense capita	0.08	0.23*	-0.03	0.25*	0.07	0.20*

Appendix J: R Results Between Business Activity Indicators and Demographic Indices (continued)

Figure A330: R Summary of Business Activity Financial Indicators - Subgroup MR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	0.13	-0.05	0.10	0.04	0.22	0.19
Investment asset capita	0.10	0.06	0.00	0.14	0.17	0.23
Gross business sales ratio	0.19	0.28	-0.30*	0.06	0.00	-0.06
Gross business sales capita	0.18	0.28	-0.33*	0.07	-0.03	-0.08
Business and Ec Dev expense ratio	0.26	0.37*	-0.43*	0.14	-0.00	-0.10
Business and Ec Dev expense capita	0.25	0.32*	-0.41*	0.11	-0.09	-0.12

Figure A331: R Summary of Business Activity Financial Indicators - Subgroup LC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	0.02	0.09	-0.11	0.11	0.19	0.09
Investment asset capita	0.31*	0.31*	-0.21	0.26	0.38*	0.32*
Gross business sales ratio	0.18	0.15	-0.12	0.06	-0.14	0.01
Gross business sales capita	0.15	0.12	-0.07	0.10	-0.17	0.03
Business and Ec Dev expense ratio	0.15	0.10	-0.26	0.04	-0.16	-0.11
Business and Ec Dev expense capita	0.10	0.07	-0.12	0.08	-0.19	-0.05

Appendix J: R Results Between Business Activity Indicators and Demographic Indices (continued)

Figure A332: R Summary of Business Activity Financial Indicators - Subgroup LM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	-0.19	-0.13	-0.00	-0.01	-0.09	-0.10
Investment asset capita	-0.03	0.15	0.04	0.03	0.12	0.08
Gross business sales ratio	-0.19	-0.04	-0.19	-0.09	-0.00	-0.23
Gross business sales capita	-0.18	0.00	-0.15	-0.09	-0.02	-0.19
Business and Ec Dev expense ratio	-0.12	0.01	-0.19	-0.15	-0.07	-0.22
Business and Ec Dev expense capita	-0.10	0.08	-0.15	-0.11	0.01	-0.15

Figure A333: R Summary of Business Activity Financial Indicators - Subgroup LR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Investment asset ratio	0.38	0.45	-0.04	0.15	0.62*	0.37
Investment asset capita	0.57*	0.40	-0.29	0.20	0.74*	0.21
Gross business sales ratio	-0.12	-0.20	-0.13	-0.05	-0.33	-0.29
Gross business sales capita	-0.13	-0.13	-0.16	-0.00	-0.30	-0.28
Business and Ec Dev expense ratio	-0.07	-0.12	-0.55*	-0.20	-0.18	-0.67*
Business and Ec Dev expense capita	-0.03	0.02	-0.64*	-0.14	-0.09	-0.66*

Appendix K: R Results Between Between Government Business Entity (GBE) Activity Indicators and Demographic Indices

Notes:

1) * indicates statistical significance at the 5% level
2) Highlighted cells indicate an r value between -0.40 and 0.40.

Figure A334: R Summary of GBE Activity Financial Indicators - Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	-0.01	0.04	-0.02	0.09	0.18*	0.05
GBE Asset Capita	0.01	0.17*	-0.03	0.16*	0.19*	0.17*
GBE Revenue Ratio	-0.01	0.10	-0.01	0.13*	0.22*	0.12*
GBE Revenue Capita	0.01	0.15*	-0.02	0.16*	0.18*	0.17*
GBE Expense Ratio	-0.00	0.07	-0.00	0.11*	0.20*	0.12*
GBE Expense Capita	0.02	0.18*	-0.02	0.16*	0.19*	0.18*
GBE Equity Ratio	-0.01	-0.02	0.02	0.04	0.30*	0.05
GBE Equity Capita	0.01	0.11*	-0.01	0.12*	0.41*	0.14*
GBE Net Income Ratio	-0.06	0.00	0.02	-0.05	-0.08	-0.03
GBE Net Income Capita	-0.02	-0.02	-0.00	0.08	-0.18*	0.04

Figure A335: R Summary of GBE Activity Financial Indicators - Subgroup SC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.47*	-0.26	-0.08	0.03	n/a	0.08
GBE Asset Capita	0.40*	-0.22	-0.23	-0.16	n/a	-0.14
GBE Revenue Ratio	0.48*	-0.07	-0.16	-0.06	n/a	0.06
GBE Revenue Capita	0.47*	-0.12	-0.22	-0.14	n/a	-0.04
GBE Expense Ratio	0.51*	-0.09	-0.14	-0.30	n/a	-0.08
GBE Expense Capita	0.55*	-0.06	-0.10	0.04	n/a	0.20
GBE Equity Ratio	0.21	-0.12	-0.28	-0.16	n/a	-0.20
GBE Equity Capita	0.12	-0.28	-0.27	-0.13	n/a	-0.28
GBE Net Income Ratio	-0.28	0.06	-0.16	0.28	n/a	0.02
GBE Net Income Capita	0.31	-0.21	-0.35	-0.25	n/a	-0.29

Appendix K: R Results Between Between Government Business Entity (GBE) Activity Indicators and Demographic Indices (continued)

Figure A336: R Summary of GBE Activity Financial Indicators - Subgroup SM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	-0.04	-0.04	-0.08	0.05	n/a	-0.03
GBE Asset Capita	0.11	0.43*	0.01	0.19	n/a	0.30*
GBE Revenue Ratio	0.07	0.33*	-0.03	0.17	n/a	0.22
GBE Revenue Capita	0.12	0.41*	0.02	0.21	n/a	0.31*
GBE Expense Ratio	0.10	0.35*	-0.05	0.21	n/a	0.25
GBE Expense Capita	0.12	0.40*	0.02	0.23	n/a	0.32*
GBE Equity Ratio	-0.20	-0.12	0.20	-0.13	n/a	-0.10
GBE Equity Capita	0.11	0.44*	0.01	0.09	n/a	0.26
GBE Net Income Ratio	-0.12	-0.03	0.06	-0.13	n/a	-0.10
GBE Net Income Capita	0.03	-0.08	-0.01	-0.28*	n/a	-0.17

Figure A337: R Summary of GBE Activity Financial Indicators - Subgroup SR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	-0.50*	-0.21	0.06	0.59*	n/a	-0.01
GBE Asset Capita	-0.23	-0.13	-0.02	0.58*	n/a	0.09
GBE Revenue Ratio	-0.25	-0.12	0.00	0.58*	n/a	0.10
GBE Revenue Capita	-0.20	-0.11	-0.02	0.57*	n/a	0.10
GBE Expense Ratio	-0.23	-0.12	-0.02	0.58*	n/a	0.10
GBE Expense Capita	-0.21	-0.12	-0.02	0.57*	n/a	0.10
GBE Equity Ratio	-0.30	-0.14	-0.07	0.54*	n/a	0.01
GBE Equity Capita	-0.21	-0.12	-0.05	0.54*	n/a	0.08
GBE Net Income Ratio	-0.59*	0.00	0.27	0.26	n/a	0.04
GBE Net Income Capita	-0.19	-0.10	-0.04	0.53*	n/a	0.09

Appendix K: R Results Between Between Government Business Entity (GBE) Activity Indicators and Demographic Indices (continued)

Figure A338: R Summary of GBE Activity Financial Indicators - Subgroup MC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	-0.16	-0.04	0.01	-0.10	0.25	-0.09
GBE Asset Capita	-0.12	0.08	0.06	-0.10	0.27*	0.00
GBE Revenue Ratio	-0.13	0.08	0.04	-0.13	0.25	-0.04
GBE Revenue Capita	-0.14	0.08	0.08	-0.15	0.22	-0.03
GBE Expense Ratio	-0.15	0.08	0.06	-0.13	0.26*	-0.03
GBE Expense Capita	-0.14	0.09	0.09	-0.14	0.24	-0.02
GBE Equity Ratio	0.16	-0.18	-0.06	0.17	0.30*	0.07
GBE Equity Capita	-0.12	-0.02	0.08	-0.06	0.32*	0.00
GBE Net Income Ratio	-0.03	0.07	0.01	-0.12	-0.17	-0.07
GBE Net Income Capita	-0.11	-0.05	-0.04	-0.08	-0.04	-0.13

Figure A339: R Summary of GBE Activity Financial Indicators - Subgroup MM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.08	0.19*	-0.06	0.17	0.27*	0.18
GBE Asset Capita	-0.03	0.17	-0.03	0.16	0.23*	0.14
GBE Revenue Ratio	-0.06	0.09	0.08	0.15	0.38*	0.19*
GBE Revenue Capita	-0.01	0.16	-0.01	0.21*	0.40*	0.23*
GBE Expense Ratio	-0.06	0.07	0.12	0.12	0.34*	0.18
GBE Expense Capita	-0.03	0.16	-0.00	0.21*	0.40*	0.23*
GBE Equity Ratio	-0.04	-0.03	0.11	0.07	0.32*	0.14
GBE Equity Capita	-0.03	0.13	0.02	0.12	0.56*	0.24*
GBE Net Income Ratio	-0.11	-0.06	0.12	-0.02	0.01	0.00
GBE Net Income Capita	0.07	-0.04	0.01	-0.02	-0.30*	-0.04

Appendix K: R Results Between Between Government Business Entity (GBE) Activity Indicators and Demographic Indices (continued)

Figure A340: R Summary of GBE Activity Financial Indicators - Subgroup MR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.07	0.06	0.02	0.07	0.07	0.10
GBE Asset Capita	-0.07	0.33	-0.14	0.04	0.20	0.07
GBE Revenue Ratio	0.04	0.39*	-0.24	0.42*	0.40*	0.23
GBE Revenue Capita	0.05	0.30	-0.21	0.21	-0.04	0.08
GBE Expense Ratio	0.04	0.37*	-0.27	0.43*	0.20	0.18
GBE Expense Capita	0.04	0.30	-0.23	0.22	-0.10	0.06
GBE Equity Ratio	0.14	0.08	0.07	0.17	0.52*	0.33*
GBE Equity Capita	0.10	-0.02	0.12	0.24	0.21	0.32
GBE Net Income Ratio	0.06	-0.19	-0.25	-0.07	-0.19	-0.35*
GBE Net Income Capita	0.19	0.01	0.07	0.14	0.35*	0.29

Figure A341: R Summary of GBE Activity Financial Indicators - Subgroup LC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.03	-0.00	-0.23	0.28	0.26	0.11
GBE Asset Capita	0.24	0.29	-0.23	0.29	0.43*	0.33*
GBE Revenue Ratio	-0.04	-0.04	-0.25	0.25	0.09	-0.02
GBE Revenue Capita	-0.12	-0.03	-0.16	0.17	-0.14	-0.12
GBE Expense Ratio	-0.05	-0.02	-0.27	0.26	0.08	-0.03
GBE Expense Capita	-0.13	0.04	-0.19	0.19	-0.10	-0.09
GBE Equity Ratio	0.28	0.24	-0.11	0.26	0.35*	0.34*
GBE Equity Capita	0.24	0.29	-0.12	0.24	0.43*	0.37*
GBE Net Income Ratio	0.03	-0.19	0.08	-0.08	-0.07	-0.06
GBE Net Income Capita	0.00	-0.22	0.09	-0.07	-0.12	-0.08

Appendix K: R Results Between Between Government Business Entity (GBE) Activity Indicators and Demographic Indices (continued)

Figure A342: R Summary of GBE Activity Financial Indicators - Subgroup LM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.03	-0.00	-0.08	0.23	-0.06	0.03
GBE Asset Capita	-0.00	0.12	-0.14	0.27	0.27	0.06
GBE Revenue Ratio	0.03	0.12	-0.00	0.34	0.36	0.19
GBE Revenue Capita	0.14	0.20	-0.07	0.34	0.50*	0.22
GBE Expense Ratio	0.19	0.16	-0.14	0.36	0.43*	0.18
GBE Expense Capita	0.12	0.21	-0.08	0.32	0.53*	0.21
GBE Equity Ratio	-0.24	-0.32	-0.03	-0.05	-0.22	-0.21
GBE Equity Capita	-0.12	-0.09	-0.03	0.12	0.14	-0.02
GBE Net Income Ratio	0.21	-0.03	0.35*	0.26	-0.05	0.37*
GBE Net Income Capita	0.06	-0.12	0.06	-0.01	-0.29	-0.01

Figure A343: R Summary of GBE Activity Financial Indicators - Subgroup LR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
GBE Asset Ratio	0.04	0.14	0.02	0.13	0.03	0.15
GBE Asset Capita	0.27	0.38	0.19	0.11	0.47	0.65*
GBE Revenue Ratio	0.28	0.22	-0.10	0.17	0.26	0.22
GBE Revenue Capita	0.63*	0.44	-0.42	0.47	0.61*	0.28
GBE Expense Ratio	0.36	0.26	-0.19	0.24	0.34	0.20
GBE Expense Capita	0.68*	0.44	-0.49	0.51	0.64*	0.23
GBE Equity Ratio	-0.19	0.08	0.46	-0.26	0.07	0.38
GBE Equity Capita	-0.13	0.12	0.45	-0.24	0.15	0.43
GBE Net Income Ratio	-0.61*	-0.39	0.56	-0.30	-0.43	0.05
GBE Net Income Capita	-0.47	-0.09	0.59*	-0.34	-0.26	0.25

Appendix L: R Results Between Trust Activity Indicators and Demographic Indices

Notes:

1) * indicates statistical significance at the 5% level
2) Highlighted cells indicate an r value between -0.40 and 0.40.

Figure A344: R Summary of Trust Activity Financial Indicators - Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.07	-0.05	-0.01	-0.11*	0.03	-0.11*
Trust fund assets capita	-0.01	0.05	0.00	-0.02	0.04	0.01
Trust revenue ratio	-0.07	-0.03	0.03	-0.07	-0.02	-0.06
Trust revenue capita	-0.01	0.12*	0.01	0.07	0.03	0.10*

Figure A345: R Summary of Trust Activity Financial Indicators - Subgroup SC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.29	-0.08	0.29	0.00	n/a	-0.02
Trust fund assets capita	0.15	0.06	-0.02	0.32	n/a	0.29
Trust revenue ratio	-0.33	0.00	-0.11	-0.07	n/a	-0.24
Trust revenue capita	-0.31	0.07	-0.14	-0.03	n/a	-0.19

Figure A346: R Summary of Trust Activity Financial Indicators - Subgroup SM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.11	-0.02	-0.03	-0.25*	n/a	-0.21
Trust fund assets capita	-0.18	0.22	-0.07	-0.05	n/a	-0.05
Trust revenue ratio	-0.01	0.12	-0.02	0.07	n/a	0.08
Trust revenue capita	0.02	0.30*	0.04	0.24	n/a	0.28*

Figure A347: R Summary of Trust Activity Financial Indicators - Subgroup SR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	0.10	-0.46*	-0.17	-0.46*	n/a	-0.46*
Trust fund assets capita	0.05	-0.56*	-0.47*	-0.47*	n/a	-0.70*
Trust revenue ratio	0.06	-0.59*	-0.27	-0.32	n/a	-0.53*
Trust revenue capita	-0.11	-0.65*	-0.38	-0.33	n/a	-0.70*

Appendix L: R Results Between Trust Activity Indicators and Demographic Indices (continued)

Figure A348: R Summary of Trust Activity Financial Indicators - Subgroup MC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.06	-0.03	-0.00	0.01	0.13	0.01
Trust fund assets capita	0.02	-0.05	-0.11	0.09	0.14	0.01
Trust revenue ratio	-0.21	-0.28*	0.30*	-0.29*	-0.19	-0.23*
Trust revenue capita	-0.03	-0.04	0.08	-0.06	0.14	0.01

Figure A349: R Summary of Trust Activity Financial Indicators - Subgroup MM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.25*	-0.08	0.11	-0.32*	0.00	-0.19*
Trust fund assets capita	-0.21*	0.12	0.16	-0.04	0.38*	0.12
Trust revenue ratio	-0.14	-0.08	0.02	-0.05	-0.03	-0.11
Trust revenue capita	-0.12	0.00	0.06	0.02	0.01	-0.02

Figure A350: R Summary of Trust Activity Financial Indicators - Subgroup MR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	0.09	0.18	-0.25	0.36*	-0.08	0.05
Trust fund assets capita	0.28	0.08	-0.13	0.01	-0.05	0.02
Trust revenue ratio	0.07	0.23	0.17	0.05	0.31	0.34*
Trust revenue capita	0.13	0.26	0.11	0.05	0.28	0.31*

Figure A351: R Summary of Trust Activity Financial Indicators - Subgroup LC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.06	0.00	0.06	-0.20	-0.08	-0.10
Trust fund assets capita	-0.12	-0.06	0.10	-0.34*	-0.12	-0.19
Trust revenue ratio	-0.33*	-0.08	0.25	-0.45*	-0.10	-0.22
Trust revenue capita	-0.31*	-0.08	0.25	-0.42*	-0.09	-0.20

Appendix L: R Results Between Trust Activity Indicators and Demographic Indices (continued)

Figure A352: R Summary of Trust Activity Financial Indicators - Subgroup LM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	-0.17	0.11	0.03	0.07	0.38*	0.06
Trust fund assets capita	-0.13	0.18	0.03	0.10	0.52*	0.12
Trust revenue ratio	-0.10	-0.02	-0.16	-0.09	-0.14	-0.19
Trust revenue capita	-0.12	-0.02	-0.17	-0.02	-0.10	-0.18

Figure A353: R Summary of Trust Activity Financial Indicators - Subgroup LR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust fund assets ratio	0.52	0.36	-0.52	0.14	0.22	-0.13
Trust fund assets capita	0.60*	0.46	-0.55*	0.16	0.44	-0.06
Trust revenue ratio	-0.18	-0.00	0.27	-0.27	-0.02	0.09
Trust revenue capita	-0.13	0.03	0.23	-0.26	0.01	0.09

Appendix M: R Results Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices

Notes:
1) * indicates statistical significance at the 5% level
2) Highlighted cells indicate an r value between -0.40 and 0.40.

Figure A354: R Summary of TCA Financial Indicators - Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.19*	-0.23*	0.17*	-0.19*	-0.43*	-0.22*
TCA capita	-0.06	0.24*	-0.06	0.06	0.07	0.12*
Gross cash outflows from capital ratio	-0.08	-0.04	0.12*	-0.05	-0.11	-0.00
Gross cash outflows from capital capita	0.04	-0.18*	0.03	-0.04	-0.06	-0.09

Figure A355: R Summary of TCA Financial Indicators - Subgroup SC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.33	0.10	0.10	0.03	n/a	-0.03
TCA capita	-0.29	0.10	-0.00	0.46*	n/a	0.22
Gross cash outflows from capital ratio	0.02	-0.07	-0.18	0.12	n/a	-0.03
Gross cash outflows from capital capita	0.08	-0.16	0.02	-0.25	n/a	-0.18

Figure A356: R Summary of TCA Financial Indicators - Subgroup SM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.14	-0.31*	0.20	0.04	n/a	-0.07
TCA capita	-0.28*	0.20	0.16	0.14	n/a	0.11
Gross cash outflows from capital ratio	-0.01	0.12	0.08	0.12	n/a	0.14
Gross cash outflows from capital capita	0.19	-0.33*	-0.13	-0.10	n/a	-0.16

Appendix M: R Results Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices (continued)

Figure A357: R Summary of TCA Financial Indicators - Subgroup SR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	0.06	0.05	-0.23	-0.22	n/a	-0.18
TCA capita	0.06	-0.08	-0.62*	-0.61*	n/a	-0.62*
Gross cash outflows from capital ratio	0.09	0.12	-0.10	-0.05	n/a	0.02
Gross cash outflows from capital capita	-0.11	0.10	0.58*	0.59*	n/a	0.57*

Figure A358: R Summary of TCA Financial Indicators - Subgroup MC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.06	-0.03	0.34*	-0.23	-0.30*	-0.08
TCA capita	0.10	0.27*	0.10	0.13	0.25*	0.34*
Gross cash outflows from capital ratio	0.17	0.03	-0.06	0.14	0.08	0.11
Gross cash outflows from capital capita	-0.14	-0.16	0.09	-0.12	-0.17	-0.19

Figure A359: R Summary of TCA Financial Indicators - Subgroup MM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.10	-0.40*	0.05	-0.23*	-0.46*	-0.35*
TCA capita	0.03	0.16	-0.05	0.16	0.28*	0.18
Gross cash outflows from capital ratio	-0.09	-0.10	0.20*	-0.07	-0.04	0.04
Gross cash outflows from capital capita	0.09	-0.16	-0.03	-0.11	-0.16	-0.16

Appendix M: R Results Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices (continued)

Figure A360: R Summary of TCA Financial Indicators - Subgroup MR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.27	-0.17	0.21	-0.34*	-0.43*	-0.23
TCA capita	-0.16	0.17	-0.11	-0.12	-0.24	-0.11
Gross cash outflows from capital ratio	-0.36*	-0.21	-0.01	-0.32*	-0.47*	-0.39*
Gross cash outflows from capital capita	0.24	0.19	-0.05	0.27	0.24	0.22

Figure A361: R Summary of TCA Financial Indicators - Subgroup LC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.45*	-0.37*	0.27	-0.16	-0.48*	-0.34*
TCA capita	-0.14	0.08	0.36*	0.03	-0.17	0.14
Gross cash outflows from capital ratio	-0.23	-0.15	0.20	-0.26	-0.19	-0.18
Gross cash outflows from capital capita	-0.02	-0.14	-0.13	0.00	0.09	-0.09

Figure A362: R Summary of TCA Financial Indicators - Subgroup LM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.05	-0.16	0.04	-0.14	-0.33	-0.11
TCA capita	-0.18	-0.02	-0.07	0.12	0.25	-0.04
Gross cash outflows from capital ratio	-0.16	0.02	0.27	-0.18	0.18	0.12
Gross cash outflows from capital capita	0.13	-0.14	-0.02	0.03	-0.35*	-0.03

Appendix M: R Results Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices (continued)

Figure A363: R Summary of TCA Financial Indicators - Subgroup LR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
TCA ratio	-0.17	-0.39	0.26	0.16	-0.59	0.07
TCA capita	-0.08	-0.29	0.07	0.19	-0.05	0.03
Gross cash outflows from capital ratio	-0.61*	-0.50	0.53	0.09	-0.57	0.16
Gross cash outflows from capital capita	0.37	0.13	0.03	0.06	0.10	0.23

Appendix N: R Results Between Other Activity Indicators and Demographic Indices

Notes:
1) * indicates statistical significance at the 5% level
2) Highlighted cells indicate an r value between -0.40 and 0.40.

Figure A364: R Summary of Other Financial Indicators - Total Population

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.38*	0.17*	-0.33*	0.31*	0.26*	0.19*
Earned & other revenue capita	0.18*	0.19*	-0.17*	0.14*	0.03	0.14*
Federal & provincial revenue ratio	-0.35*	-0.19*	0.29*	-0.27*	-0.27*	-0.20*
Federal & provincial revenue capita	-0.11*	0.16*	0.00	-0.05	-0.21*	0.03
Tribal gov't & other FN entity revenue ratio	0.00	0.05	0.05	-0.02	-0.03	0.06
Tribal gov't & other FN entity revenue capita	0.08	0.14*	-0.01	0.00	0.01	0.12*

Figure A365: R Summary of Other Financial Indicators - Subgroup SC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.44*	-0.04	-0.24	0.24	n/a	0.21
Earned & other revenue capita	0.35*	0.04	-0.21	0.43*	n/a	0.35*
Federal & provincial revenue ratio	-0.42*	-0.07	0.17	-0.23	n/a	-0.28
Federal & provincial revenue capita	-0.18	0.07	-0.15	0.20	n/a	0.02
Tribal gov't & other FN entity revenue ratio	-0.04	0.21	0.17	-0.02	n/a	0.14
Tribal gov't & other FN entity revenue capita	0.12	0.26	0.18	0.06	n/a	0.28

Appendix N: R Results Between Other Activity Indicators and Demographic Indices (continued)

Figure A366: R Summary of Other Financial Indicators - Subgroup SM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.28*	0.10	-0.06	-0.09	n/a	0.08
Earned & other revenue capita	0.17	0.23	0.01	-0.14	n/a	0.08
Federal & provincial revenue ratio	-0.21	-0.26*	0.11	0.03	n/a	-0.12
Federal & provincial revenue capita	-0.22	0.10	0.05	0.04	n/a	-0.01
Tribal gov't & other FN entity revenue ratio	-0.11	0.20	-0.05	0.09	n/a	0.06
Tribal gov't & other FN entity revenue capita	0.00	0.29*	-0.07	0.08	n/a	0.12

Figure A367: R Summary of Other Financial Indicators - Subgroup SR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	-0.35	-0.30	-0.06	0.09	n/a	-0.27
Earned & other revenue capita	-0.21	-0.09	-0.23	0.30	n/a	-0.13
Federal & provincial revenue ratio	-0.02	0.36	0.04	-0.02	n/a	0.16
Federal & provincial revenue capita	-0.03	0.20	-0.49*	-0.27	n/a	-0.33
Tribal gov't & other FN entity revenue ratio	0.47*	-0.11	0.02	-0.07	n/a	0.13
Tribal gov't & other FN entity revenue capita	0.46	-0.05	-0.04	-0.09	n/a	0.09

Appendix N: R Results Between Other Activity Indicators and Demographic Indices (continued)

Figure A368: R Summary of Other Financial Indicators - Subgroup MC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.36*	0.09	-0.31*	0.40*	0.18	0.25*
Earned & other revenue capita	0.18	0.22	-0.16	0.18	0.04	0.17
Federal & provincial revenue ratio	-0.28*	-0.01	0.23*	-0.33*	-0.13	-0.18
Federal & provincial revenue capita	-0.13	0.29*	0.10	-0.16	0.09	0.04
Tribal gov't & other FN entity revenue ratio	-0.17	-0.03	0.08	-0.11	-0.05	-0.12
Tribal gov't & other FN entity revenue capita	-0.19	0.03	0.04	-0.06	-0.08	-0.10

Figure A369: R Summary of Other Financial Indicators - Subgroup MM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.35*	0.28*	-0.18	0.28*	0.27*	0.31*
Earned & other revenue capita	0.22*	0.29*	-0.09	0.30*	0.21*	0.31*
Federal & provincial revenue ratio	-0.19*	-0.19*	0.00	-0.22*	-0.25*	-0.27*
Federal & provincial revenue capita	-0.08	0.06	-0.07	-0.05	-0.09	-0.06
Tribal gov't & other FN entity revenue ratio	-0.12	-0.09	0.25*	-0.05	-0.12	0.01
Tribal gov't & other FN entity revenue capita	-0.13	0.01	0.30*	0.05	-0.06	0.12

Appendix N: R Results Between Other Activity Indicators and Demographic Indices (continued)

Figure A370: R Summary of Other Financial Indicators - Subgroup MR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.28	0.17	-0.43*	0.09	-0.07	-0.20
Earned & other revenue capita	0.29*	0.09	-0.21	-0.04	-0.09	-0.09
Federal & provincial revenue ratio	-0.30*	-0.26	0.38*	0.00	-0.08	0.11
Federal & provincial revenue capita	-0.38*	-0.15	0.19	-0.20	-0.48*	-0.11
Tribal gov't & other FN entity revenue ratio	0.08	0.12	-0.05	-0.19	0.32*	-0.00
Tribal gov't & other FN entity revenue capita	0.03	0.12	-0.11	-0.27	0.10	-0.12

Figure A371: R Summary of Other Financial Indicators - Subgroup LC

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.52*	0.28	-0.40*	0.53*	0.37*	0.38*
Earned & other revenue capita	0.13	0.16	-0.03	0.15	-0.16	0.08
Federal & provincial revenue ratio	-0.29	-0.31*	0.30	-0.31*	-0.35*	-0.28
Federal & provincial revenue capita	-0.10	-0.15	0.34*	-0.10	-0.31	-0.03
Tribal gov't & other FN entity revenue ratio	-0.15	0.11	0.00	-0.03	0.02	-0.02
Tribal gov't & other FN entity revenue capita	-0.07	0.18	-0.03	0.05	0.05	0.05

Appendix N: R Results Between Other Activity Indicators and Demographic Indices (continued)

Figure A372: R Summary of Other Financial Indicators - Subgroup LM

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.36*	0.23	-0.24	0.30	0.22	0.12
Earned & other revenue capita	0.36*	0.17	-0.26	0.19	0.23	0.06
Federal & provincial revenue ratio	-0.46*	-0.21	0.24	-0.40*	-0.18	-0.18
Federal & provincial revenue capita	-0.10	0.11	0.07	-0.21	0.15	-0.00
Tribal gov't & other FN entity revenue ratio	0.20	-0.07	0.10	0.17	-0.07	0.16
Tribal gov't & other FN entity revenue capita	0.21	-0.06	0.08	0.16	-0.07	0.15

Figure A373: R Summary of Other Financial Indicators - Subgroup LR

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Earned & other revenue ratio	0.53	0.79*	-0.65*	0.39	0.66*	0.05
Earned & other revenue capita	0.49	0.63*	-0.68*	0.31	0.69*	-0.06
Federal & provincial revenue ratio	-0.46	-0.80*	0.56*	-0.30	-0.66*	-0.08
Federal & provincial revenue capita	-0.13	-0.01	-0.24	0.26	0.06	-0.16
Tribal gov't & other FN entity revenue ratio	-0.12	0.29	0.17	-0.25	0.22	0.14
Tribal gov't & other FN entity revenue capita	0.05	0.42	-0.15	-0.14	0.41	0.01

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups

Note that r results with an asterisk indicate that the correlation is statistically significant at the 5% level. The r value is presented, along with an * indicator showing statistical significance.

Education Index and Workforce Index

The results are reviewed below for the education index and workforce index correlations:

- Total population: 0.41*. Refer to Table 31 and Appendix R, Figure A570.
- Subgroup SC: 0.04. Refer to Table 32.
- Subgroup SM: 0.23. Refer to Table 33.
- Subgroup SR: 0.21. Refer to Table 34.
- Subgroup MC: 0.43*. Refer to Table 35 and Appendix R, Figure A589.
- Subgroup MM: 0.57*. Refer to Table 36 and Appendix R, Figure A599.
- Subgroup MR: 0.44*. Refer to Table 37 and Appendix R, Figure A607.
- Subgroup LC: 0.57*. Refer to Table 38 and Appendix R, Figure A613.
- Subgroup LM: 0.69*. Refer to Table 39 and Appendix R, Figure A625.
- Subgroup LR: 0.64*. Refer to Table 40 and Appendix R, Figure A636.

Education Index and Income Index

The results are reviewed below for the education index and income index correlations:

- Total population: 0.45*. Refer to Table 31 and Appendix R, Figure A573. Note that the correlation increases substantially at first, and then levels off as the income index is higher.
- Subgroups SC, SM, and SR: no income data is available for these small population subgroups due to data quality issues with the data from Statistics Canada. Therefore, no correlation is available.
- Subgroup MC: 0.43*. Refer to Table 35 and Appendix R, Figure A592.
- Subgroup MM: 0.34*. Refer to Table 36.
- Subgroup MR: 0.41*. Refer to Table 37 and Appendix R, Figure A609.

- Subgroup LC: 0.59*. Refer to Table 38 and Appendix R, Figure A616.
- Subgroup LM: 0.44*. Refer to Table 39 and Appendix R, Figure A627.
- Subgroup LR: 0.75*. Refer to Table 40 and Appendix R, Figure A639.

Education Index and Language Index

The results are reviewed below for the education index and language index correlations:

- Total population: -0.54*. Refer to Table 31 and Appendix R, Figure A571.
- Subgroup SC: -0.01. Refer to Table 32.
- Subgroup SM: -0.26*. Refer to Table 33.
- Subgroup SR: -0.17. Refer to Table 34.
- Subgroup MC: -0.42*. Refer to Table 35 and Appendix R, Figure A590.
- Subgroup MM: -0.39*. Refer to Table 36.
- Subgroup MR: -0.47*. Refer to Table 37 and Appendix R, Figure A608.
- Subgroup LC: -0.69*. Refer to Table 38 and Appendix R, Figure A614.
- Subgroup LM: -0.20. Refer to Table 39.
- Subgroup LR: -0.54*. Refer to Table 40 and Appendix R, Figure A637.

Education Index and Housing Index

The results are reviewed below for the education index and housing index correlations:

- Total population: 0.44*. Refer to Table 31 and Appendix R, Figure A572.
- Subgroup SC: -0.07. Refer to Table 32.
- Subgroup SM: 0.08. Refer to Table 33.
- Subgroup SR: -0.11. Refer to Table 34.
- Subgroup MC: 0.50*. Refer to Table 35 and Appendix R, Figure A591.
- Subgroup MM: 0.39*. Refer to Table 36.
- Subgroup MR: 0.22. Refer to Table 37.
- Subgroup LC: 0.67*. Refer to Table 38 and Appendix R, Figure A615.
- Subgroup LM: 0.59*. Refer to Table 39 and Appendix R, Figure A626.
- Subgroup LR: 0.53. Refer to Table 40 and Appendix R, Figure A638.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Education Index and Nation Wellness Index

The results are reviewed below for the education index and Nation wellness index correlations:

- Total population: 0.51*. Refer to Table 31 and Appendix R, Figure A574.
- Subgroup SC: 0.39*. Refer to Table 32.
- Subgroup SM: 0.43*. Refer to Table 33 and Appendix R, Figure A583.
- Subgroup SR: 0.34. Refer to Table 34.
- Subgroup MC: 0.71*. Refer to Table 35 and Appendix R, Figure A593.
- Subgroup MM: 0.57*. Refer to Table 36 and Appendix R, Figure A600.
- Subgroup MR: 0.24. Refer to Table 37.
- Subgroup LC: 0.60*. Refer to Table 38 and Appendix R, Figure A617.
- Subgroup LM: 0.57*. Refer to Table 39 and Appendix R, Figure A628.
- Subgroup LR: 0.31. Refer to Table 40.

Workforce Index and Language Index

The results are reviewed below for the workforce index and language index correlations:

- Total population: -0.23*. Refer to Table 31.
- Subgroup SC: 0.38*. Refer to Table 32.
- Subgroup SM: 0.04. Refer to Table 33.
- Subgroup SR: 0.08. Refer to Table 34.
- Subgroup MC: -0.11. Refer to Table 35.
- Subgroup MM: -0.28*. Refer to Table 36.
- Subgroup MR: -0.38*. Refer to Table 37.
- Subgroup LC: -0.31*. Refer to Table 38.
- Subgroup LM: -0.03. Refer to Table 39.
- Subgroup LR: -0.48. Refer to Table 40 and Appendix R, Figure A640.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Workforce Index and Housing Index

The results are reviewed below for the workforce index and housing index correlations:

- Total population: 0.36*. Refer to Table 31.
- Subgroup SC: 0.06. Refer to Table 32.
- Subgroup SM: 0.35*. Refer to Table 33.
- Subgroup SR: 0.24. Refer to Table 34.
- Subgroup MC: 0.05. Refer to Table 35.
- Subgroup MM: 0.52*. Refer to Table 36 and Appendix R, Figure A601.
- Subgroup MR: 0.18. Refer to Table 37.
- Subgroup LC: 0.48*. Refer to Table 38 and Appendix R, Figure A618.
- Subgroup LM: 0.54*. Refer to Table 39 and Appendix R, Figure A629.
- Subgroup LR: 0.55*. Refer to Table 40 and Appendix R, Figure A641.

Workforce Index and Income Index

The results are reviewed below for the workforce index and income index correlations:

- Total population: 0.56*. Refer to Table 31 and Appendix R, Figure A575.
- Subgroups SC, SM, and SR: no income data is available for these small population subgroups due to data quality issues with the data from Statistics Canada. Therefore, no correlation is available.
- Subgroup MC: 0.34*. Refer to Table 35.
- Subgroup MM: 0.54*. Refer to Table 36 and Appendix R, Figure A602.
- Subgroup MR: 0.54*. Refer to Table 37 and Appendix R, Figure A610.
- Subgroup LC: 0.74*. Refer to Table 38 and Appendix R, Figure A619.
- Subgroup LM: 0.78*. Refer to Table 39 and Appendix R, Figure A630.
- Subgroup LR: 0.74*. Refer to Table 40 and Appendix R, Figure A642.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Workforce Index and Nation Wellness Index

The results are reviewed below for the workforce index and Nation wellness index correlations:

- Total population: 0.69*. Refer to Table 31 and Appendix R, Figure A576.
- Subgroup SC: 0.67*. Refer to Table 32 and Appendix R, Figure A580.
- Subgroup SM: 0.69*. Refer to Table 33 and Appendix R, Figure A584.
- Subgroup SR: 0.67*. Refer to Table 34 and Appendix R, Figure A586.
- Subgroup MC: 0.64*. Refer to Table 35 and Appendix R, Figure A594.
- Subgroup MM: 0.74*. Refer to Table 36 and Appendix R, Figure A603.
- Subgroup MR: 0.38*. Refer to Table 37.
- Subgroup LC: 0.77*. Refer to Table 38 and Appendix R, Figure A620.
- Subgroup LM: 0.69*. Refer to Table 39 and Appendix R, Figure A631.
- Subgroup LR: 0.37. Refer to Table 40.

Language Index and Housing Index

The results are reviewed below for the language index and housing index correlations:

- Total population: -0.37*. Refer to Table 31.
- Subgroup SC: -0.29. Refer to Table 32.
- Subgroup SM: 0.06. Refer to Table 33.
- Subgroup SR: 0.06. Refer to Table 34.
- Subgroup MC: -0.46*. Refer to Table 35 and Appendix R, Figure A595.
- Subgroup MM: -0.23*. Refer to Table 36.
- Subgroup MR: -0.31*. Refer to Table 37.
- Subgroup LC: -0.48*. Refer to Table 38 and Appendix R, Figure A621.
- Subgroup LM: -0.16. Refer to Table 39.
- Subgroup LR: -0.09. Refer to Table 40.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Language Index and Income Index

The results are reviewed below for the language index and income index correlations:

- Total population: -0.23*. Refer to Table 31.
- Subgroups SC, SM, and SR: no income data is available due to data quality issues. As such, no correlation analysis is possible.
- Subgroup MC: -0.26*. Refer to Table 35.
- Subgroup MM: -0.19*. Refer to Table 36.
- Subgroup MR: -0.01. Refer to Table 37.
- Subgroup LC: -0.31. Refer to Table 38.
- Subgroup LM: 0.06. Refer to Table 39.
- Subgroup LR: -0.46. Refer to Table 40 and Appendix R, Figure A643.

Language Index and Nation Wellness Index

The results are reviewed below for the language index and Nation wellness index correlations:

- Total population: 0.09. Refer to Table 31.
- Subgroup SC: 0.44*. Refer to Table 32 and Appendix R, Figure A581.
- Subgroup SM: 0.36*. Refer to Table 33.
- Subgroup SR: 0.58*. Refer to Table 34 and Appendix R, Figure A587.
- Subgroup MC: -0.04. Refer to Table 35.
- Subgroup MM: 0.12. Refer to Table 36.
- Subgroup MR: 0.49*. Refer to Table 37 and Appendix R, Figure A611.
- Subgroup LC: -0.06. Refer to Table 38.
- Subgroup LM: 0.58*. Refer to Table 39 and Appendix R, Figure A632.
- Subgroup LR: 0.51. Refer to Table 40 and Appendix R, Figure A644.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Housing Index and Income Index

The results are reviewed below for the housing index and income index correlations:

- Total population: 0.50*. Refer to Table 31 and Appendix R, Figure A577.
- Subgroups SC, SM, and SR: the income data is not available for these subgroups due to data quality issues. As such, no correlational analysis was conducted for these subgroups.
- Subgroup MC: 0.50*. Refer to Table 35 and Appendix R, Figure A596.
- Subgroup MM: 0.44*. Refer to Table 36 and Appendix R, Figure A604.
- Subgroup MR: 0.34*. Refer to Table 37.
- Subgroup LC: 0.56*. Refer to Table 38 and Appendix R, Figure A622.
- Subgroup LM: 0.52*. Refer to Table 39 and Appendix R, Figure A633.
- Subgroup LR: 0.49. Refer to Table 40 and Appendix R, Figure A645.

Housing Index and Nation Wellness Index

The results are reviewed below for the housing index and Nation wellness index correlations:

- Total population: 0.66*. Refer to Table 31 and Appendix R, Figure A578.
- Subgroup SC: 0.51*. Refer to Table 32 and Appendix R, Figure A582.
- Subgroup SM 0.75*. Refer to Table 33 and Appendix R, Figure A585.
- Subgroup SR: 0.54*. Refer to Table 34 and Appendix R, Figure A588.
- Subgroup MC: 0.63*. Refer to Table 35 and Appendix R, Figure A597.
- Subgroup MM: 0.75*. Refer to Table 36 and Appendix R, Figure A605.
- Subgroup MR: 0.34*. Refer to Table 37.
- Subgroup LC: 0.72*. Refer to Table 38 and Appendix R, Figure A623.
- Subgroup LM: 0.58*. Refer to Table 39 and Appendix R, Figure A634.
- Subgroup LR: 0.70*. Refer to Table 40 and Appendix R, Figure A646.

Appendix O: Correlational Analysis, Results, and Referencing – Amongst Demographic Indices for Total Population and Subgroups (continued)

Income Index and Nation Wellness Index

The results are reviewed below for the income index and Nation wellness index correlations:

- Total population: 0.71*. Refer to Table 31 and Appendix R, Figure A579.
- Subgroups SC, SM, and SR: the income data is not available for these subgroups due to data quality issues. As such, no correlational analysis has been conducted.
- Subgroup MC: 0.68*. Refer to Table 35 and Appendix R, Figure A598.
- Subgroup MM: 0.66*. Refer to Table 36 and Appendix R, Figure A606.
- Subgroup MR: 0.73*. Refer to Table 37 and Appendix R, Figure A612.
- Subgroup LC: 0.84*. Refer to Table 38 and Appendix R, Figure A624.
- Subgroup LM: 0.65*. Refer to Table 39 and Appendix R, Figure A635.
- Subgroup LR: 0.37. Refer to Table 40.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population

Note that r results with an asterisk indicate that the correlation is statistically significant at the 5% level. The r value is presented along with an * when statistical significance is present.

Business Activity Indicators/GBE Activity Indicators and Demographic Indices

Education

- Investment asset capita (0.10*). Refer to Table 41 and Appendix R, Figure A649.
- Gross business sales ratio (0.17*). Refer to Table 41 and Appendix R, Figure A654.
- Gross business sales capita (0.17*). Refer to Table 41 and Appendix R, Figure A659.
- Business and economic development expense ratio (0.21*). Refer to Table 41 and Appendix R, Figure A664.
- Business and economic development expense capita (0.17*). Refer to Table 41 and Appendix R, Figure A669.

Workforce

- Investment asset capita (0.16*). Refer to Table 41 and Appendix R, Figure A650.
- Gross business sales ratio (0.12*). Refer to Table 41 and Appendix R, Figure A655.
- Gross business sales capita (0.18*). Refer to Table 41 and Appendix R, Figure A660.
- Business and economic development expense ratio (0.19*). Refer to Table 41 and Appendix R, Figure A665.
- Business and economic development expense capita (0.23*). Refer to Table 41 and Appendix R, Figure A670.
- GBE asset capita (0.17*). Refer to Table 42 and Appendix R, Figure A675.
- GBE revenue capita (0.15*). Refer to Table 42 and Appendix R, Figure A682.
- GBE expense capita (0.18*). Refer to Table 42 and Appendix R, Figure A689.
- GBE equity capita (0.11*). Refer to Table 42 and Appendix R, Figure A694.

Language

- Gross business sales ratio (-0.16*). Refer to Table 41 and Appendix R, Fig. A656.
- Gross business sales capita (-0.16*). Refer to Table 41 and Appendix R, Fig. A661.
- Business and economic development expense ratio (-0.24*). Refer to Table 41 and Appendix R, Fig. A666.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population (continued)

- Business and economic development expense capita (-0.20*). Refer to Table 41 and Appendix R, Figure A671.

Housing

- Investment asset capita (0.19*). Refer to Table 41 and Appendix R, Figure A651.
- Gross business sales ratio (0.14*). Refer to Table 41 and Appendix R, Figure A657.
- Gross business sales capita (0.18*). Refer to Table 41 and Appendix R, Figure A662.
- Business and economic development expense ratio (0.19*). Refer to Table 41 and Appendix R, Figure A667.
- Business and economic development expense capita (0.18*). Refer to Table 41 and Appendix R, Figure A672.
- GBE asset capita (0.16*). Refer to Table 42 and Appendix R, Figure A676.
- GBE revenue ratio (0.13*). Refer to Table 42 and Appendix R, Figure A679.
- GBE revenue capita (0.16*). Refer to Table 42 and Appendix R, Figure A683.
- GBE expense ratio (0.11*). Refer to Table 42 and Appendix R, Figure A686.
- GBE expense capita (0.16*). Refer to Table 42 and Appendix R, Figure A690.
- GBE equity capita (0.12*). Refer to Table 42 and Appendix R, Figure A695.

Income

- Investment asset ratio (0.21*). Refer to Table 41 and Appendix R, Figure A648.
- Investment asset capita (0.27*). Refer to Table 41 and Appendix R, Figure A652.
- GBE asset ratio (0.18*). Refer to Table 42 and Appendix R, Figure A674.
- GBE asset capita (0.19*). Refer to Table 42 and Appendix R, Figure A677.
- GBE revenue ratio (0.22*). Refer to Table 42 and Appendix R, Figure A680.
- GBE revenue capita (0.18*). Refer to Table 42 and Appendix R, Figure A684.
- GBE expense ratio (0.20*). Refer to Table 42 and Appendix R, Figure A687.
- GBE expense capita (0.19*). Refer to Table 42 and Appendix R, Figure A691.
- GBE equity ratio (0.30*). Refer to Table 42 and Appendix R, Figure A693.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population (continued)

- GBE equity capita (0.41*). Refer to Table 42 and Appendix R, Figure A696.
- GBE net income capita (-0.18*). Refer to Table 42 and Appendix R, Figure A698.

Nation Wellness

- Investment asset capita (0.20*). Refer to Table 41 and Appendix R, Figure A653.
- Gross business sales capita (0.14*). Refer to Table 41 and Appendix R, Figure A663.
- Business and economic development expense ratio (0.09*). Refer to Table 41 and Appendix R, Figure A668.
- Business and economic development expense capita (0.13*). Refer to Table 41 and Appendix R, Figure A673.
- GBE asset capita (0.17*). Refer to Table 42 and Appendix R, Figure A678.
- GBE revenue ratio (0.12*). Refer to Table 42 and Appendix R, Figure A681.
- GBE revenue capita (0.17*). Refer to Table 42 and Appendix R, Figure A685.
- GBE expense ratio (0.12*). Refer to Table 42 and Appendix R, Figure A688.
- GBE expense capita (0.18*). Refer to Table 42 and Appendix R, Figure A692.
- GBE equity capita (0.14*). Refer to Table 42 and Appendix R, Figure A697.

Trust Activity Indicators and Demographic Indices

Workforce

- Trust revenue capita (0.12*). Refer to Table 43 and Appendix R, Figure A701. Note that an outlier exaggerates this correlation.

Housing

- Trust fund assets ratio (-0.11*). Refer to Table 43 and Appendix R, Figure A699. Note that an outlier exaggerates this correlation.

Nation Wellness

- Trust fund assets ratio (-0.11*). Refer to Table 43 and Appendix R, Figure A700.
- Trust revenue capita (0.10*). Refer to Table 43 and Appendix R, Figure A702.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population (continued)

TCA Activity Indicators and Demographic Indices

Education

- TCA ratio (-0.19*). Refer to Table 44 and Appendix R, Figure A703. Note that the correlation initially trends upward, and then trends downward.

Workforce

- TCA ratio (-0.23*). Refer to Table 44 and Appendix R, Figure A704.
- TCA capita (0.24*). Refer to Table 44 and Appendix R, Figure A709.
- Gross cash outflows from capital capita (-0.18*). Refer to Table 44 and Appendix R, Figure A712.

Language

- TCA ratio (0.17*). Refer to Table 44 and Appendix R, Figure A705.
- Gross cash outflows from capital ratio (0.12*). Refer to Table 44 and Appendix R, Figure A711.

Housing

- TCA ratio (-0.19*). Refer to Table 44 and Appendix R, Figure A706.

Income

- TCA ratio (-0.43*). Refer to Table 44 and Appendix R, Figure A707.

Nation Wellness

- TCA ratio (-0.22*). Refer to Table 44 and Appendix R, Figure A708.
- TCA capita (0.12*). Refer to Table 44 and Appendix R, Figure A710.

Other Activity Indicators and Demographic Indices

Education

- Earned & other revenue ratio (0.38*). Refer to Table 45 and Appendix R, Figure A713.
- Earned & other revenue capita (0.18*). Refer to Table 45 and Appendix R, Figure A719.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population (continued)

- Federal & provincial revenue ratio (-0.35*). Refer to Table 45 and Appendix R, Figure A724.
- Federal & provincial revenue capita (-0.11*). Refer to Table 45 and Appendix R, Figure A730.

Workforce

- Earned & other revenue ratio (0.17*). Refer to Table 45 and Appendix R, Figure A714.
- Earned & other revenue capita (0.19*). Refer to Table 45 and Appendix R, Figure A720.
- Federal & provincial revenue ratio (-0.19*). Refer to Table 45 and Appendix R, Figure A725.
- Federal & provincial revenue capita (0.16*). Refer to Table 45 and Appendix R, Figure A731.
- Tribal government & other First Nation entity revenue capita (0.14*). Refer to Table 45 and Appendix R, Figure A733.

Language

- Earned & other revenue ratio (-0.33*). Refer to Table 45 and Appendix R, Figure A715.
- Earned & other revenue capita (-0.17*). Refer to Table 45 and Appendix R, Figure A721.
- Federal & provincial revenue ratio (0.29*). Refer to Table 45 and Appendix R, Figure A726.

Housing

- Earned & other revenue ratio (0.31*). Refer to Table 45 and Appendix R, Figure A716.
- Earned & other revenue capita (0.14*). Refer to Table 45 and Appendix R, Figure A722.

Appendix P: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Total Population (continued)

- Federal & provincial revenue ratio (-0.27*). Refer to Table 45 and Appendix R, Figure A727.

Income

- Earned & other revenue ratio (0.26*). Refer to Table 45 and Appendix R, Figure A717.
- Federal & provincial revenue ratio (-0.27*). Refer to Table 45 and Appendix R, Figure A728.
- Federal & provincial revenue capita (-0.21*). Refer to Table 45 and Appendix R, Figure A732.

Nation Wellness

- Earned & other revenue ratio (0.19*). Refer to Table 45 and Appendix R, Figure A718.
- Earned & other revenue capita (0.14*). Refer to Table 45 and Appendix R, Figure A723.
- Federal & provincial revenue ratio (-0.20*). Refer to Table 45 and Appendix R, Figure A729.
- Tribal government and other First Nation entity revenue capita (0.12*). Refer to Table 45 and Appendix R, Figure A734.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups

Note that r results with an asterisk indicate that the correlation is statistically significant at the 5% level. The r value is presented along with an * when statistical significance is present.

Between Business Activity Indicators/GBE Activity Indicators and Demographic Indices

Education Index

- GBE activity indicators correlation for subgroup SC: GBE asset ratio/capita (0.47*, 0.40*), GBE revenue ratio/capita (0.48*, 0.47*), and GBE expense ratio/capita (0.51*, 0.55*). Refer to Appendix K, Figure A335 and Appendix R Figures A393 – A398.
- GBE activity indicators correlation for subgroup SR: GBE asset ratio (-0.50*), and GBE net income ratio (-0.59*). Refer to Appendix K, Figure A337 and Appendix R Figures A403 and A405.
- GBE activity indicators correlation for subgroup LR: GBE revenue capita (0.63*), GBE expense capita (0.68*), and GBE net income ratio (-0.61*). Refer to Appendix K, Figure A343 and Appendix R, Figures A441 and A446, and A447.

Workforce Index

- GBE activity indicators for subgroup SM: GBE asset capita (0.43*), GBE revenue ratio/capita (0.33*, 0.41*), GBE expense ratio/capita (0.35*, 0.40*), and GBE equity capita (0.44*). Refer to Appendix K, Figure A336 and Appendix R Figures A399 – A402. Note that these correlations are exaggerated by one outlier, even though a general positive correlation still exists.
- Business activity indicators for subgroup MM: investment asset capita (0.27*), gross business sales ratio/capita (0.19*, 0.23*), and business & economic development expense ratio/capita (0.23*, 0.23*). Refer to Appendix J, Figure A329.
- Business activity indicators for subgroup LR: a positive weak correlation exists (but not statistically significant) for investment asset ratio/capita (0.45, 0.40). Refer to Appendix J, Figure A333 and Appendix R Figures A384-A385.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- GBE activity indicators for subgroup LR: the following non-statistically significant correlations are present – GBE revenue capita (0.44), and GBE expense capita (0.44). Refer to Appendix K, Figure A343 and Appendix R, Figures A442 and A448.

Income Index

- Business activity indicators for subgroup MC: investment asset ratio/capita (0.27*, 0.28*). Refer to Appendix J, Figure A328.
- GBE activity indicators for subgroup MC: GBE asset capita (0.27*), GBE expense ratio (0.26*), and GBE equity ratio/capita (0.30*, 0.32*). Refer to Appendix K, Figure A338.
- Business activity indicators for subgroup MM: investment asset ratio/capita (0.24*, 0.37*), and gross business sales ratio/capita (0.24*, 0.25*). Refer to Appendix J, Figure A329.
- GBE activity indicators for subgroup MM: GBE asset ratio/capita (0.27*, 0.23*), GBE revenue ratio/capita (0.38*, 0.40*), GBE expense ratio/capita (0.34*, 0.40*), and GBE equity ratio/capita (0.32*, 0.56*). Refer to Appendix K, Figure A339 and Appendix R, Figures A417 – A419.
- GBE activity indicators for subgroup MR: GBE revenue ratio (0.40*), GBE equity ratio (0.52*), and GBE net income capita (0.35*). Refer to Appendix K, Figure A340 and Appendix R, Figures A424 and A426.
- GBE activity indicators for subgroup LC: GBE asset capita (0.43*), and GBE equity ratio/capita (0.35*, 0.43*). Refer to Appendix K, Figure A341 and Appendix R, Figures A427 and A428.
- GBE activity indicators for subgroup LM: GBE revenue capita (0.50*), and GBE expense ratio/capita (0.43*, 0.53*). Refer to Appendix K, Figure A342 and Appendix R, Figures A429-A431.
- Business activity indicators for subgroup LR: investment asset ratio/capita (0.62*, 0.74*). Refer to Appendix J, Figure A333 and Appendix R, Figures A388 – A389. Note that one outlier exaggerates the correlation for the investment asset capita.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- GBE activity indicators for subgroup LR: GBE revenue capita (0.61*) and GBE expense capita (0.64*). The following non-statistically significant relations exist: GBE asset capita (0.47), and GBE net income ratio (-0.43). Refer to Appendix K, Figure A343 and Appendix R, Figures A432, A445, A451, and A456.

Housing Index

- Business activity indicators for subgroup SC: gross business sales ratio/capita (0.49*, 0.55*), and business & economic development expense ratio/capita (0.50*, 0.58*). Refer to Appendix J, Figure A325 and Appendix R, Figures A374 – A377.
- Business activity indicators for subgroup SR: investment asset capita (0.52*), and gross business sales capita (-0.46*). Refer to Appendix J, Figure A327 and Appendix R, Figures A379 and A380.
- GBE activity indicators for subgroup SR: statistically significant correlations exist for all GBE indicators * except for the GBE net income ratio. Refer to Appendix K, Figure A337 and Appendix R, Figures A406 – A416.
- Business activity indicators for subgroup MM: investment asset ratio (0.20*), gross business sales capita (0.20*), and business & economic development expense ratio/capita (0.24*, 0.25*). Refer to Appendix J, Figure A329.
- GBE activity indicators for subgroup MM: GBE revenue capita (0.21*), and GBE expense capita (0.21*). Refer to Appendix K, Figure A339.
- GBE activity indicators for subgroup MR: GBE revenue ratio (0.42*), and GBE expense ratio (0.43*). Refer to Appendix K, Figure A340 and Appendix R, Figures A423, and A425.
- GBE activity indicators for subgroup LR: non-statistically significant correlations exist for GBE revenue capita (0.47) and GBE expense capita (0.51). Refer to Appendix K, Figure A343 and Appendix R, Figures A444, and A450.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

Language Index

- Business activity indicators for subgroup MR: gross business sales ratio/capita (-0.30*, -0.33*), and business & economic development expense ratio/capita (-0.43*, -0.41*). Refer to Appendix J, Figure A330 and Appendix R, Figures A381 and A382.
- Business activity indicators for subgroup LR: business & economic development expense ratio/capita (-0.55*, -0.64*). Refer to Appendix J, Figure A333 and Appendix R, Figures A386 and A387.
- GBE activity indicators for subgroup LR: GBE net income capita (0.59*). The following non-statistically significant correlations exist: GBE revenue capita (-0.42), GBE expense capita (-0.49), GBE equity ratio (0.46), GBE equity capita (0.45), and GBE net income ratio (0.56). Refer to Appendix K, Figure A343 and Appendix R, Figures A443, A449, A452, A453, A455, and A458. A unique trend emerges in most of these indicators. As the language index increases, the trend line is negative, but then trends positively.

Nation Wellness Index

- Business activity indicators for subgroup SC: gross business sales ratio/capita (0.38*, 0.44*) and business & economic development expense capita (0.38*). Refer to Appendix J, Figure A325 and Appendix R, Figure A378.
- GBE activity indicators for subgroup SM: GBE asset capita (0.30*), GBE revenue capita (0.31*), and GBE expense capita (0.32*). Refer to Appendix K, Figure A336.
- Business activity indicators for subgroup MM: investment asset ratio/capita (0.19*, 0.21*), gross business sales ratio/capita (0.23*, 0.27*), and business & economic development expense ratio/capita (0.22*, 0.20*). Refer to Appendix J, Figure A329.
- GBE activity indicators for subgroup MM: GBE revenue ratio/capita (0.19*, 0.23*), GBE expense capita (0.23*), and GBE equity capita (0.24*). Refer to Appendix K, Figure A339.
- GBE activity indicators for subgroup LC: GBE asset capita (0.33*), and GBE equity ratio/capita (0.34*, 0.37*). Refer to Appendix K, Figure A341.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- Business activity indicators for subgroup LR: business & economic development expense ratio/capita (-0.67*, -0.66*). Refer to Appendix J, Figure A333 and Appendix R, Figures A390 and A391.
- GBE activity indicators for subgroup LR: GBE asset capita (0.65*), and GBE equity capita (not statistically significant of 0.43). Refer to Appendix K, Figure A343 and Appendix R, Figures A433 and A459.

Between Trust Activity Indicators and Demographic Indices

Education Index

- Subgroup MM: trust fund assets ratio/capita (-0.25*, -0.21*). Refer to Appendix L, Figure A349.
- Subgroup LC: trust revenue ratio/capita (-0.33*, -0.31*). Refer to Appendix L, Figure A351.
- Subgroup LR: trust fund assets ratio (not statistically significant at 0.52) and trust fund asset capita (0.60*). Refer to Appendix L, Figure A353 and Appendix R, Figures A474 and A476.

Workforce Index

- Subgroup SR: trust fund assets ratio/capita (-0.46*, -0.56*), trust revenue ratio/capita (-0.59*, -0.65*). Refer to Appendix L, Figure A347 and Appendix R, Figures A460, A463, A467, and A469.
- Subgroup LR: trust fund asset capita (not statistically significant at 0.46). Refer to Appendix L, Figure A353 and Appendix R, Figure A477. This correlation is caused by an outlier.

Income Index

- Subgroup LM: trust fund asset ratio/capita (0.38*, 0.52*). Refer to Appendix L, Figure A352 and Appendix R, Figure A473.
- Subgroup LR: trust fund asset capita (not statistically significant at 0.44). Refer to Appendix L, Figure A353 and Appendix R, Figure A479. This correlation is caused by an outlier.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

Housing Index

- Subgroup SR: trust fund assets ratio/capita (-0.46*, -0.47*). Refer to Appendix L, Figure A347 and Appendix R Figures A461 and A465.
- Subgroup LC: trust fund assets capita (-0.34*), and trust revenue ratio/capita (-0.45*, -0.42*). Refer to Appendix L, Figure A351 and Appendix R, Figures A471-A472.

Language Index

- Subgroup SR: trust fund assets capita (-0.47*). Refer to Appendix L, Figure A347 and Appendix R, Figure A464.
- Subgroup MC: trust revenue ratio (0.30*). Refer to Appendix L, Figure A348.
- Subgroup LR: trust fund assets ratio (not statistically significant at -0.52) and trust fund assets capita (-0.55*). Refer to Appendix L, Figure A353 and Appendix R, Figures A475 and A478.

Nation Wellness Index

- Subgroup SR: trust fund assets ratio/capita (-0.46*, -0.70*), and trust fund revenue ratio/capita (-0.53*, -0.70*). Refer to Appendix L, Figure A347 and Appendix R, Figures A462, A466, A468, and A470.
- Subgroup MR: trust revenue ratio/capita (0.34*, 0.31*). Refer to Appendix L, Figure A350.

Between Tangible Capital Asset (TCA) Activity Indicators and Demographic Indices

Education Index

- Subgroup LC: TCA ratio (-0.45*). Refer to Appendix M, Figure A361 and Appendix R, Figure A499.
- Subgroup LR: gross cash outflows from capital ratio (-0.61*). Refer to Appendix M, Figure A363 and Appendix R, Figure A502.

Workforce Index

- Subgroup SM: TCA ratio (-0.31*), and gross cash outflows from capital capita (-0.33*). Refer to Appendix M, Figure A356.
- Subgroup MM: TCA ratio (-0.40*). Refer to Appendix M, Figure A359 and Appendix R, Figure A495.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- Subgroup LR: gross cash outflows from capital ratio (not statistically significant at -0.50). Refer to Appendix M, Figure A363 and Appendix R, Figure A503.

Income Index

- No income data is available for subgroups SC, SM, and SR due to data quality issues for small population groups, and as such no correlation can be conducted for these subgroups.
- Subgroup MC: TCA ratio/capita (-0.30*, 0.25*). Refer to Appendix M, Figure A358.
- Subgroup MM: TCA ratio/capita (-0.46*, 0.28*). Refer to Appendix M, Figure A359 and Appendix R, Figure A496.
- Subgroup MR: TCA ratio (-0.43*), and gross cash outflows from capital ratio (-0.47*). Refer to Appendix M, Figure A360 and Appendix R, Figures A497 and A501.
- Subgroup LC: TCA ratio (-0.48*). Refer to Appendix M, Figure A361 and Appendix R, Figure A498.
- Subgroup LR: TCA ratio (not statistically significant at -0.59) and gross cash outflows from capital ratio (not statistically significant at -0.57). Refer to Appendix M, Figure A363 and Appendix R, Figures A500 and A505.

Language Index

- Subgroup SR: TCA capita (-0.62*), and gross cash outflows from capital capita (0.58*). Refer to Appendix M, Figure A357 and Appendix R, Figures A483, and A489.
- Subgroup LR: gross cash outflows from capital ratio (not statistically significant at 0.53). Refer to Appendix M, Figure A363 and Appendix R, Figure A504.

Housing Index

- Subgroup SC: TCA capita (0.46*). Refer to Appendix M, Figure A355 and Appendix R, Figure A481.
- Subgroup SR: TCA capita (-0.61*), and gross cash outflows from capital capita (0.59*). Refer to Appendix M, Figure A357 and Appendix R, Figures A484 and A490.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

Nation Wellness Index

- Subgroup SR: TCA capita (-0.62*), and gross cash outflows from capital capita (0.57*). Refer to Appendix M, Figure A357 and Appendix R, Figures A485 and A491.

Between Other Activity Indicators and Demographic Indices

Education

- Subgroup SC: earned & other revenue ratio/capita (0.44*, 0.35*), and federal & provincial revenue ratio (-0.42*). Refer to Appendix N, Figure A365 and Appendix R, Figures A520 and A522.
- Subgroup SM: earned & other revenue ratio (0.28*). Refer to Appendix N, Figure A366.
- Subgroup SR: Tribal gov't & other FN entity revenue ratio (0.47*), and Tribal gov't & other FN entity revenue capita (not statistically significant at 0.46). Refer to Appendix N, Figure A367 and Appendix R, Figures A528 and A529.
- Subgroup MC: earned & other revenue ratio (0.36*), and fed & prov revenue ratio (-0.28*). Refer to Appendix N, Fig. A368.
- Subgroup MM: earned & other revenue ratio/capita (0.35*, 0.22*), and federal & provincial revenue ratio (-0.19*). Refer to Appendix N, Figure A369.
- Subgroup MR: earned & other revenue capita (0.29*), and federal & provincial revenue ratio/capita (-0.30*, -0.38*). Refer to Appendix N, Figure A370.
- Subgroup LC: earned & other revenue ratio (0.52*). Refer to Appendix N, Figure A371 and Appendix R, Figure A537.
- Subgroup LM: earned & other revenue ratio/capita (0.36*, 0.36*), and federal & provincial revenue ratio (-0.46*). Refer to Appendix N, Figure A372 and Appendix R, Figure A541.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- Subgroup LR: the following maintain non-statistically significant correlations – earned & other revenue ratio/capita (0.53, 0.49) and a negative weak correlation for federal & provincial revenue ratio (-0.46). Refer to Appendix N, Figure A373 and Appendix R, Figures A556, A560, A566.

Workforce Index

- Subgroup SM: federal & provincial revenue ratio (-0.26*), and Tribal government & other First Nation entity revenue capita (0.29*). Refer to Appendix N, Figure A366.
- Subgroup MC: federal & provincial revenue capita (0.29*). Refer to Appendix N, Figure A368.
- Subgroup MM: earned & other revenue ratio/capita (0.28*, 0.29*), and federal & provincial revenue ratio (-0.19*). Refer to Appendix N, Figure A369.
- Subgroup LC: federal & provincial revenue ratio (-0.31*). Refer to Appendix N, Figure A371.
- Subgroup LR: earned & other revenue ratio/capita (0.79*, 0.63*), and federal & provincial revenue ratio (-0.80*). Refer to Appendix N, Figure A373 and Appendix R, Figures A557, A561, and A567. A non-statistically significant correlation exists for Tribal government & other First Nation entity revenue capita (0.42). Refer to Appendix N, Figure A373 and Appendix R, and Figure A564.

Income Index

- Subgroup MM: earned & other revenue ratio/capita (0.27*, 0.21*), and federal & provincial revenue ratio (-0.25*). Refer to Appendix N, Figure A369.
- Subgroup MR: federal & provincial revenue capita (-0.48*), and Tribal government & other First Nation entity revenue ratio (0.32*). Refer to Appendix N, Figure A370 and Appendix R, Figure A534.
- Subgroup LC: earned & other revenue ratio (0.37*), and federal & provincial revenue ratio (-0.35*). Refer to Appendix N, Figure A371.

Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

- Subgroup LR: earned & other revenue ratio/capita (0.66*, 0.69*), and federal & provincial revenue ratio (-0.66*). A non-statistically significant correlation exists for Tribal government & other First Nation entity revenue capita (0.41). Refer to Appendix N, Figure A373 and Appendix R, Figures A559, A563, A569, and A565.

Language Index

- Subgroup SR: federal & provincial revenue capita (-0.49*). Refer to Appendix N, Figure A367 and Appendix R, Figure A530.
- Subgroup MC: earned & other revenue ratio (-0.31*), and federal & provincial revenue ratio (0.23*). Refer to Appendix N, Figure A368.
- Subgroup MM: Tribal government & other First Nation entity revenue ratio/capita (0.25*, 0.30*). Refer to Appendix N, Figure A369.
- Subgroup MR: earned & other revenue ratio (-0.43*), and federal & provincial revenue ratio (0.38*). Refer to Appendix N, Figure A370 and Appendix R, Figure A533.
- Subgroup LC: earned & other revenue ratio (-0.40*), and federal & provincial revenue capita (0.34*). Refer to Appendix N, Figure A371 and Appendix R, Figure A538.
- Subgroup LR: earned & other revenue ratio/capita (-0.65*, -0.68*), and federal & provincial revenue ratio (0.56*). Refer to Appendix N, Figure A373 and Appendix R, Figures A558, A562, and A568.

Housing Index

- Subgroup SC: earned & other revenue capita (0.43*). Refer to Appendix N, Figure A365 and Appendix R, Figure A521.
- Subgroup MC: earned & other revenue ratio (0.40*), and federal & provincial revenue capita (-0.33*). Refer to Appendix N, Figure A368 and Appendix R, Figure A531.
- Subgroup MM: earned & other revenue ratio/capita (0.28*, 0.30*), and federal & provincial revenue ratio (-0.22*). Refer to Appendix N, Figure A369.

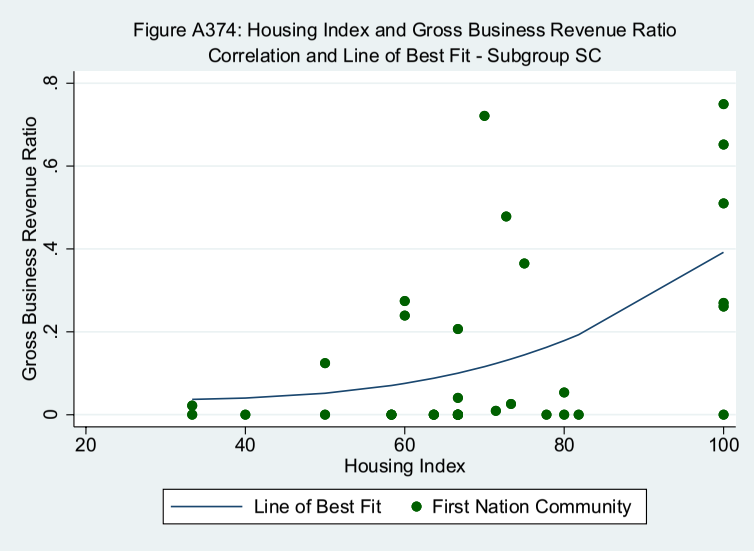
Appendix Q: Correlational Analysis, Results, and Referencing – Between Financial Indicators and Demographic Indices for the Subgroups (continued)

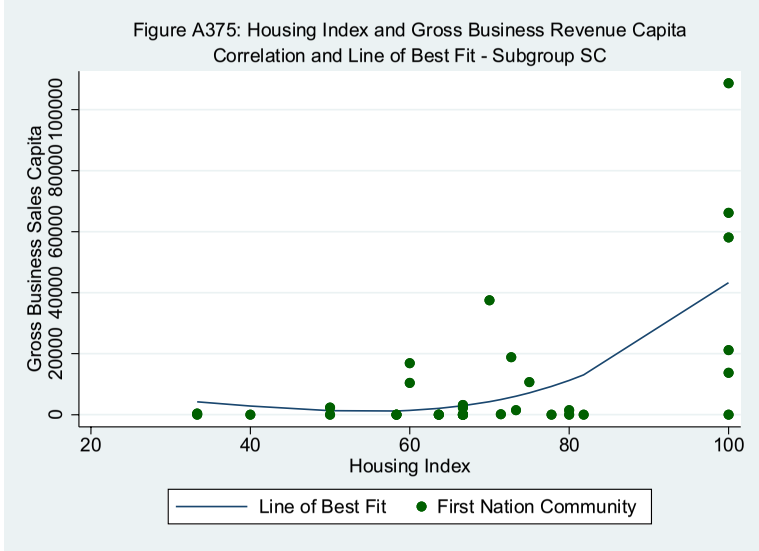
- Subgroup LC: earned & other revenue ratio (0.53*), and federal & provincial revenue ratio (-0.31*). Refer to Appendix N, Figure A371 and Appendix R, Figure A539.
- Subgroup LM: federal & provincial revenue ratio (-0.40*). Refer to Appendix N, Figure A372 and Appendix R, Figure A542.

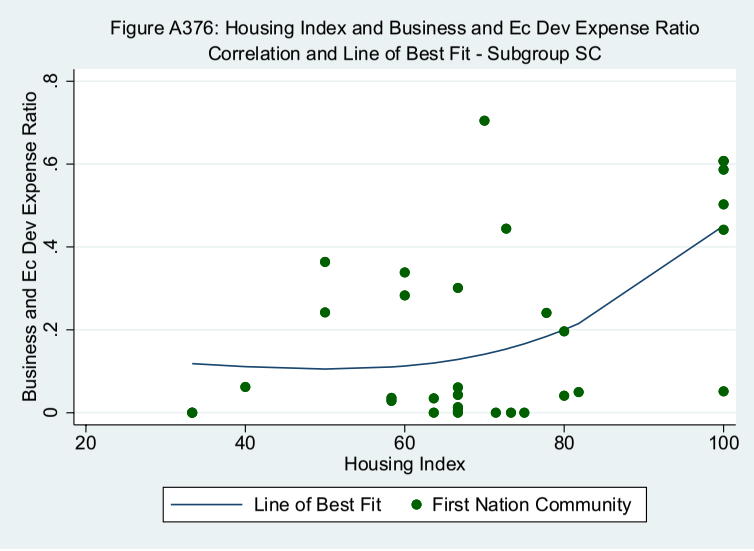
Nation Wellness Index

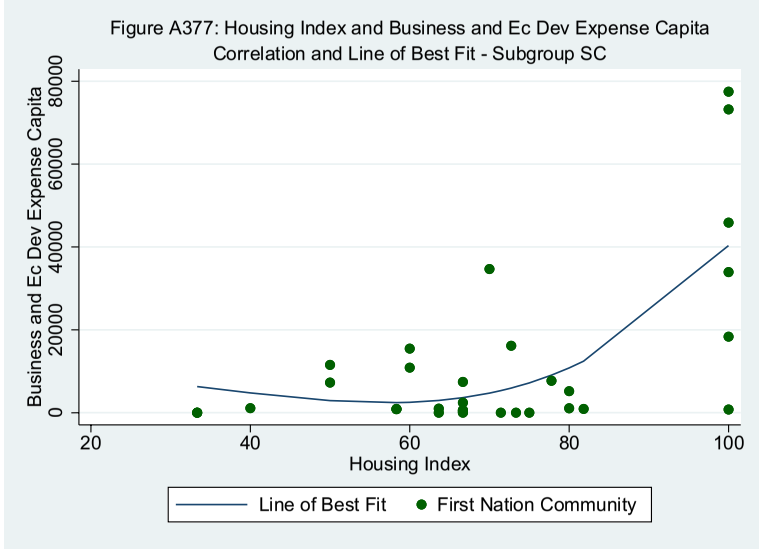
- Subgroup SC: earned & other revenue capita (0.35*). Refer to Appendix N, Figure A365.
- Subgroup MC: earned & other revenue ratio (0.25*). Refer to Appendix N, Figure A368.
- Subgroup MM: earned & other revenue ratio/capita (0.31*, 0.31*), and federal & provincial revenue ratio (0.27*). Refer to Appendix N, Figure A369.
- Subgroup LC: earned & other revenue ratio (0.38*). Refer to Appendix N, Figure A371.

Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

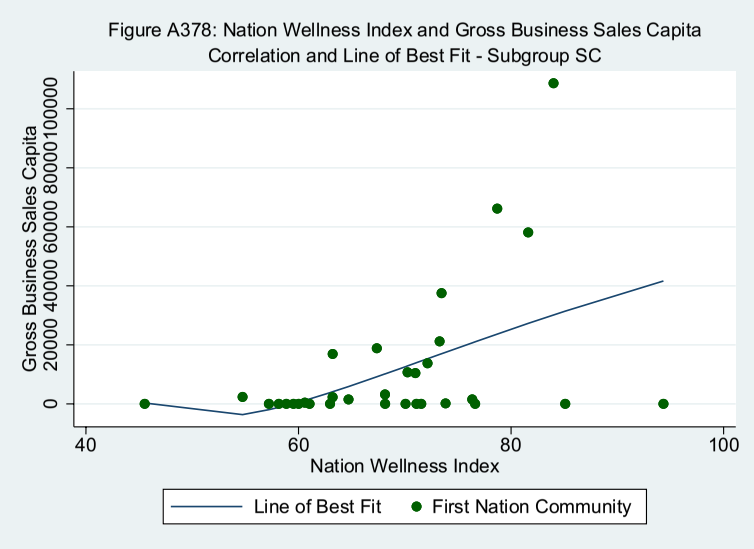


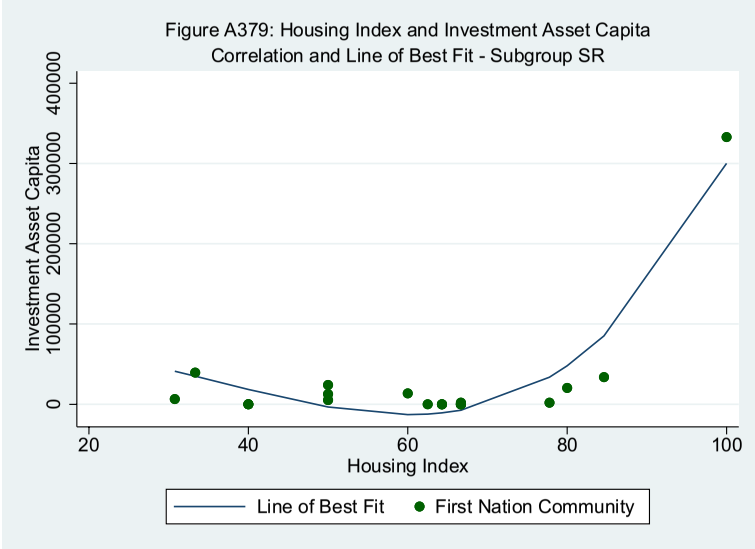


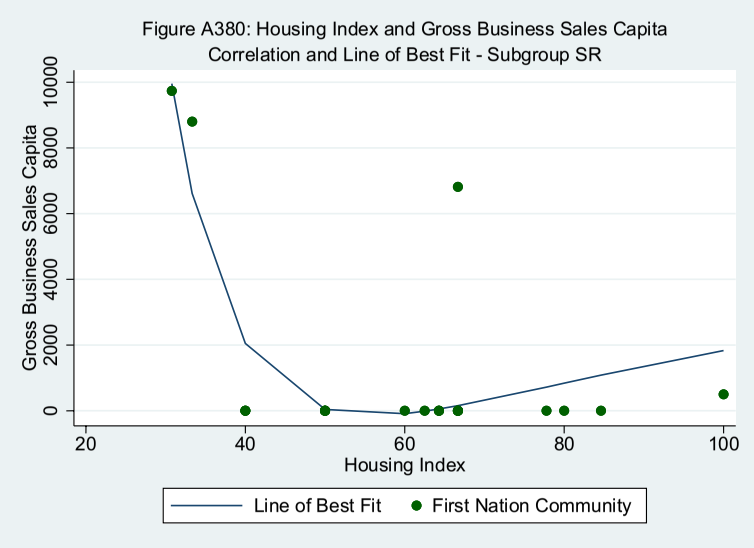


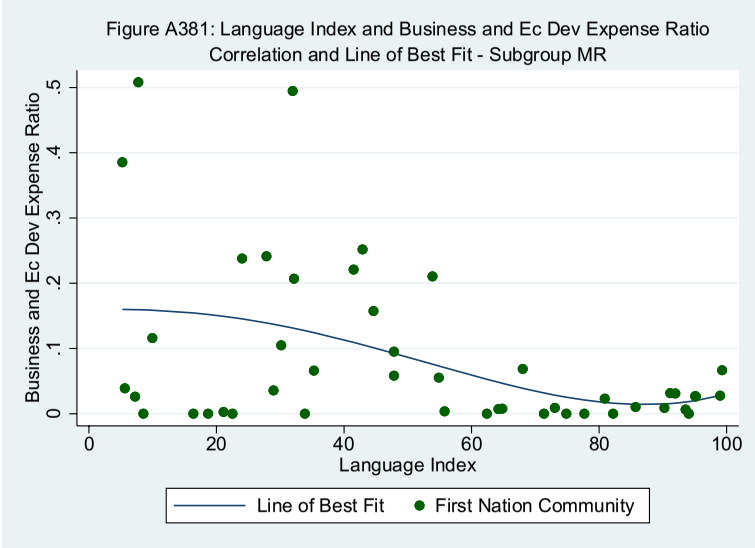


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

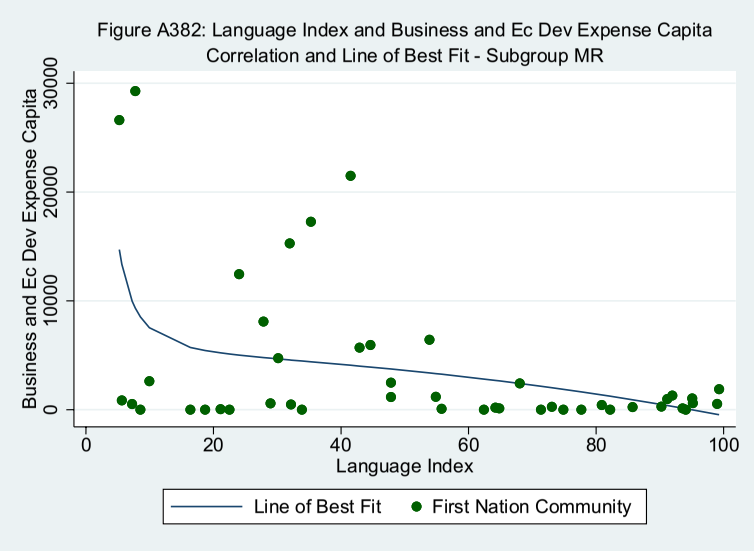


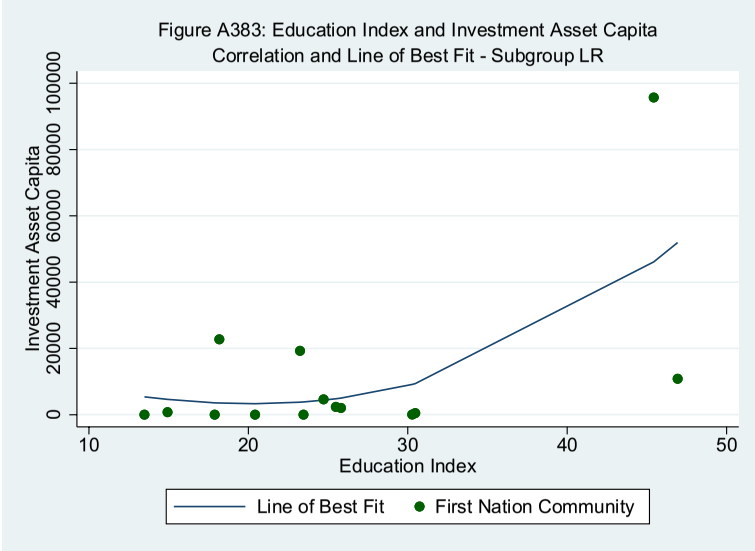


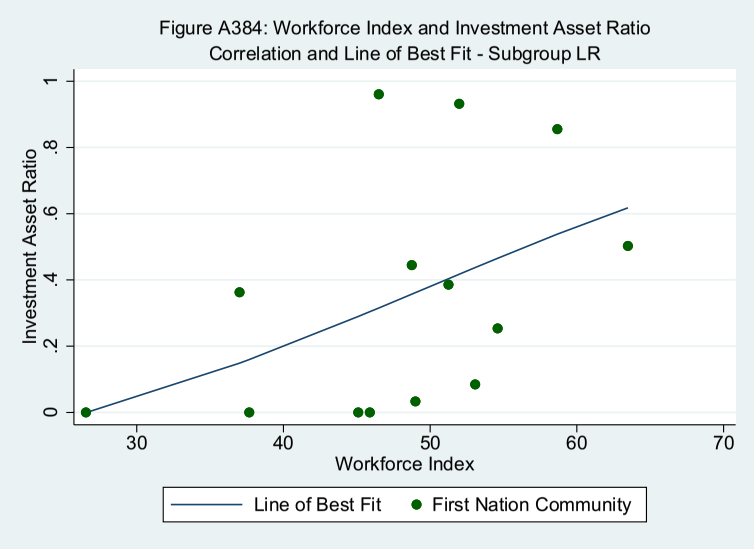


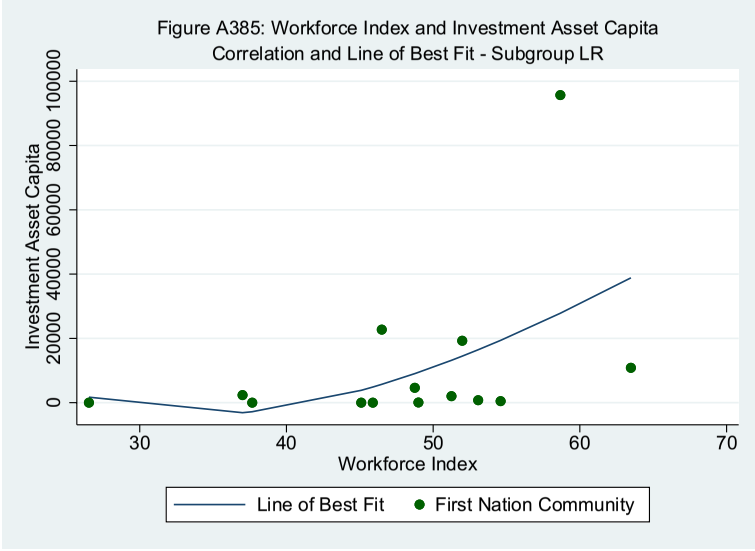


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

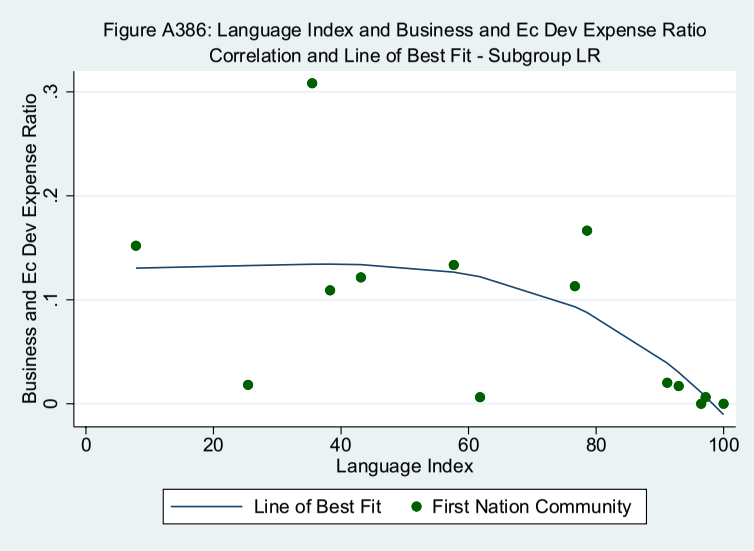


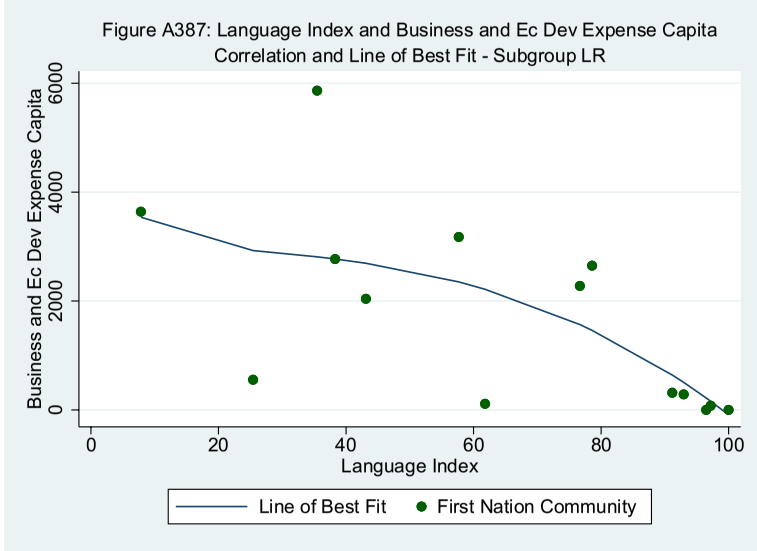


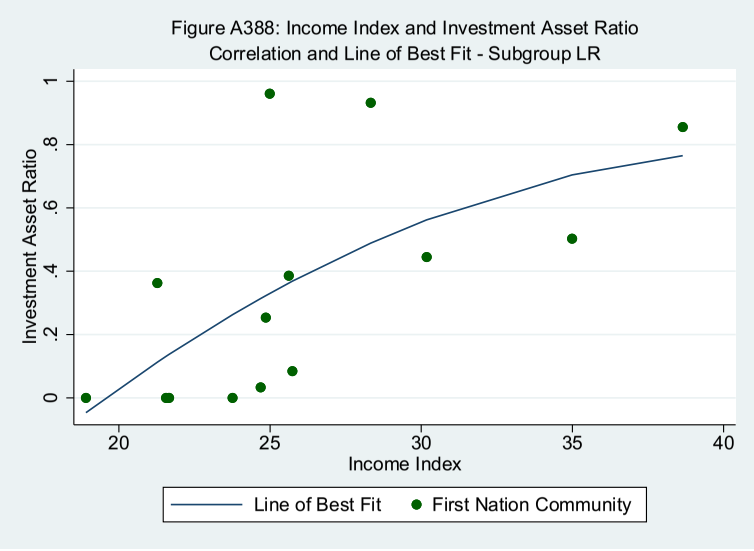


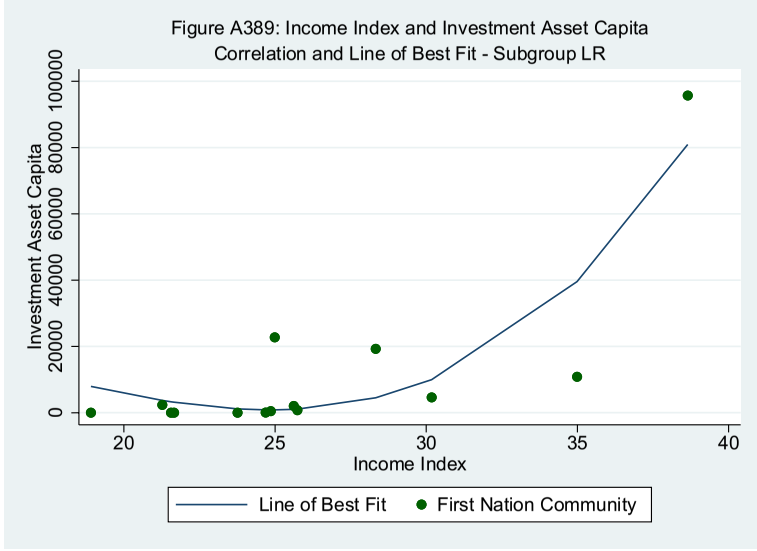


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

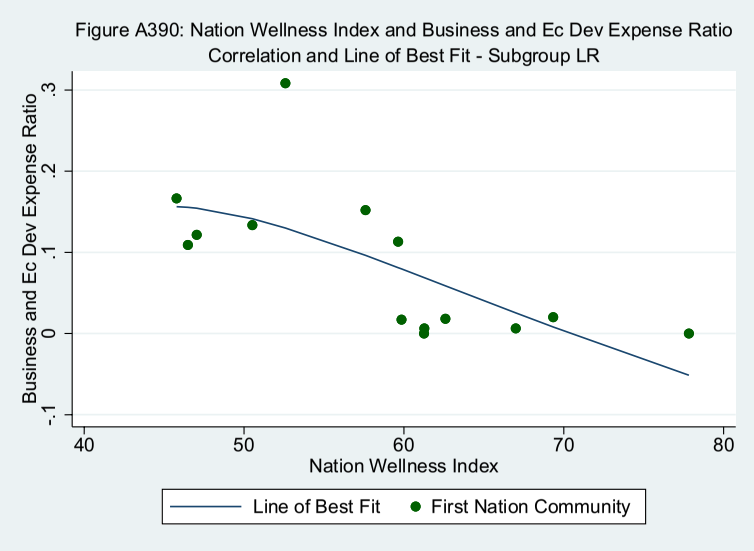


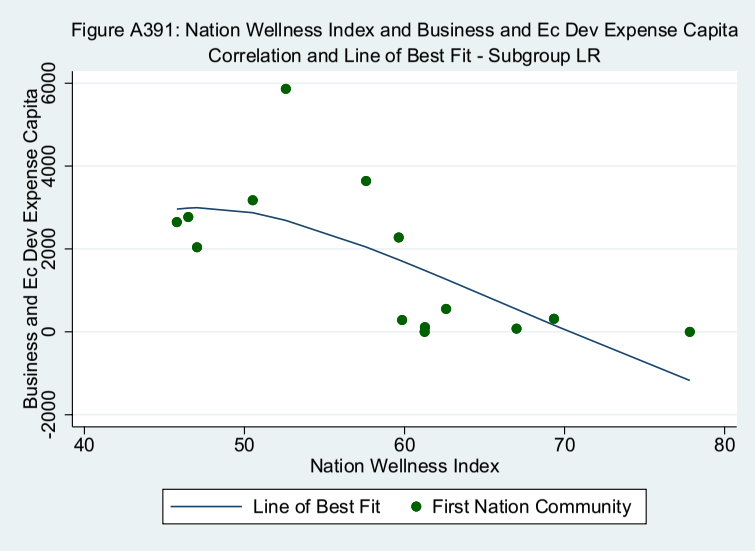


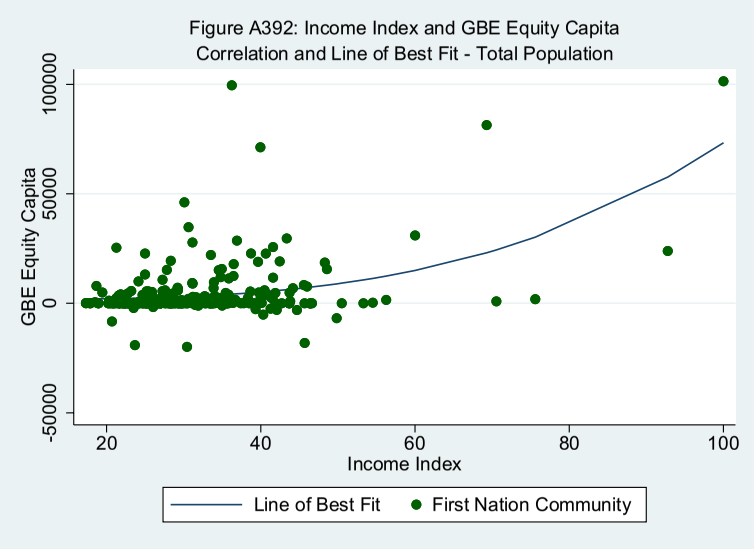


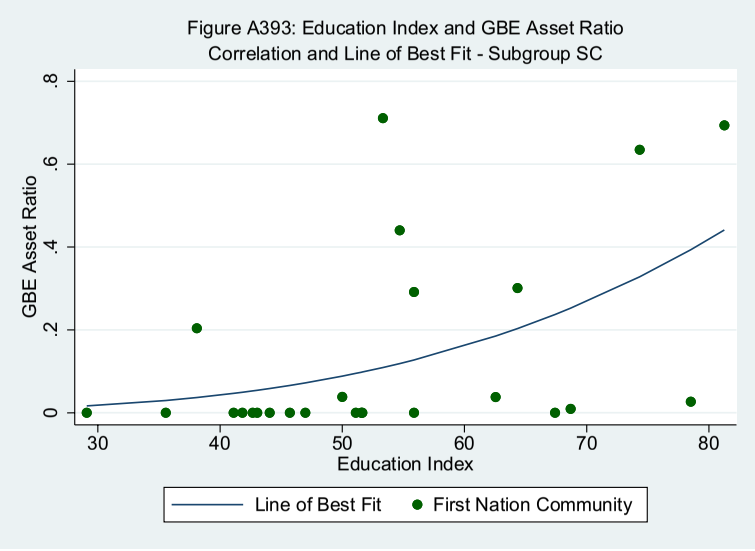


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A394: Education Index and GBE Asset Capita
Correlation and Line of Best Fit - Subgroup SC

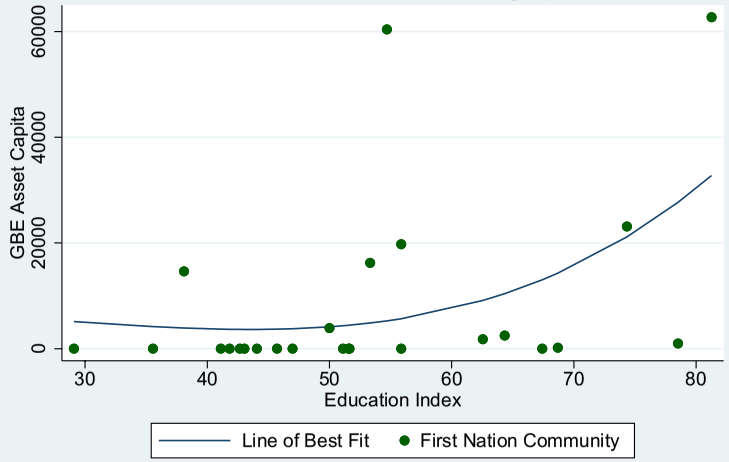


Figure A395: Education Index and GBE Revenue Ratio
Correlation and Line of Best Fit - Subgroup SC

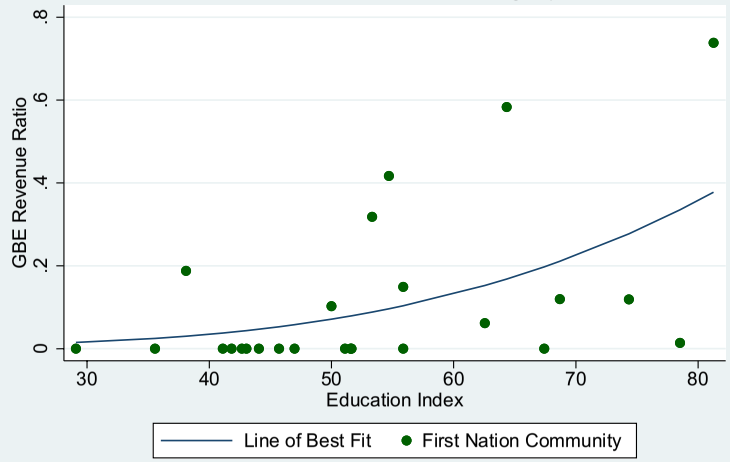


Figure A396: Education Index and GBE Revenue Capita
Correlation and Line of Best Fit - Subgroup SC

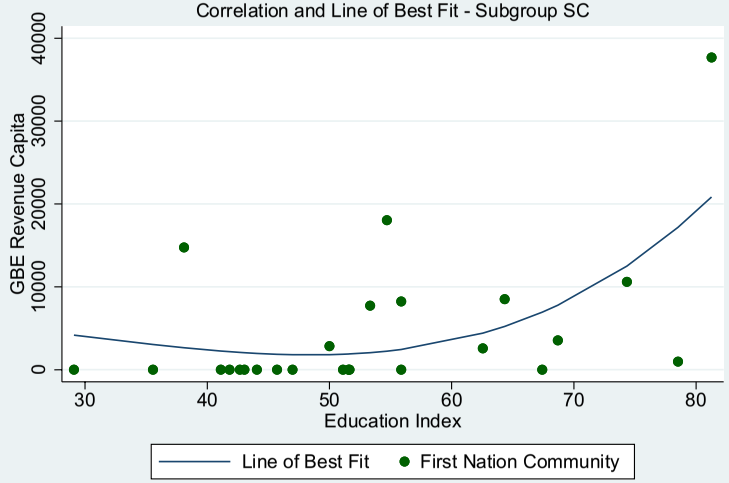
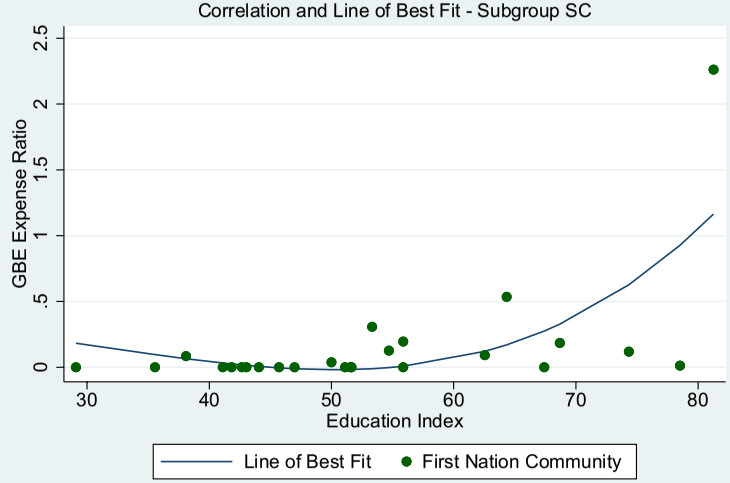
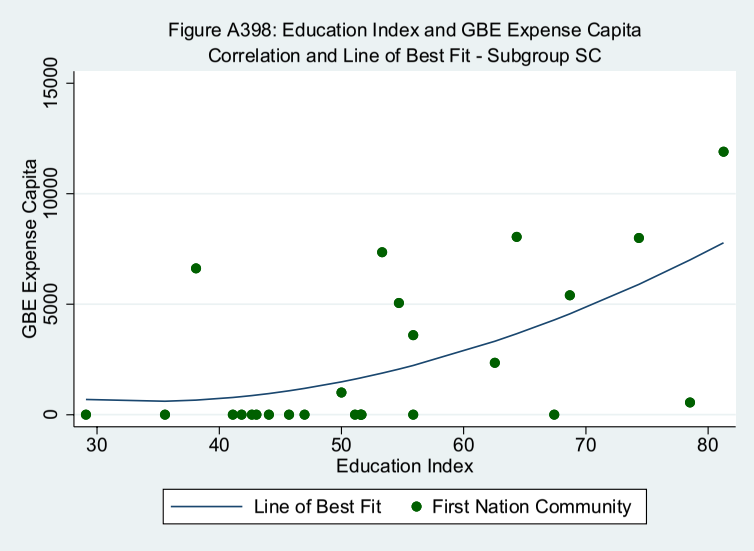
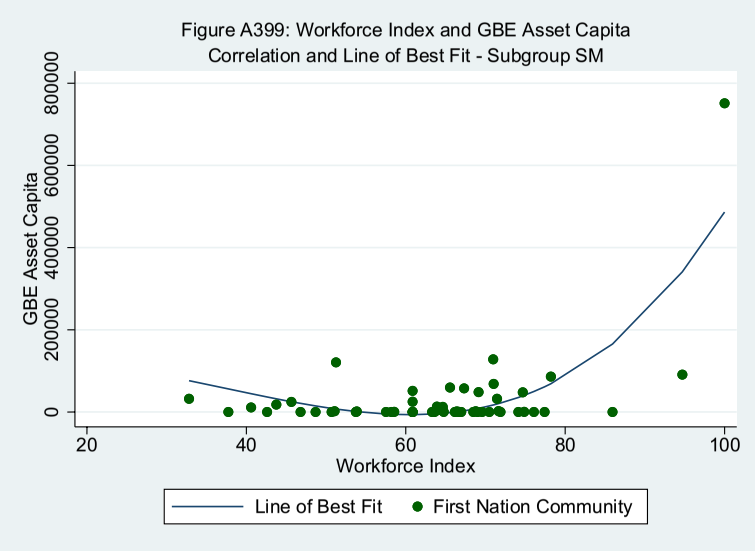


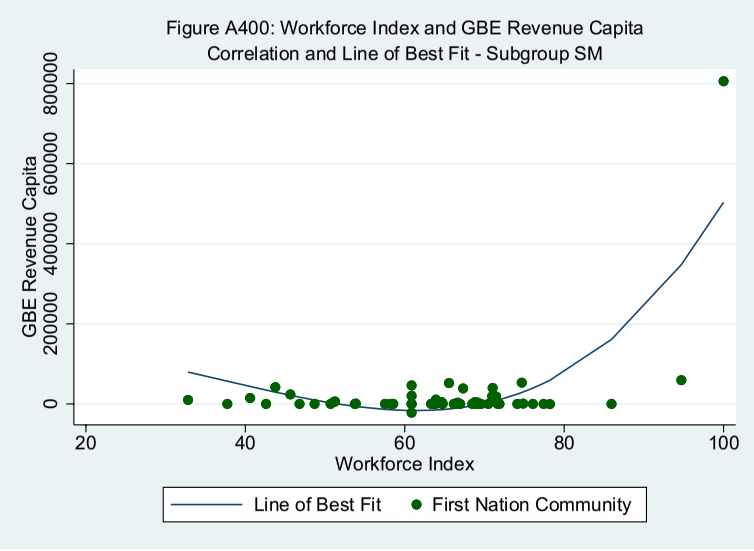
Figure A397: Education Index and GBE Expense Ratio
Correlation and Line of Best Fit - Subgroup SC

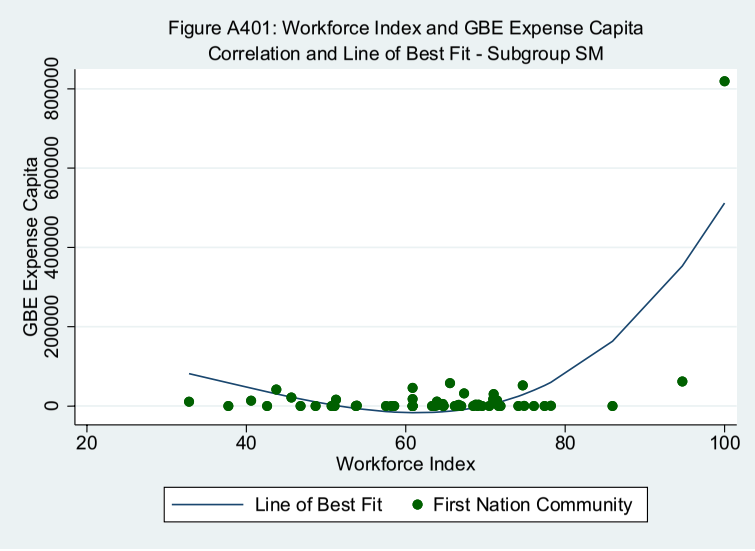


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

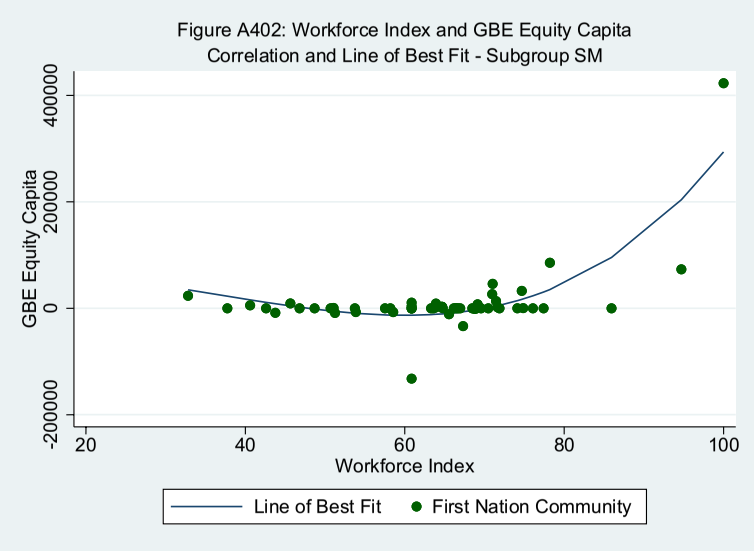


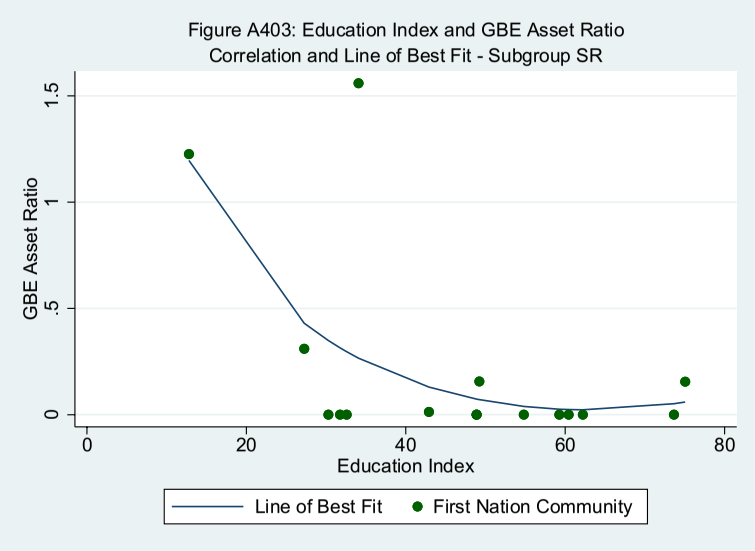


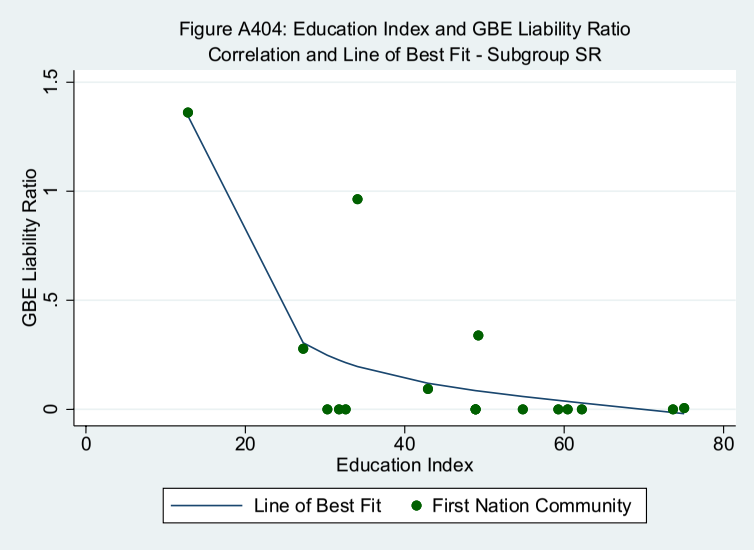


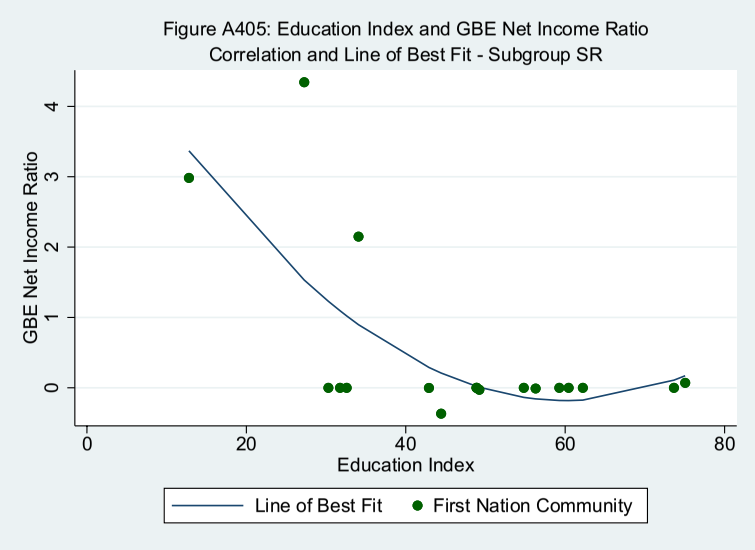


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

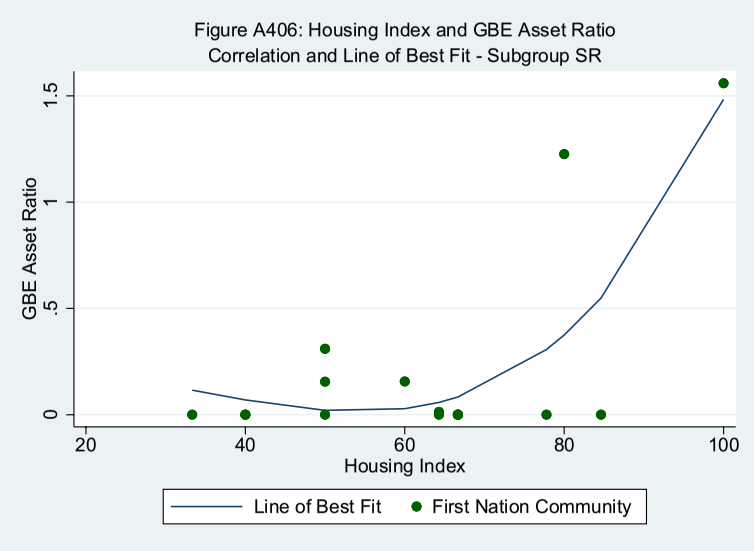


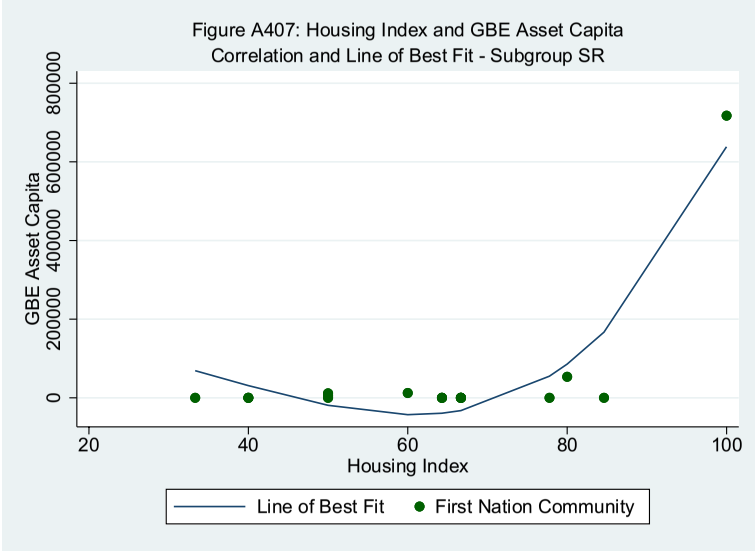


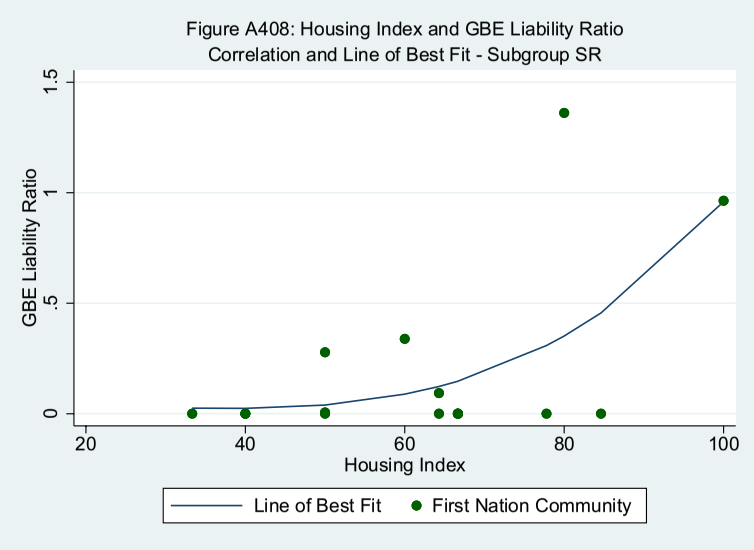


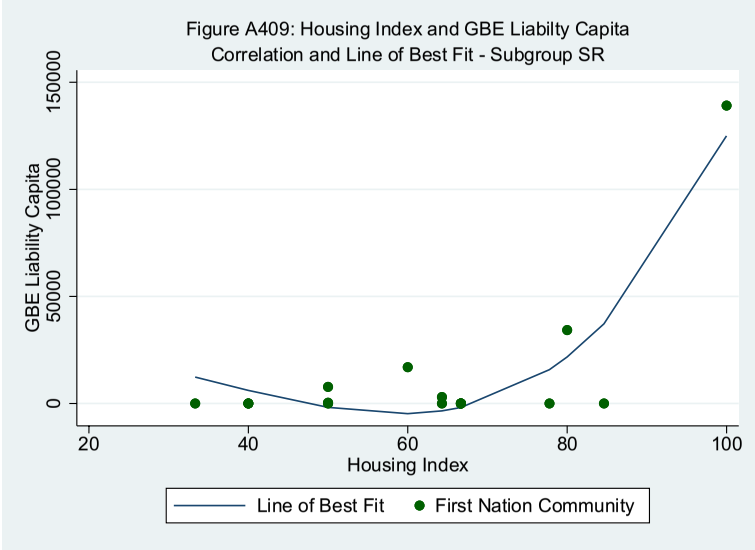


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

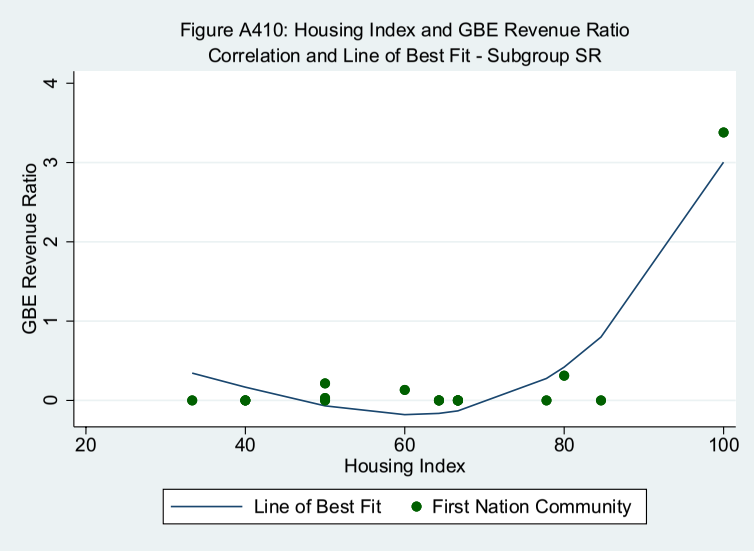


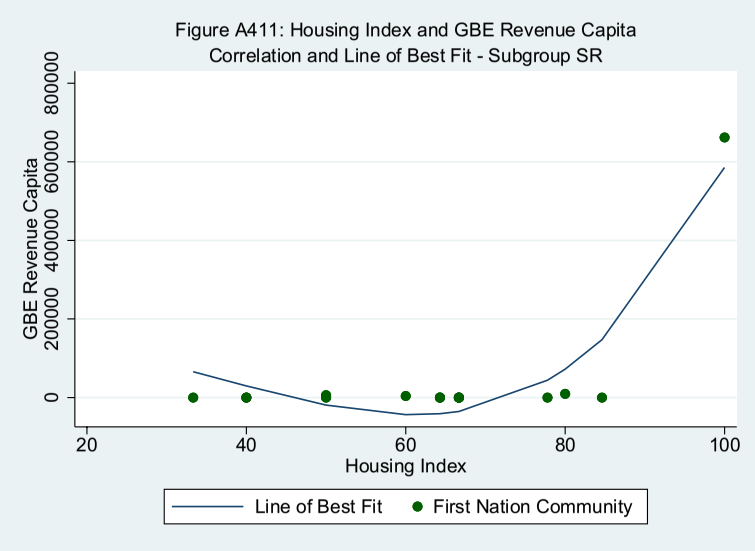


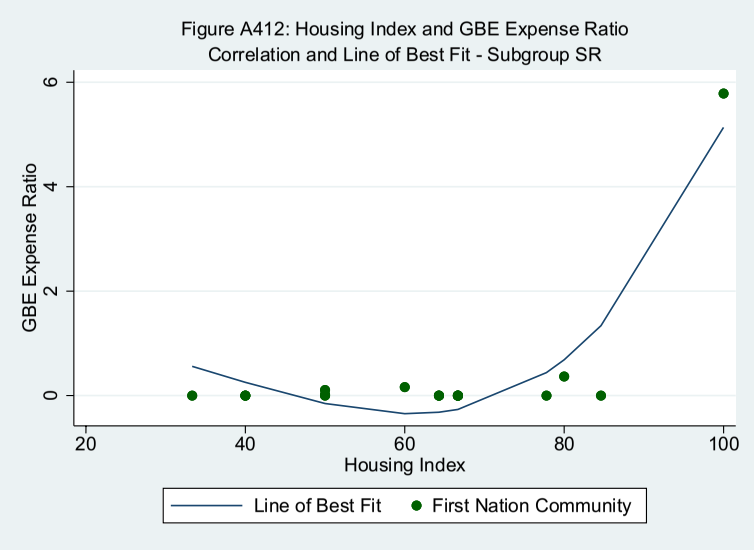


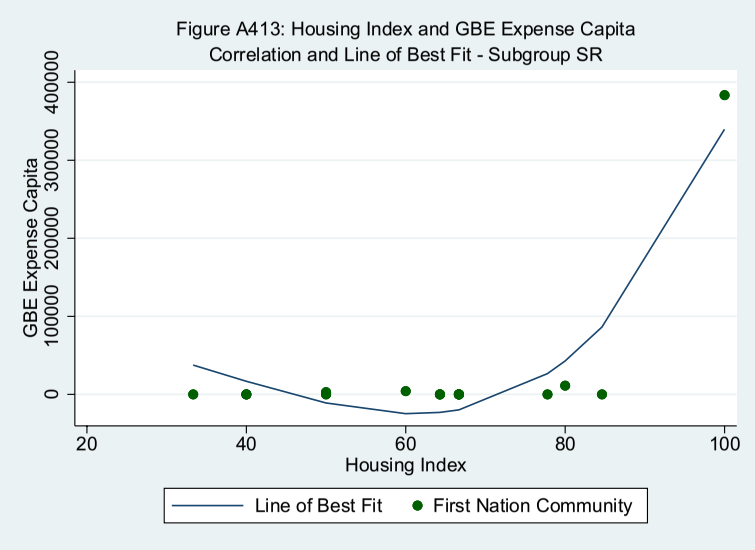


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

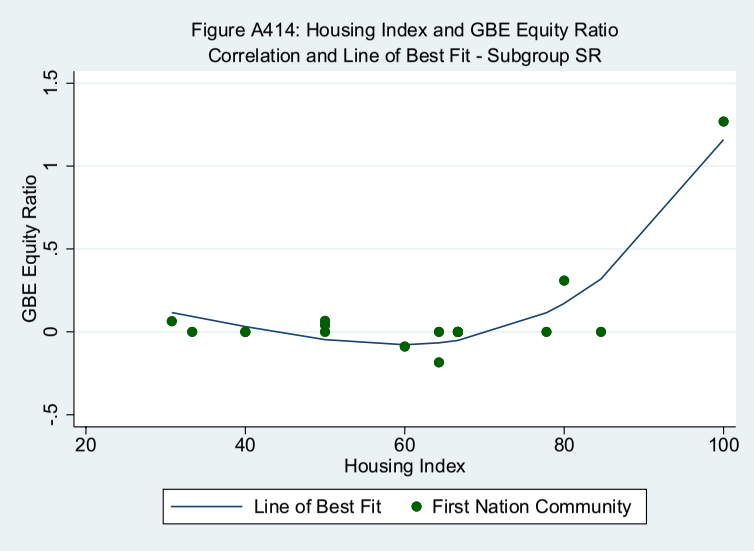


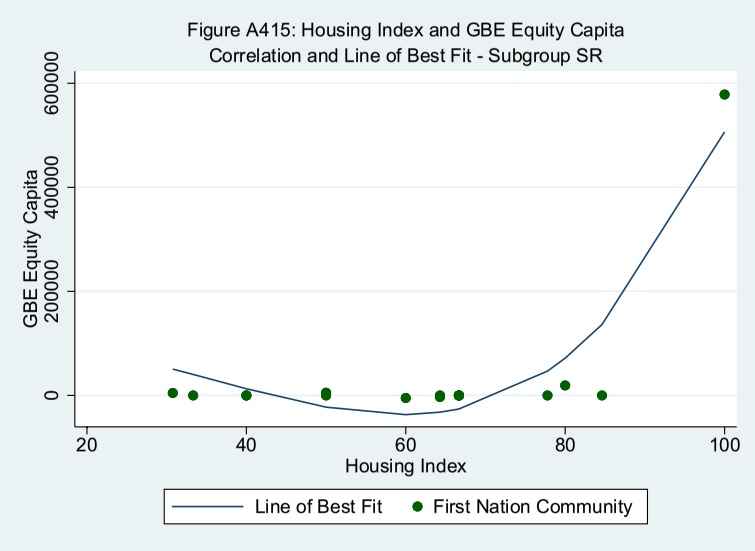


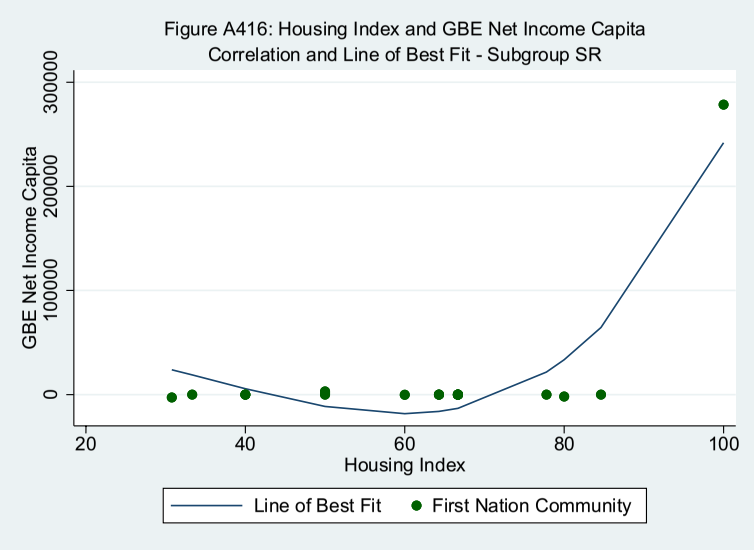


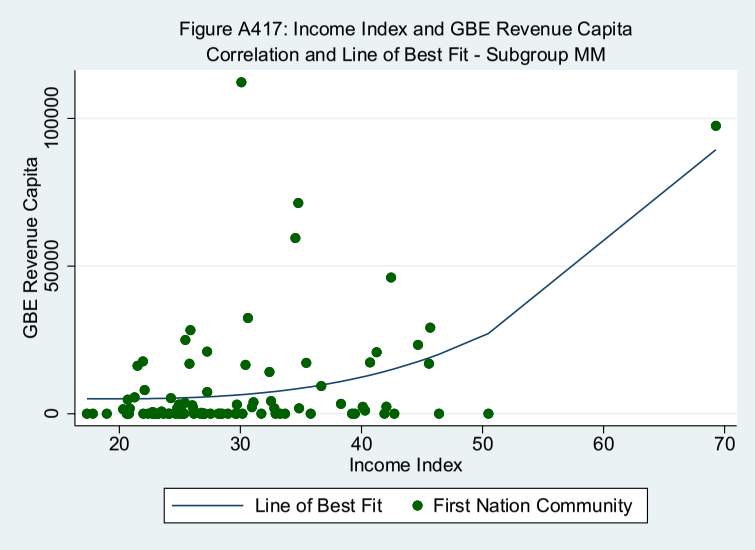


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A418: Income Index and GBE Expense Capita
Correlation and Line of Best Fit - Subgroup MM

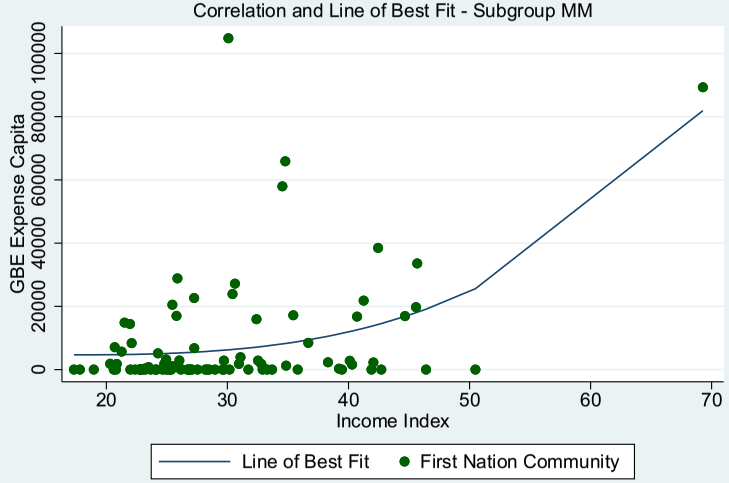


Figure A419: Income Index and GBE Equity Capita
Correlation and Line of Best Fit - Subgroup MM

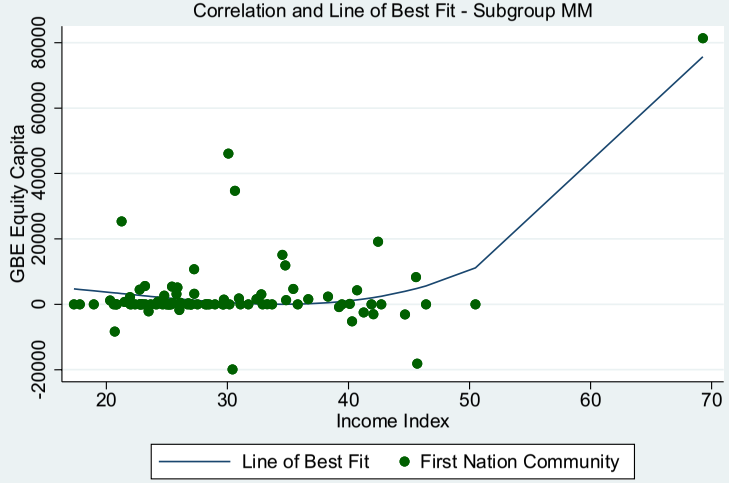


Figure A420: Workforce Index and GBE Liability Ratio
Correlation and Line of Best Fit - Subgroup MR

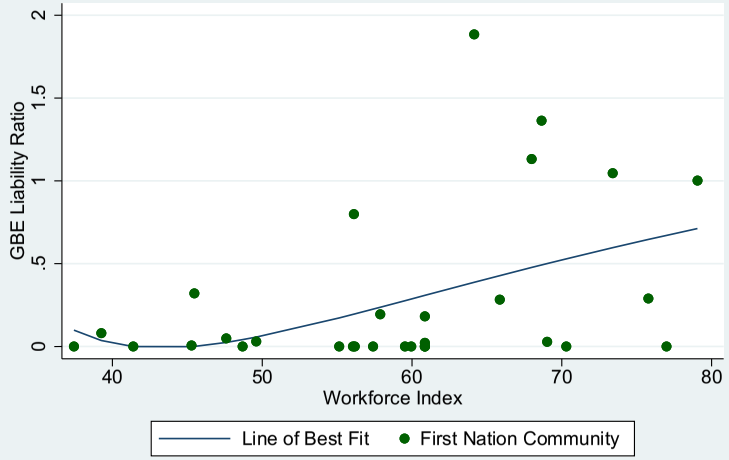
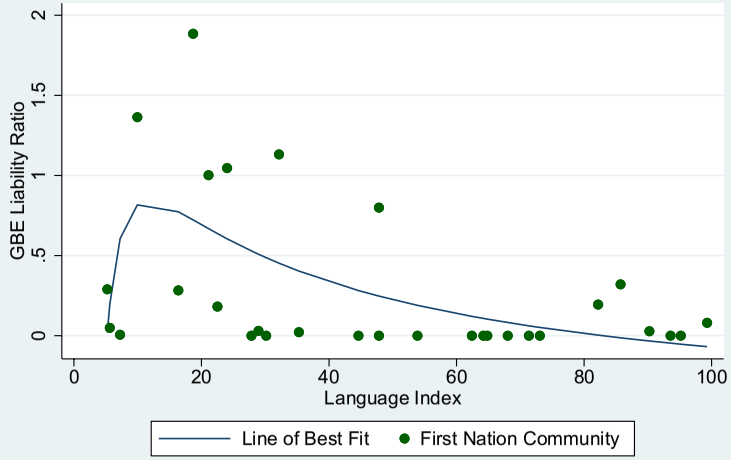
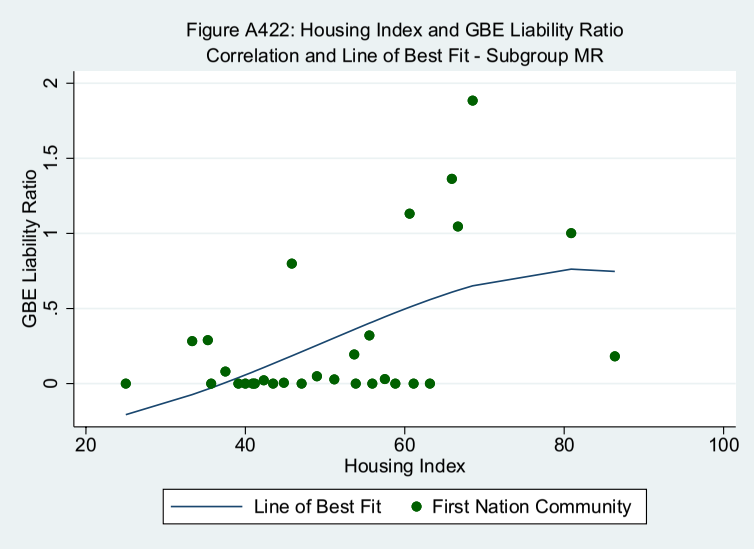
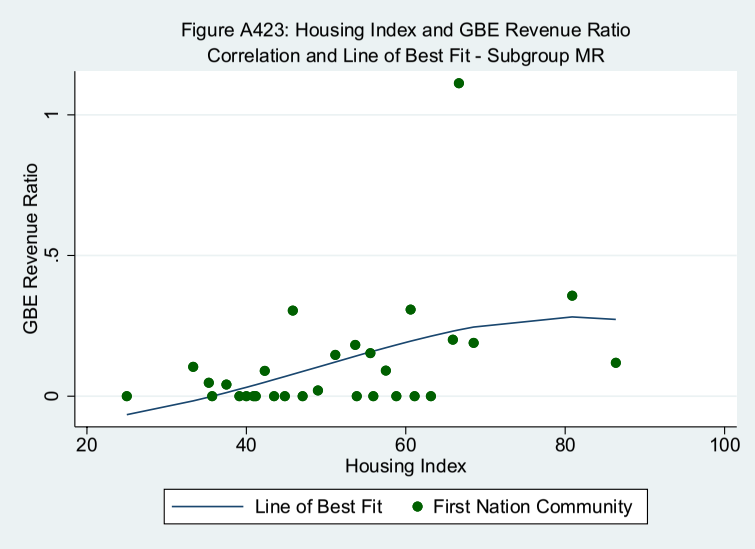


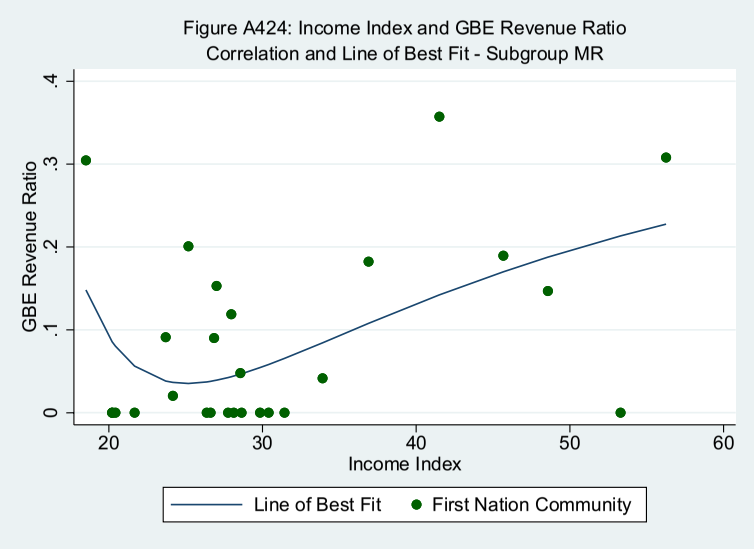
Figure A421: Language Index and GBE Liability Ratio
Correlation and Line of Best Fit - Subgroup MR

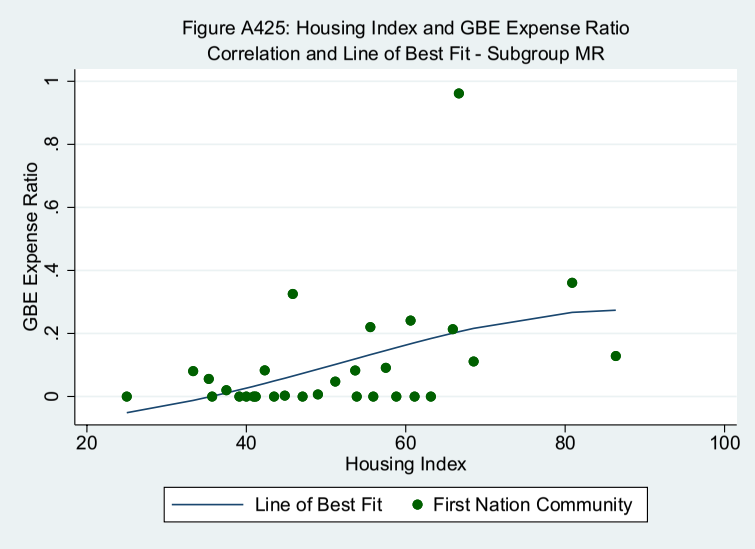


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

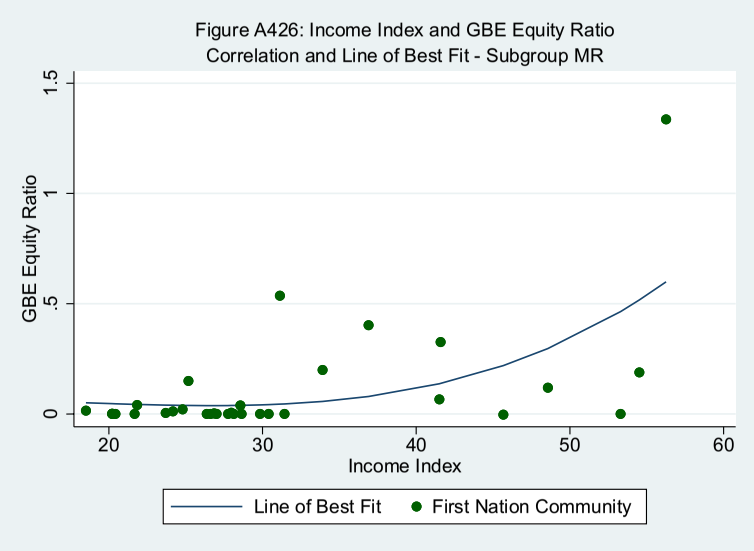


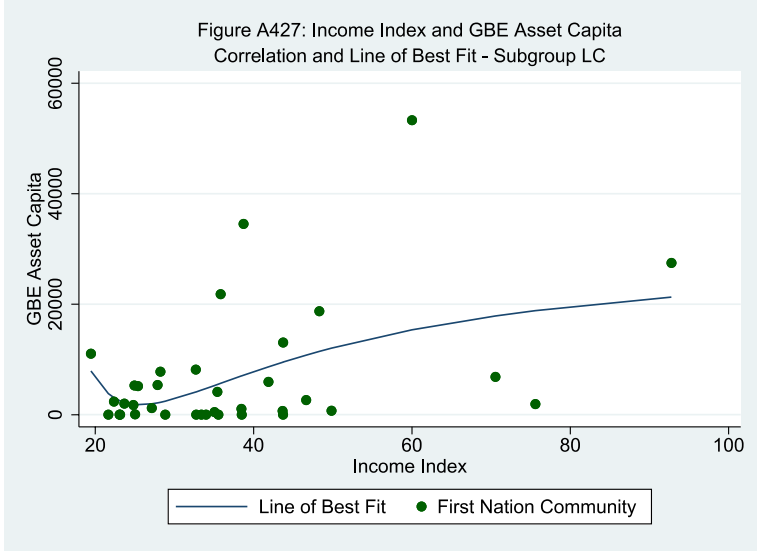


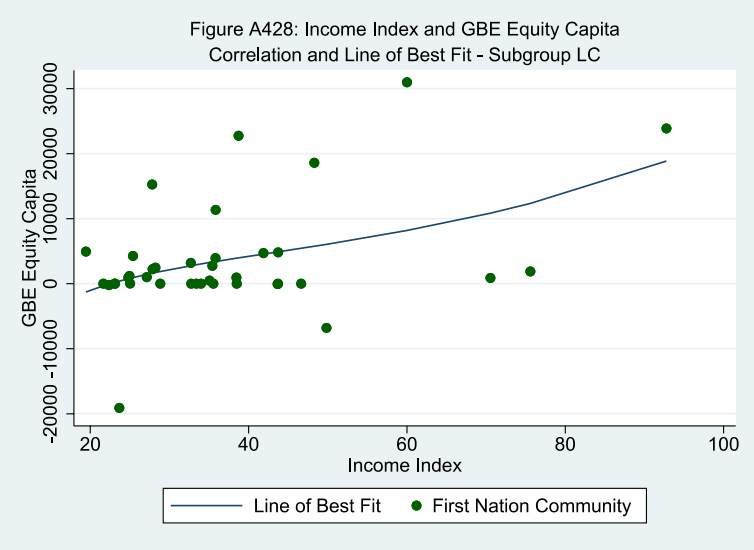


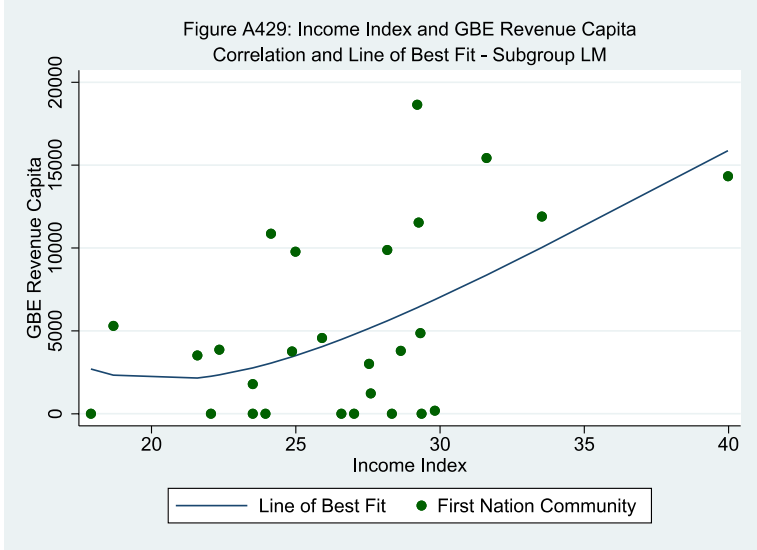


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

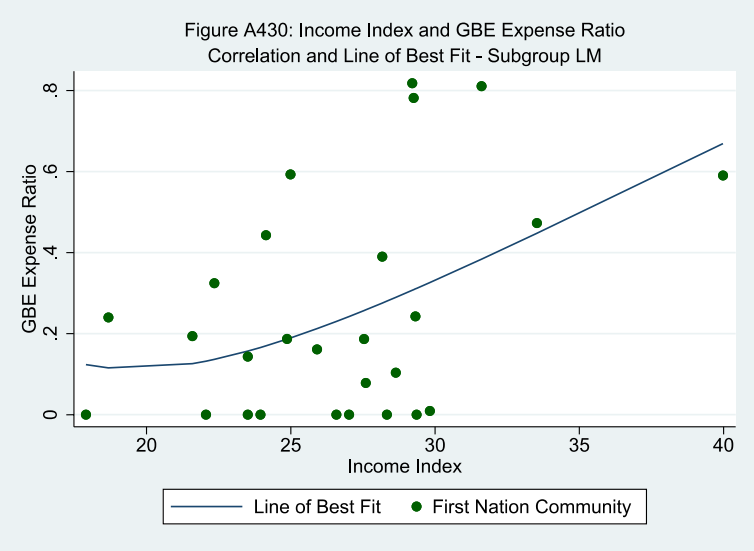


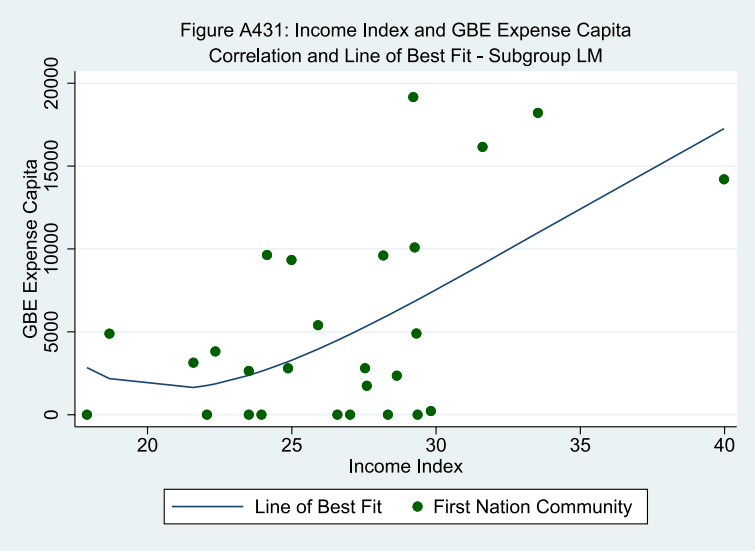


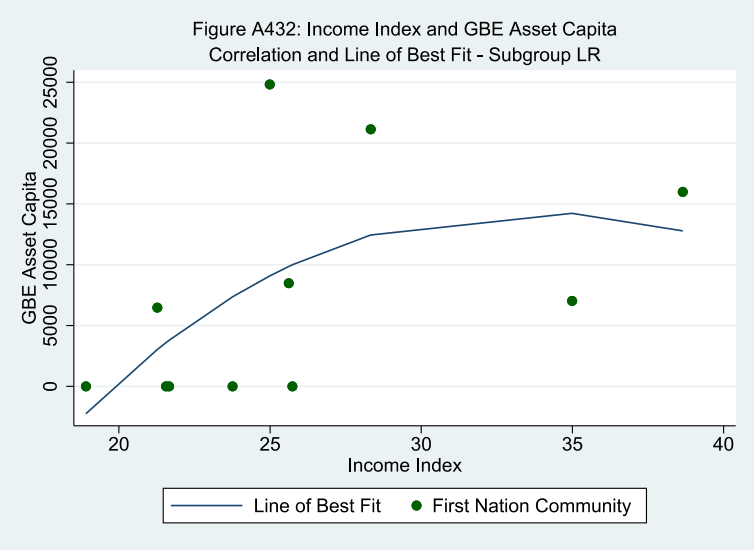


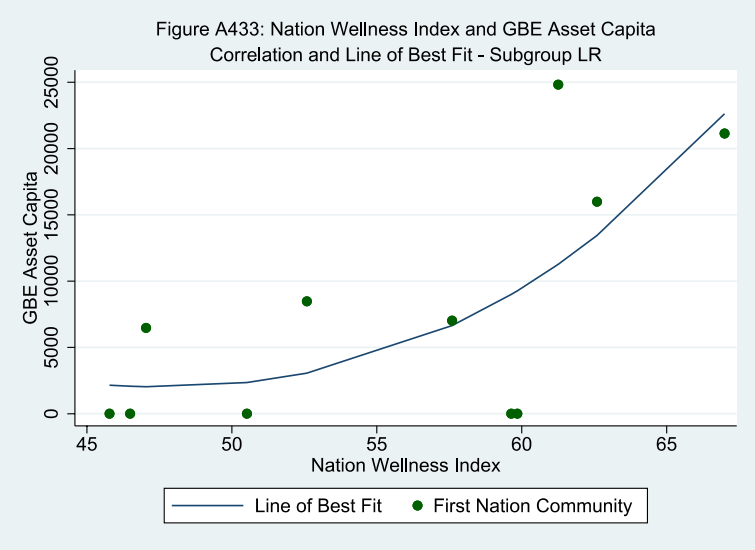


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

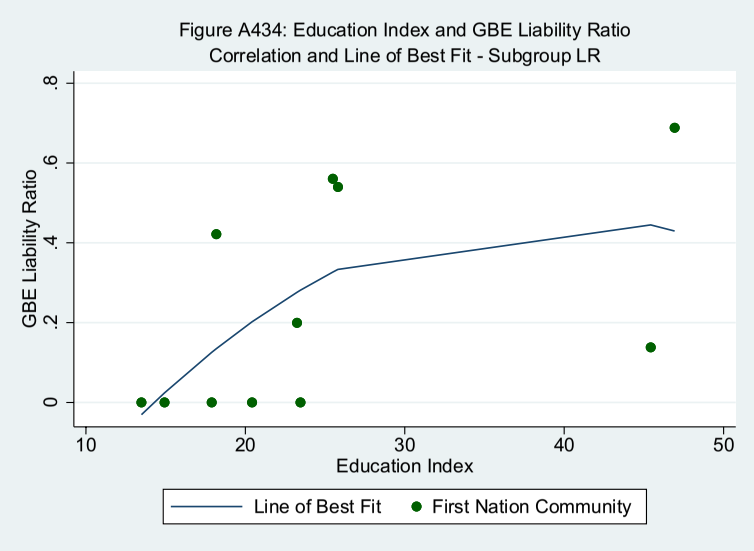


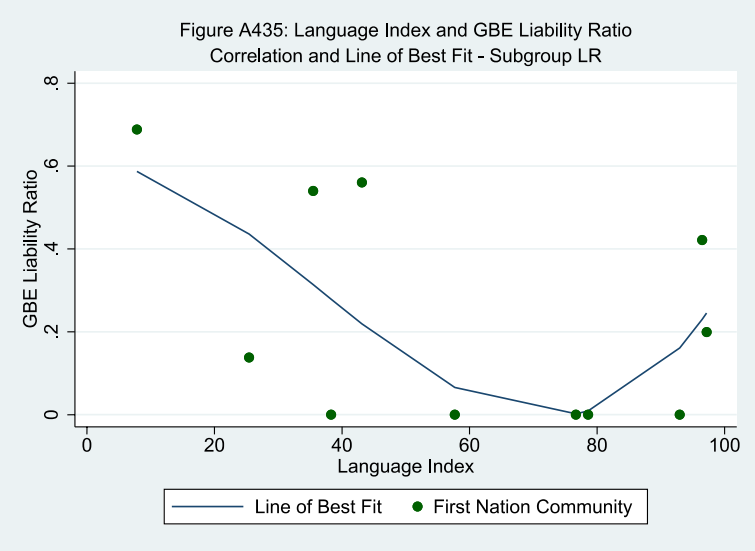


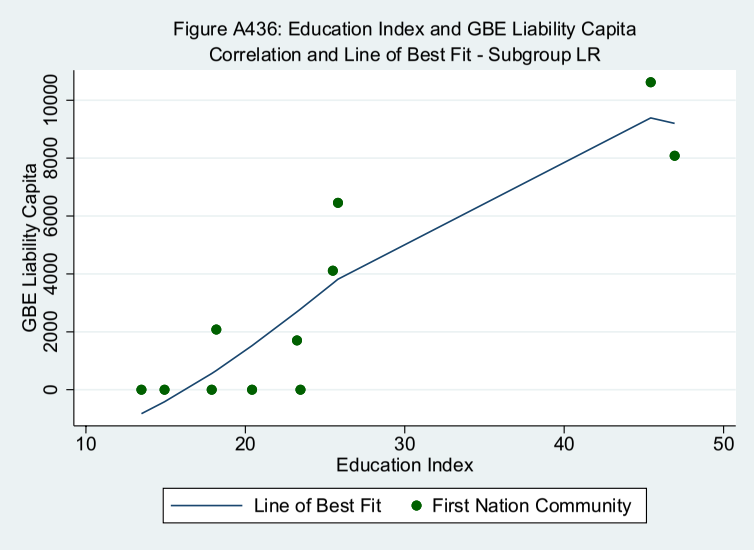


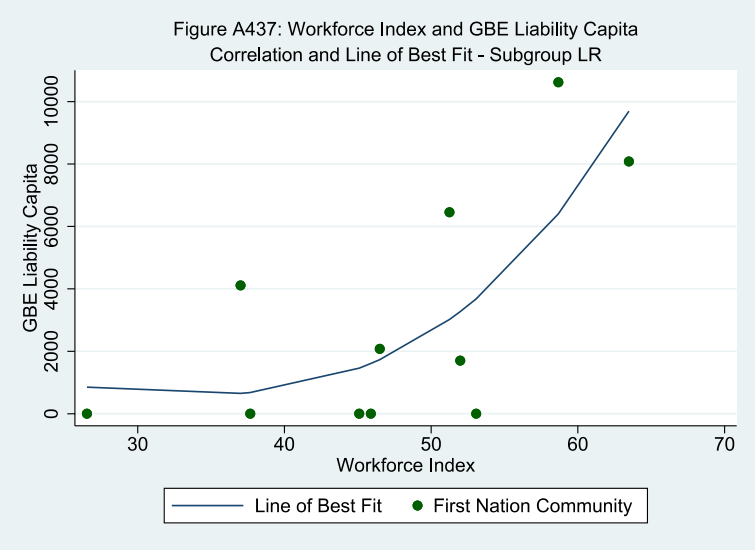


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

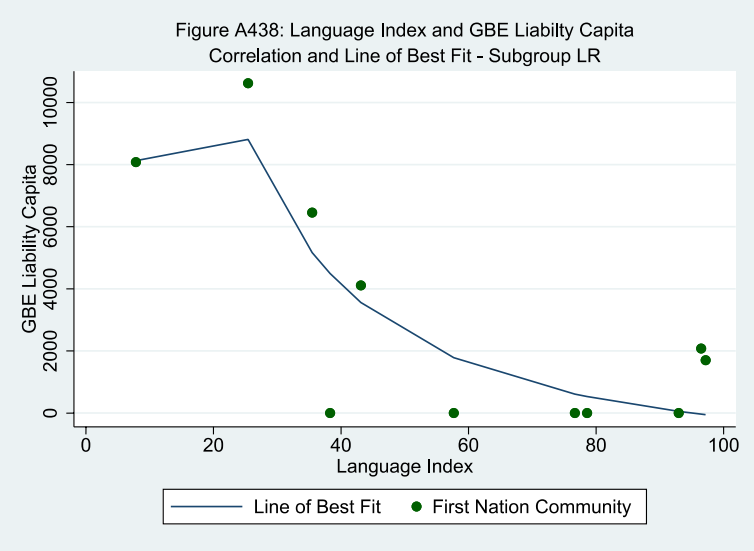


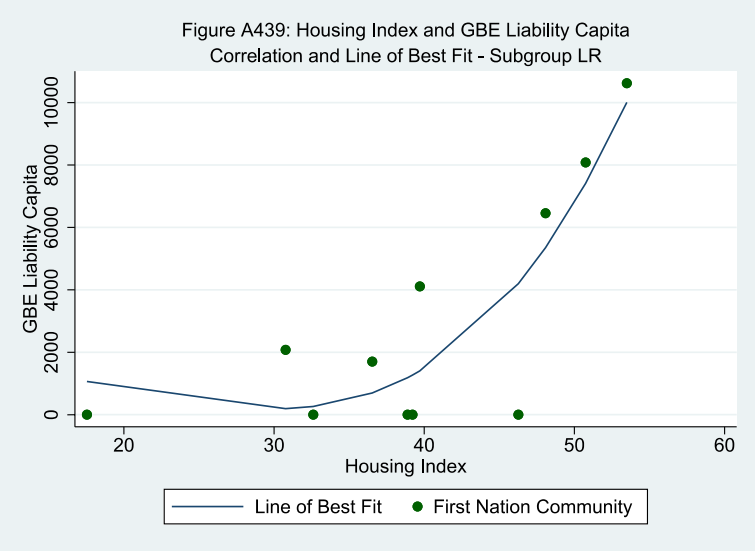


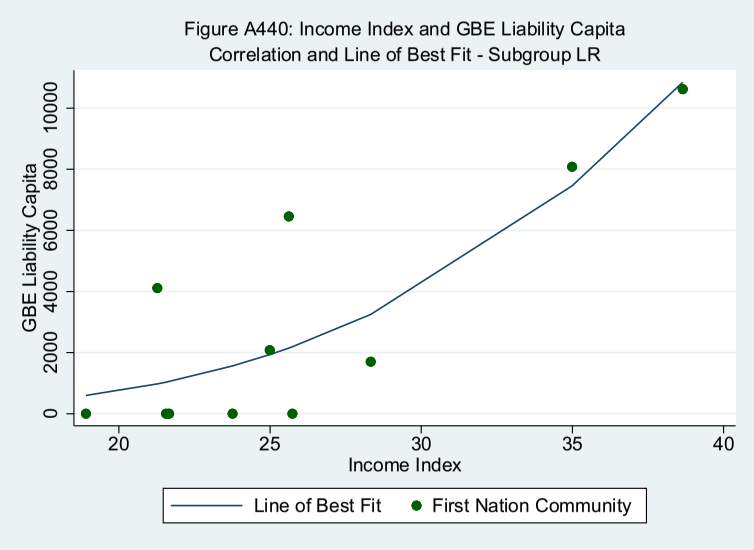


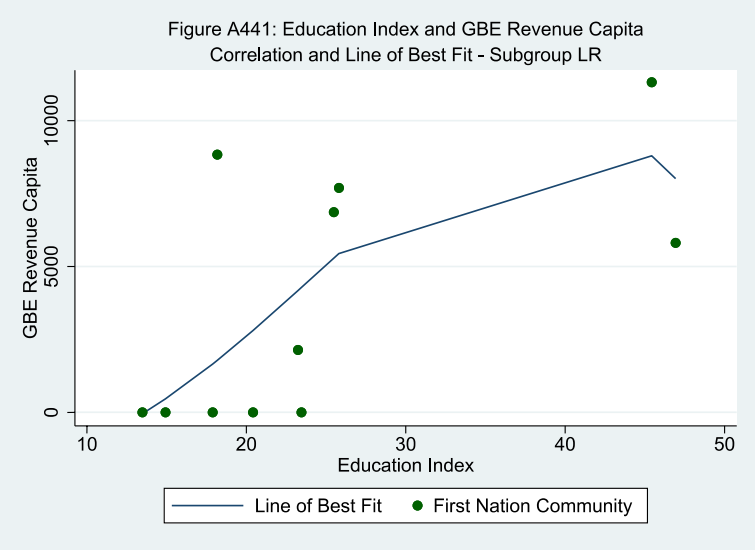


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

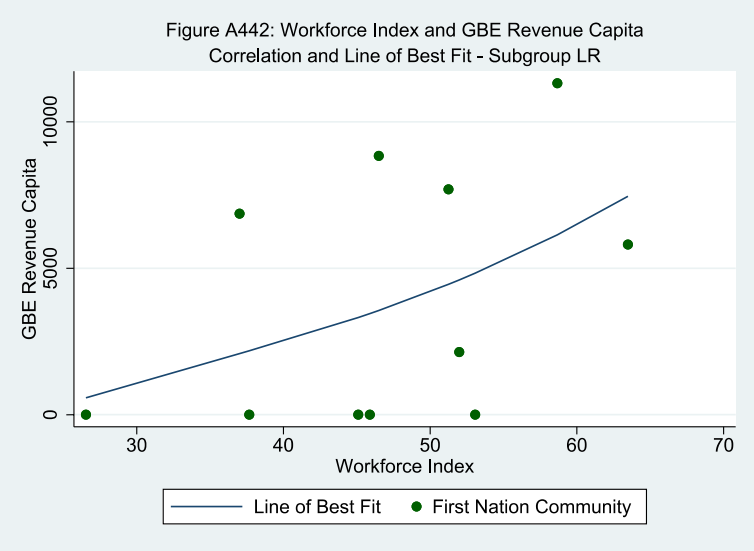


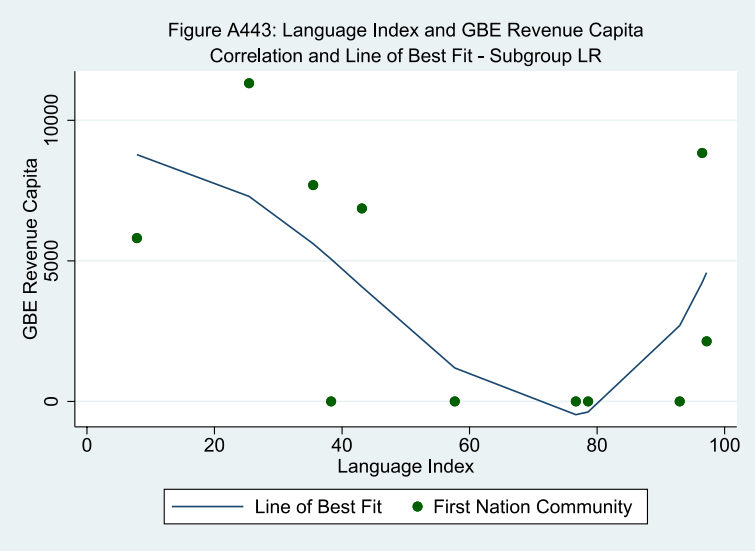


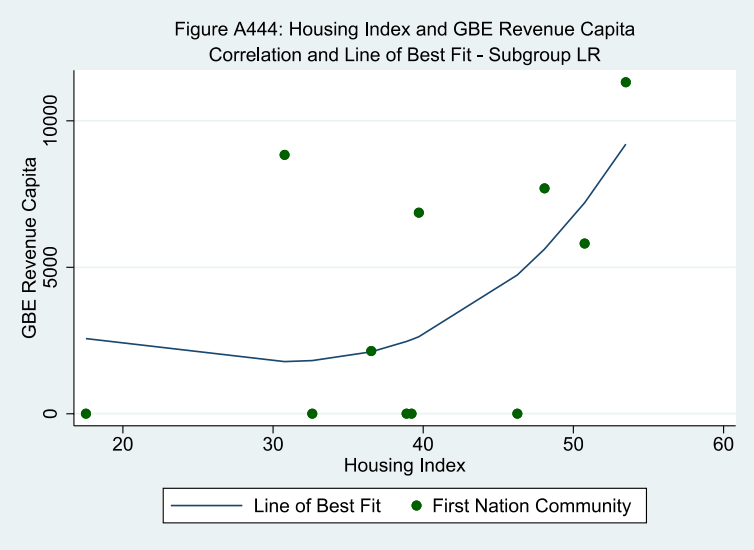


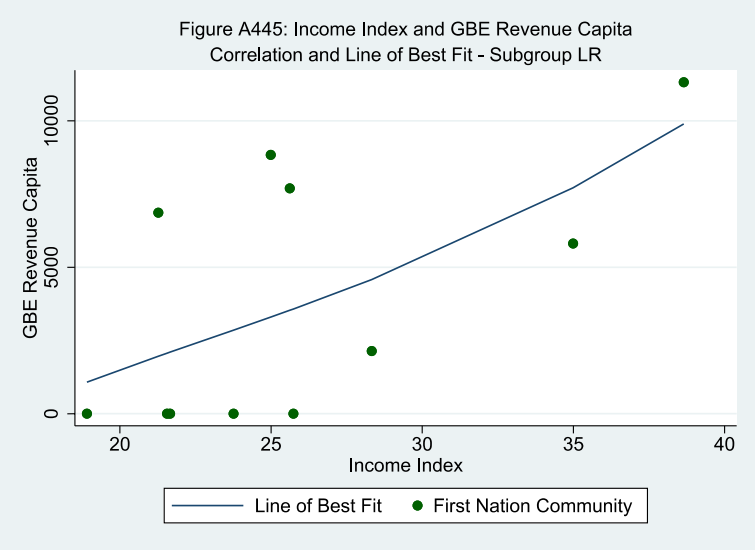


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

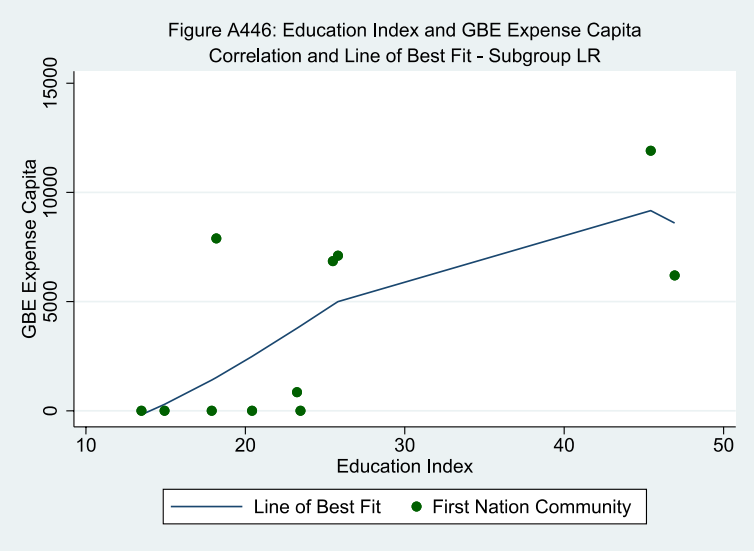


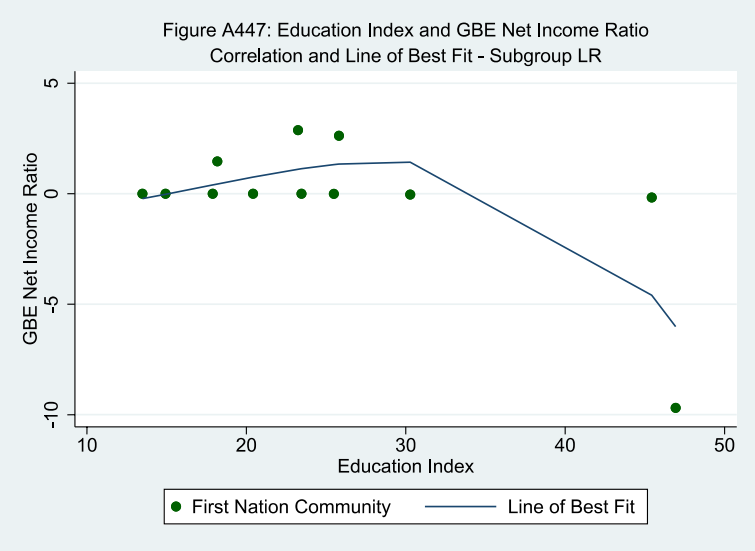


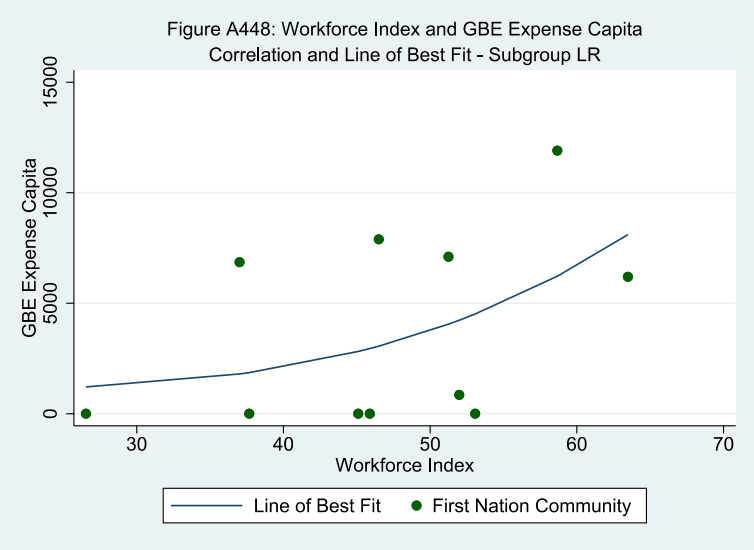


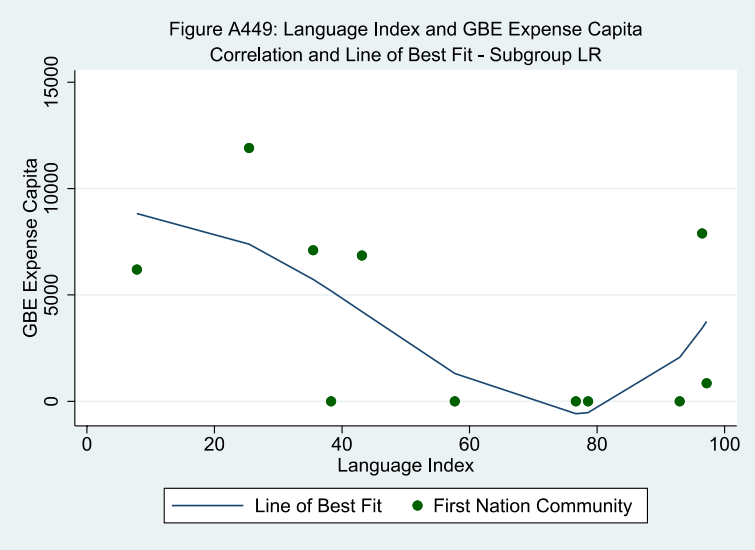


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A450: Housing Index and GBE Expense Capita
Correlation and Line of Best Fit - Subgroup LR

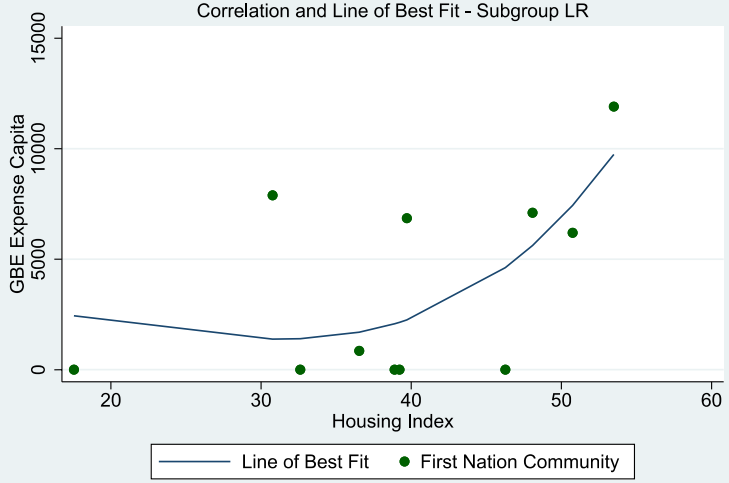


Figure A451: Income Index and GBE Expense Capita
Correlation and Line of Best Fit - Subgroup LR

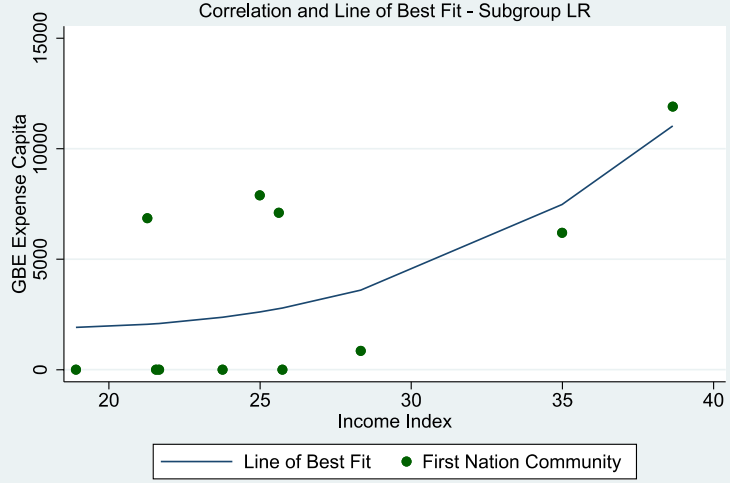


Figure A452: Language Index and GBE Equity Ratio
Correlation and Line of Best Fit - Subgroup LR

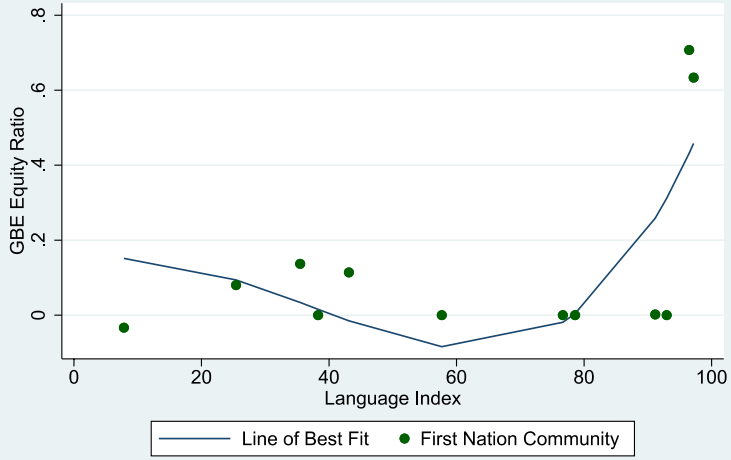
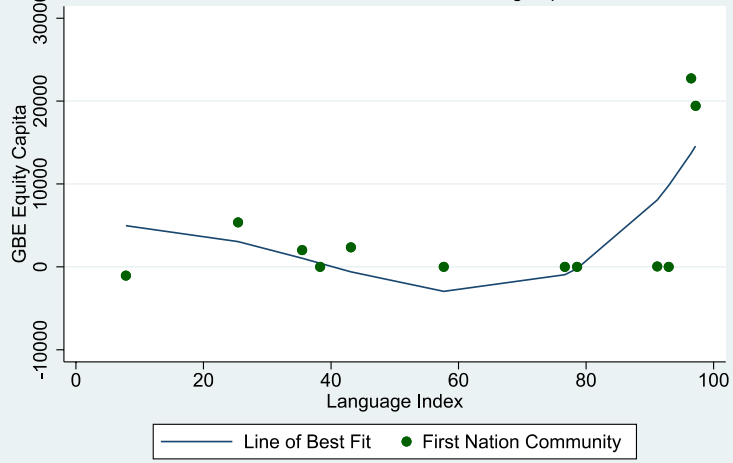


Figure A453: Language Index and GBE Equity Capita
Correlation and Line of Best Fit - Subgroup LR



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A454: Education Index and GBE Net Income Ratio
Correlation and Line of Best Fit - Subgroup LR

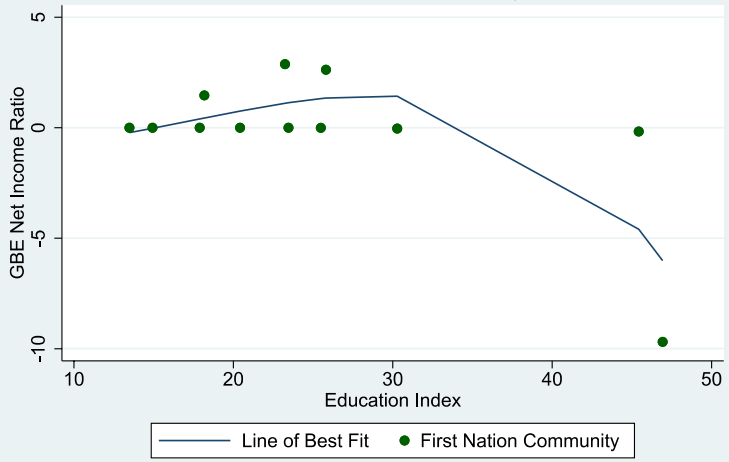


Figure A455: Language Index and GBE Net Income Ratio
Correlation and Line of Best Fit - Subgroup LR

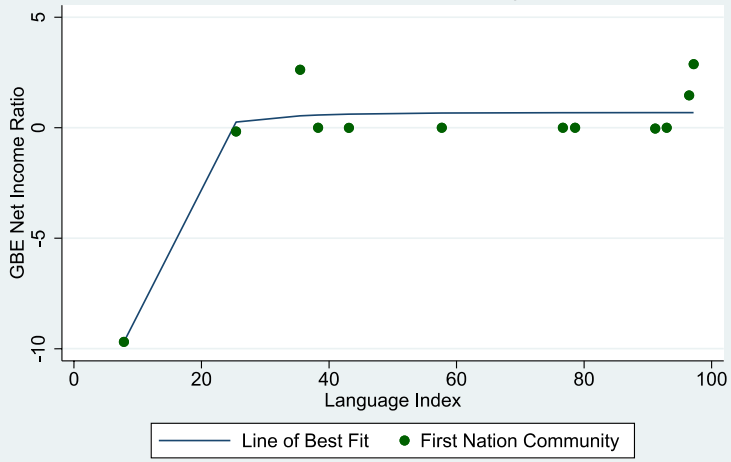


Figure A456: Income Index and GBE Net Income Ratio
Correlation and Line of Best Fit - Subgroup LR

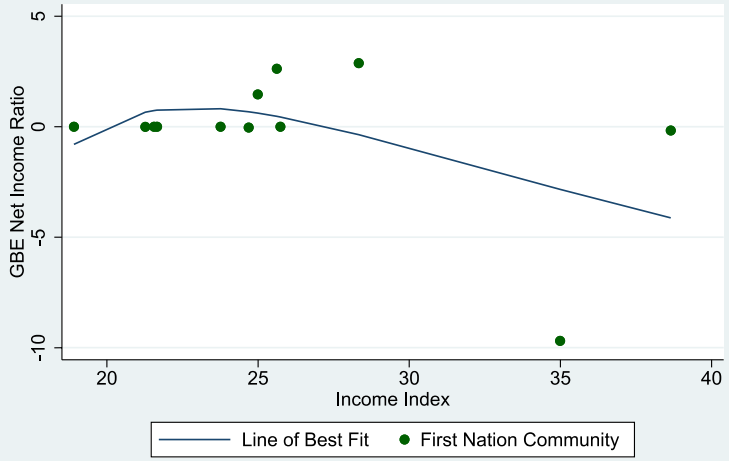
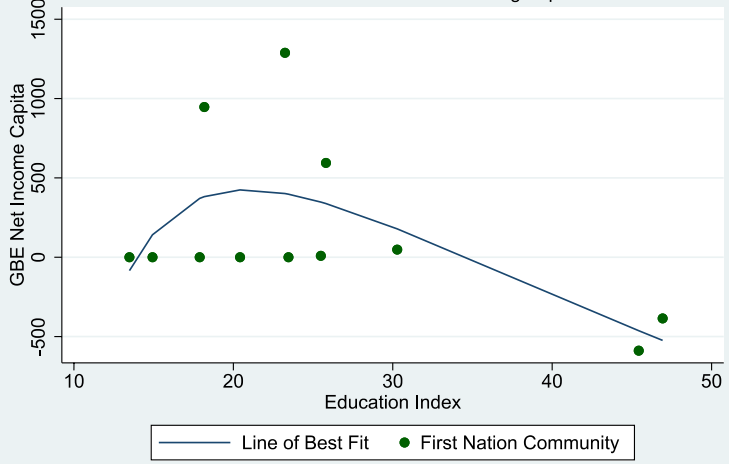
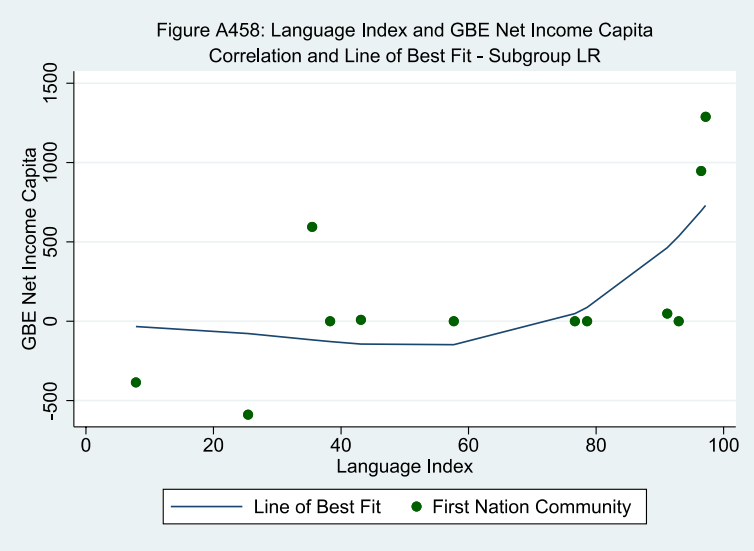
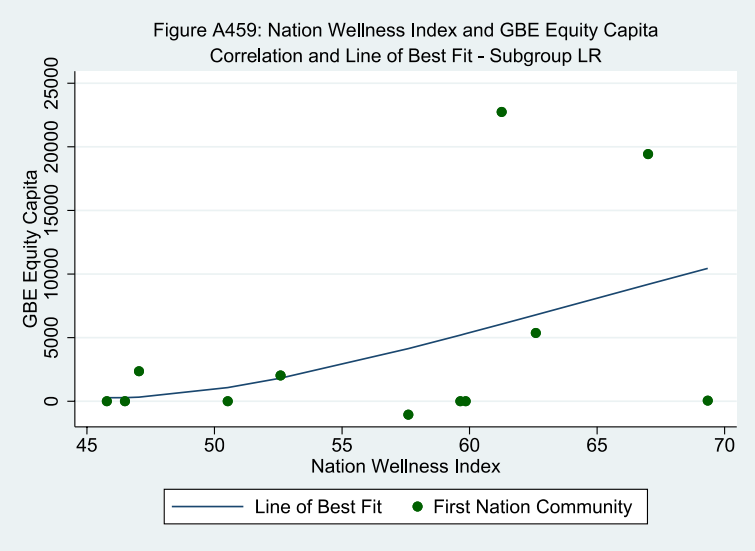


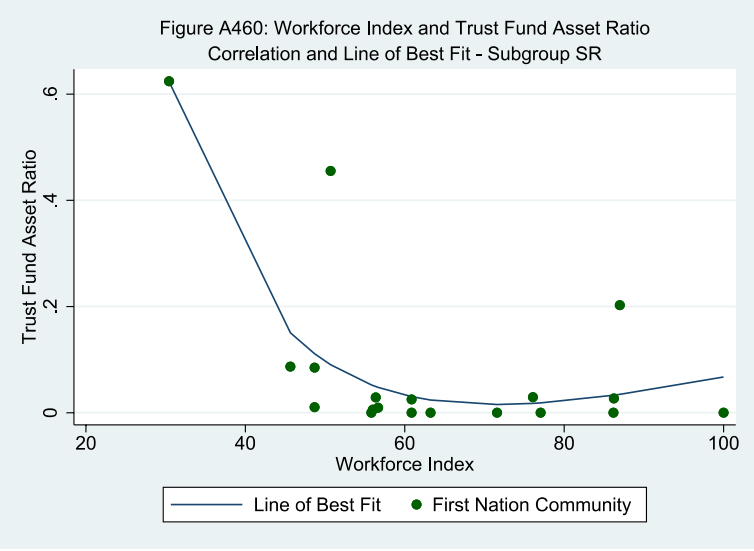
Figure A457: Education Index and GBE Net Income Capita
Correlation and Line of Best Fit - Subgroup LR

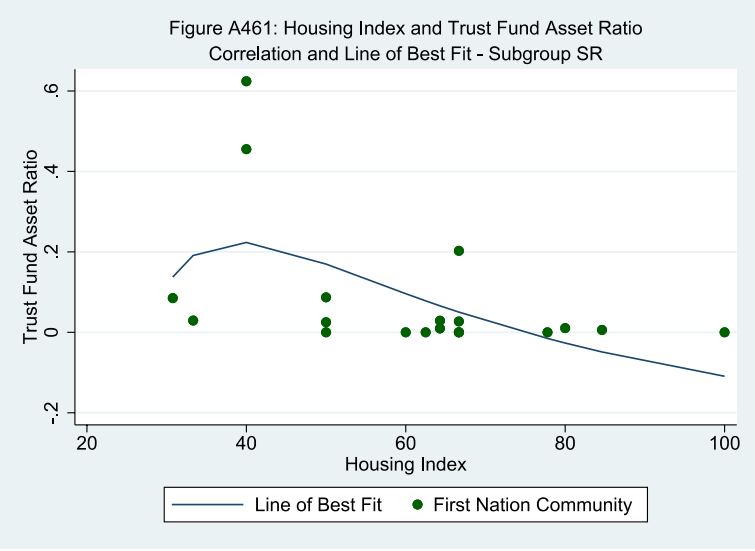


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A462: Nation Wellness Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Subgroup SR

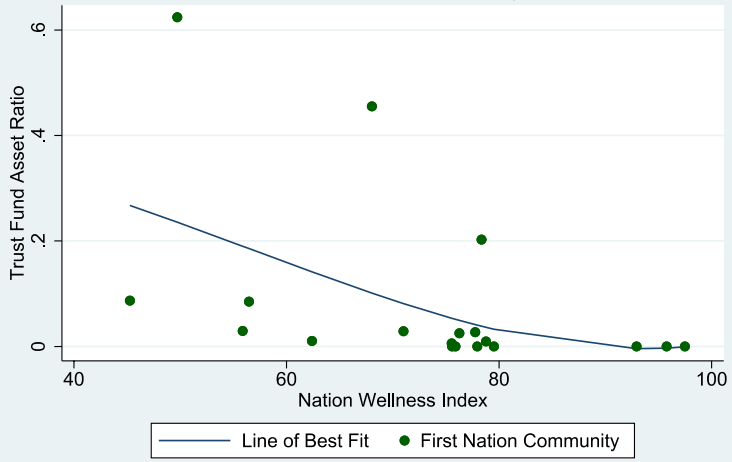


Figure A463: Workforce Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Subgroup SR

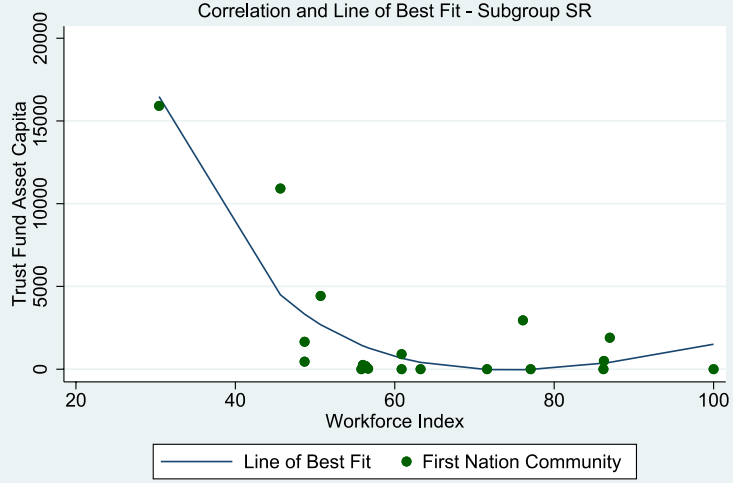


Figure A464: Language Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Subgroup SR

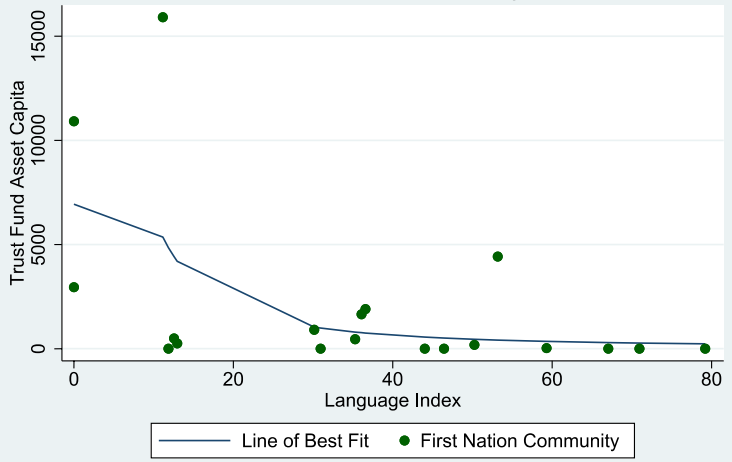
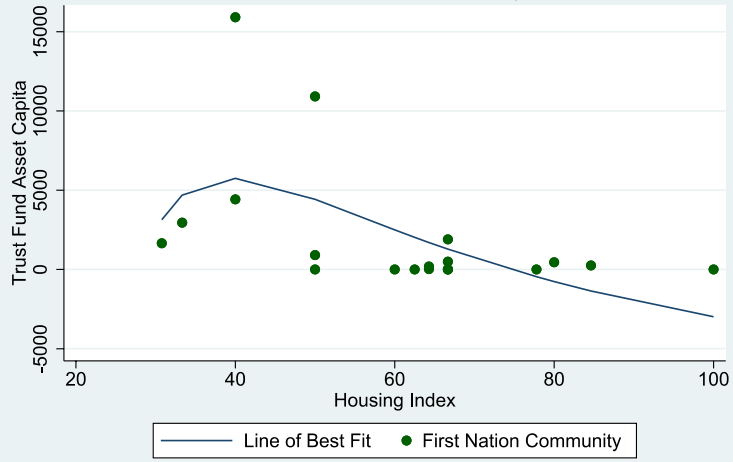
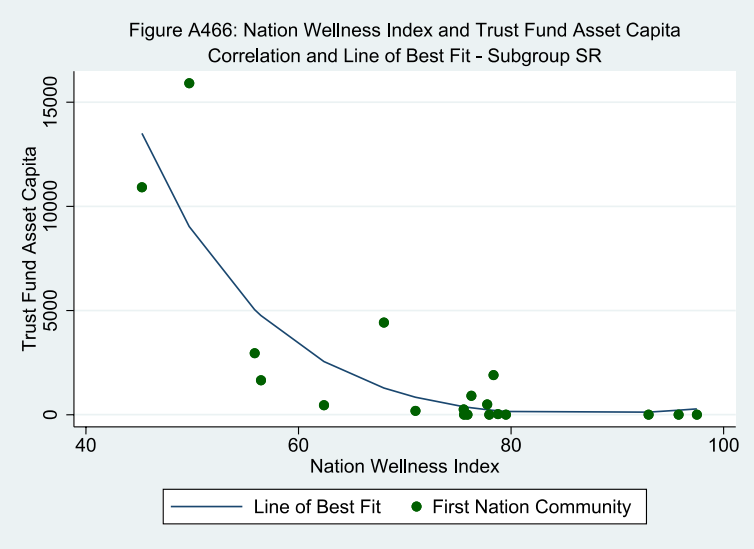
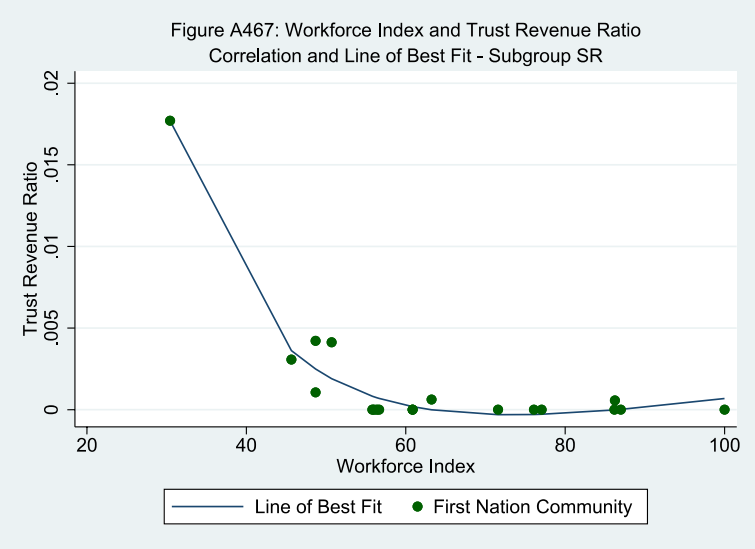


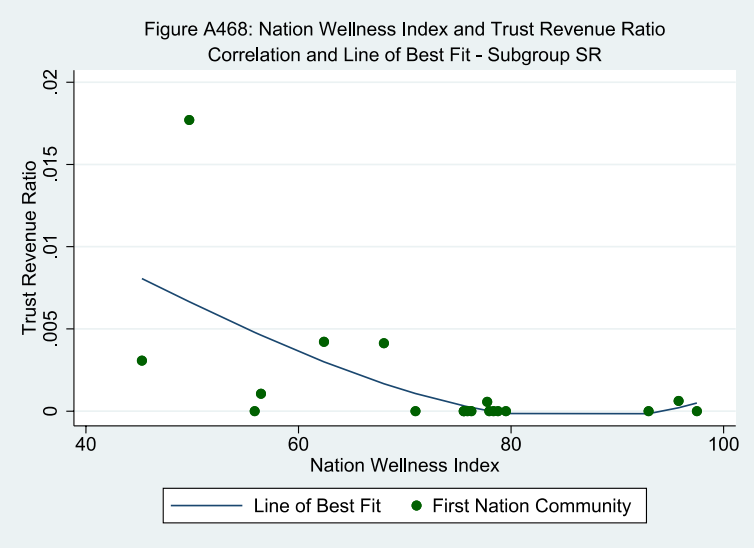
Figure A465: Housing Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Subgroup SR

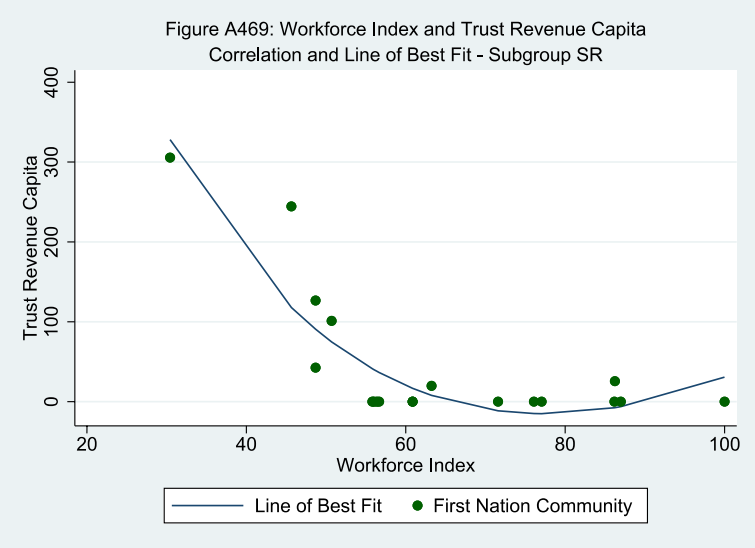


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A470: Nation Wellness Index and Trust Revenue Capita
Correlation and Line of Best Fit - Subgroup SR

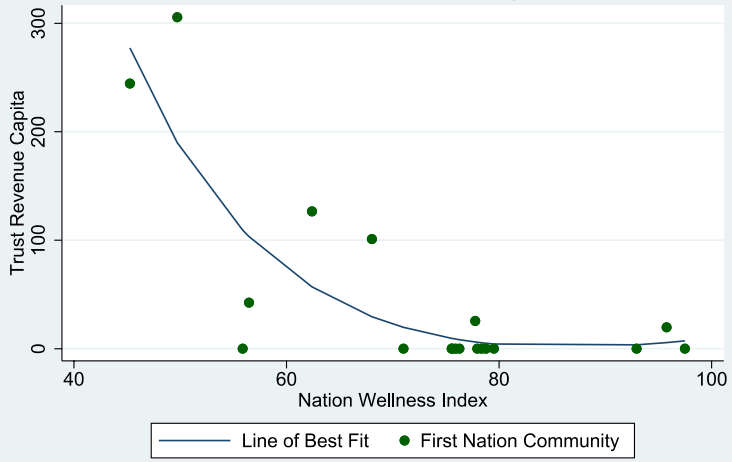


Figure A471: Housing Index and Trust Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC

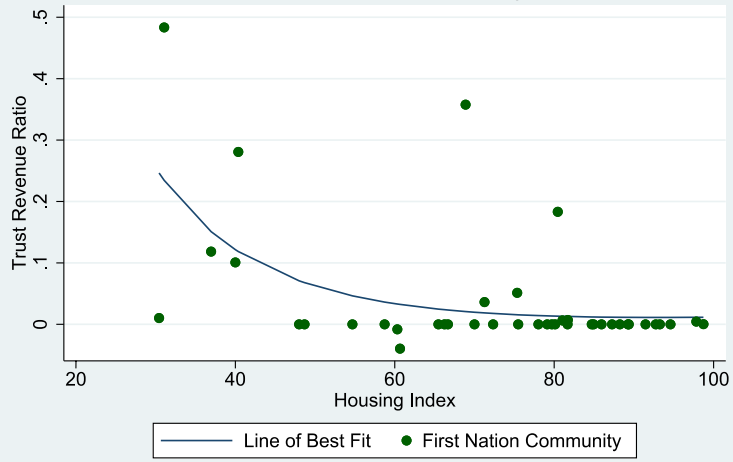


Figure A472: Housing Index and Trust Revenue Capita
Correlation and Line of Best Fit - Subgroup LC

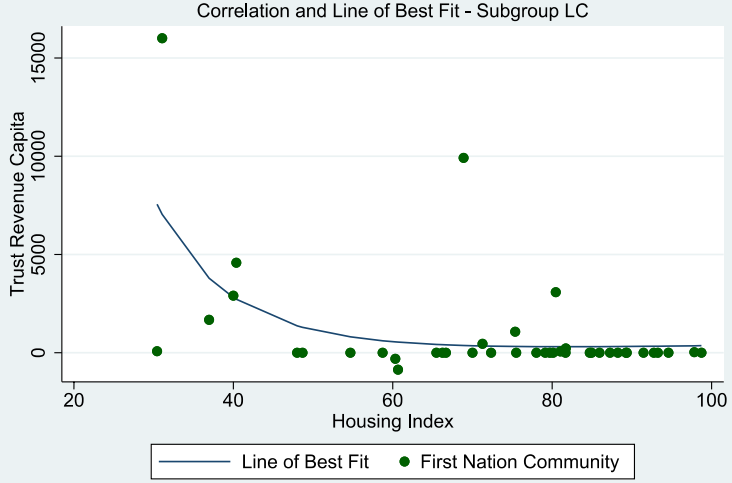
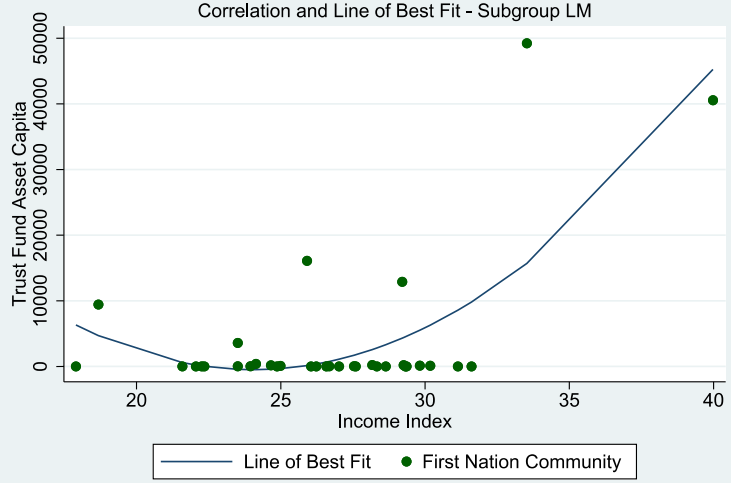
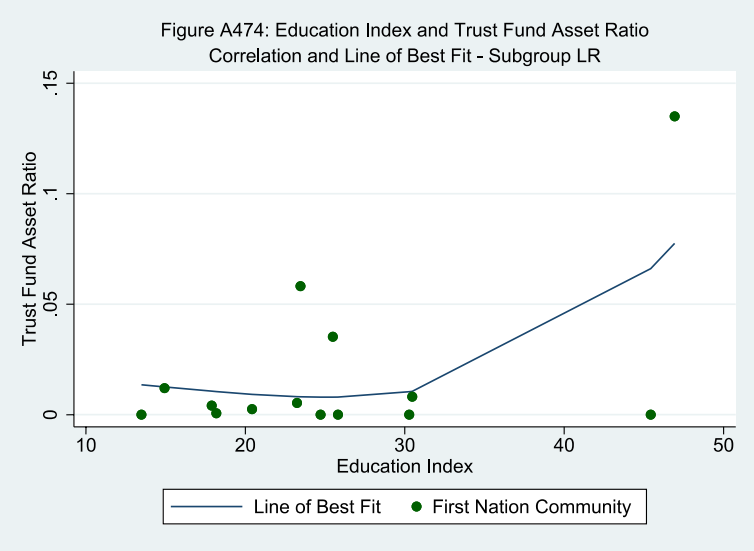
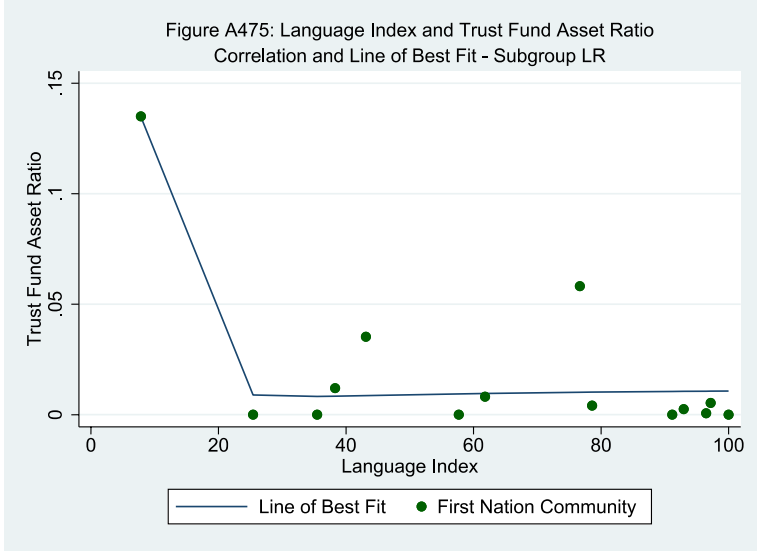


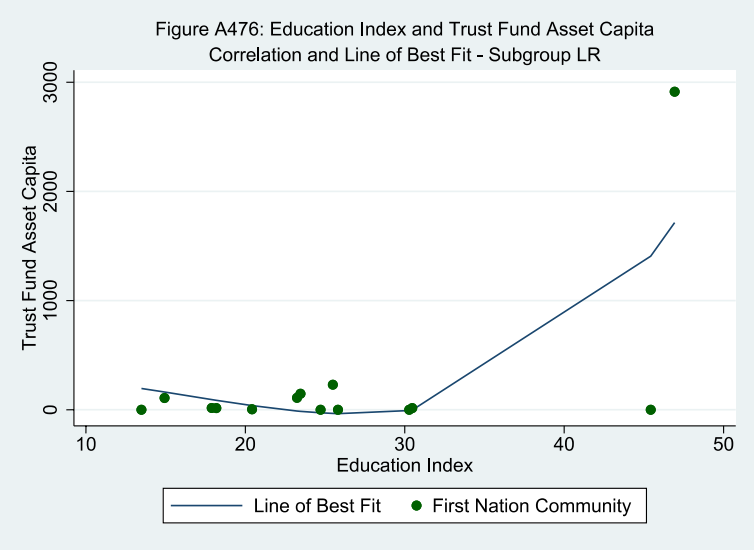
Figure A473: Income Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Subgroup LM

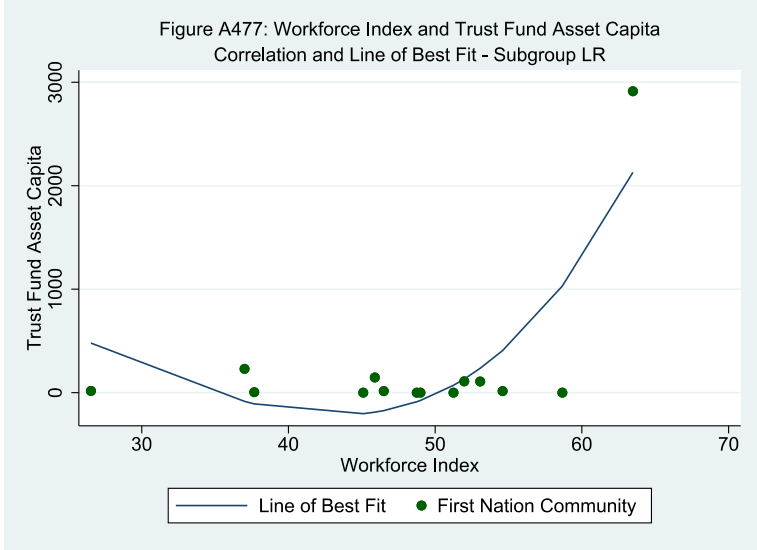


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

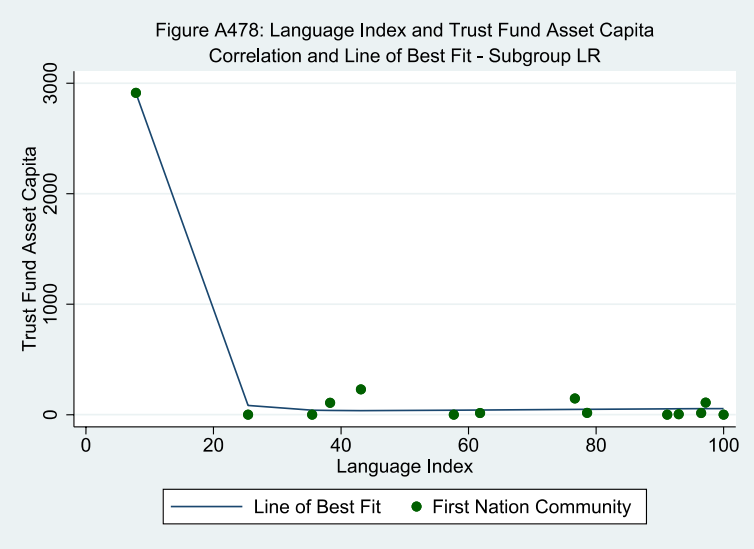


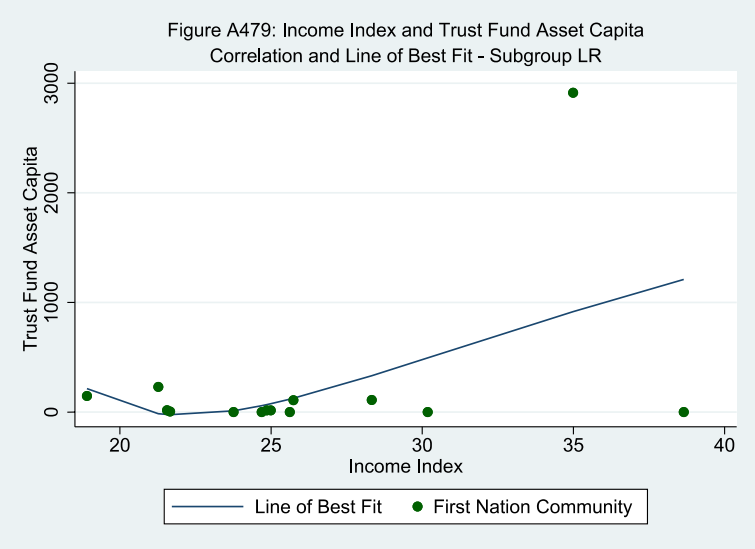


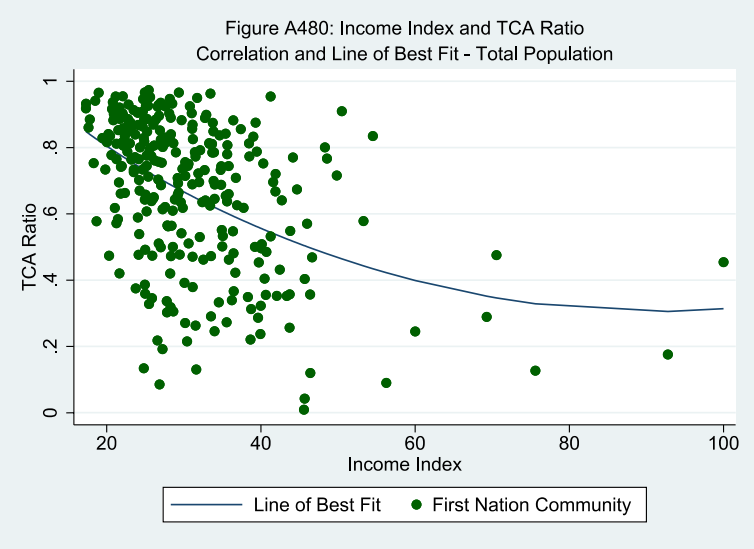


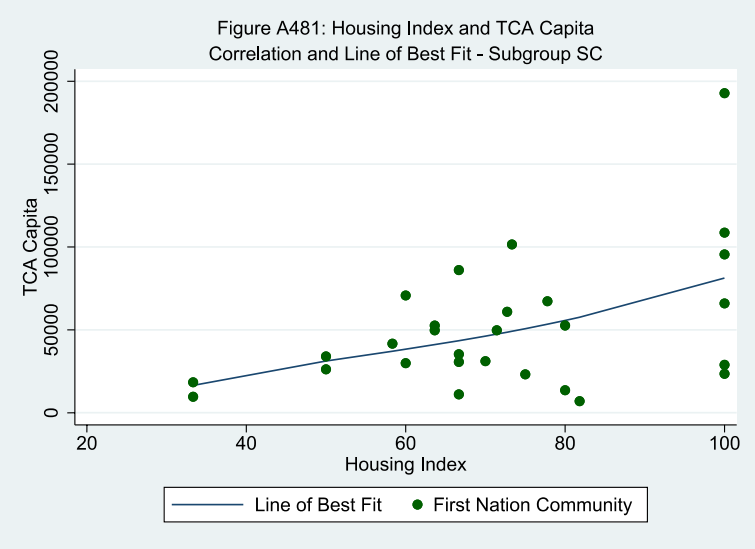


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

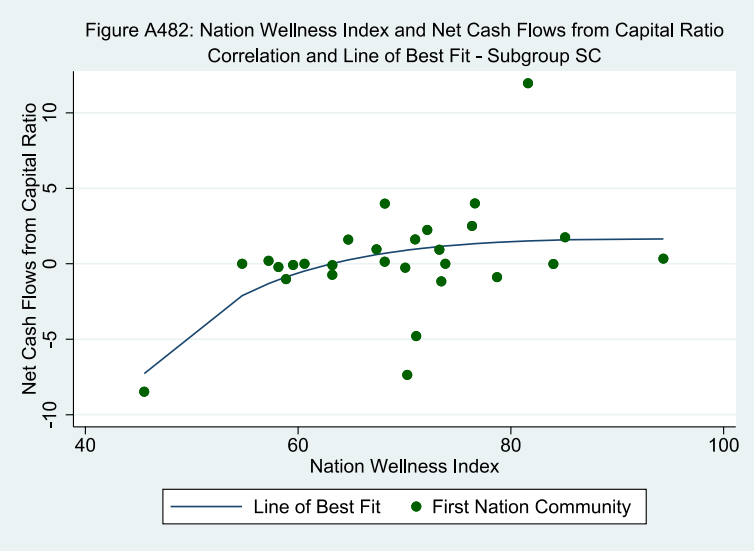


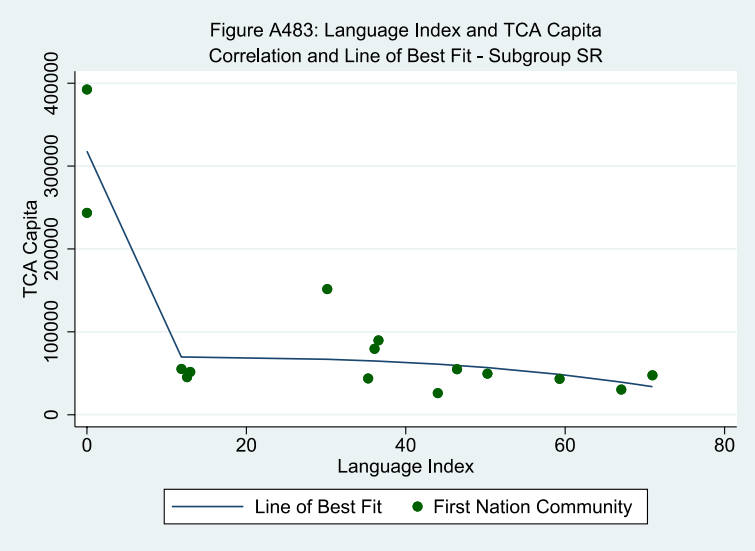


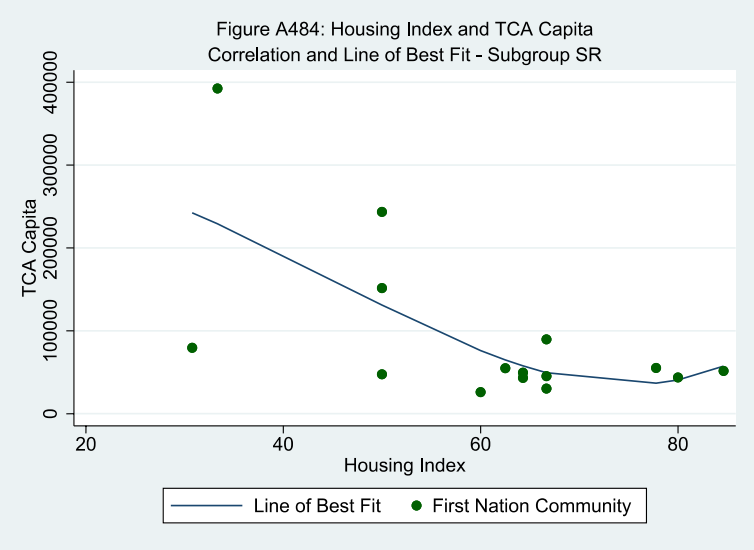


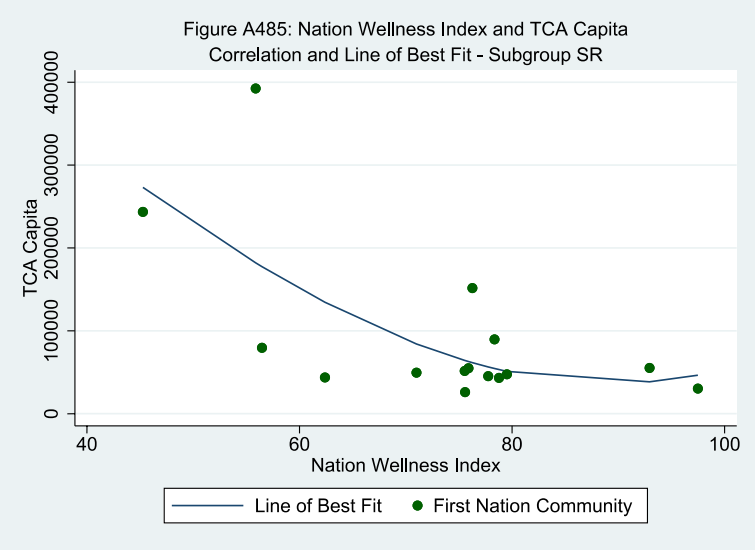


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A486: Education Index and Gross Cash Inflows from Capital Ratio
Correlation and Line of Best Fit - Subgroup SR

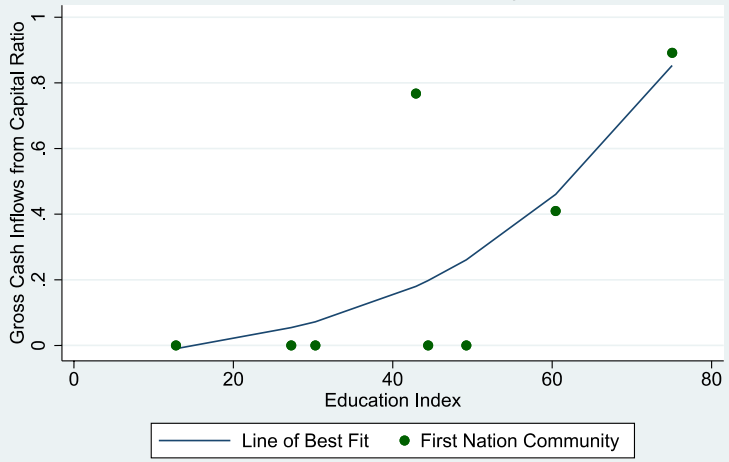


Figure A487: Nation Wellness Index and Gross Cash Inflows from Capital Ratio
Correlation and Line of Best Fit - Subgroup SR

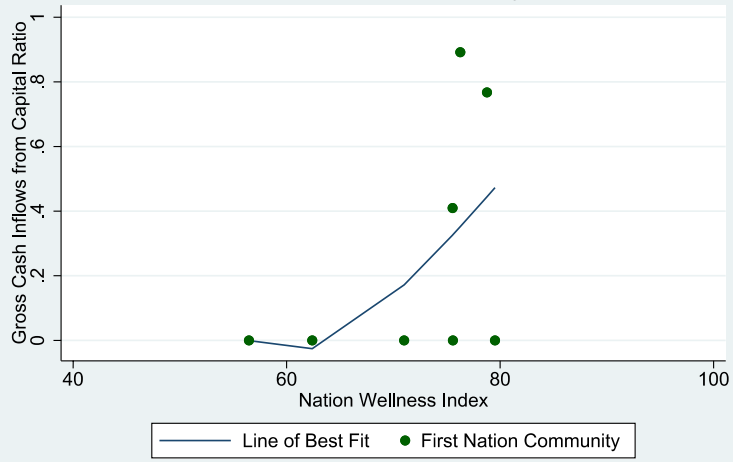


Figure A488: Housing Index and Gross Cash Inflows from Capital Capita
Correlation and Line of Best Fit - Subgroup SR

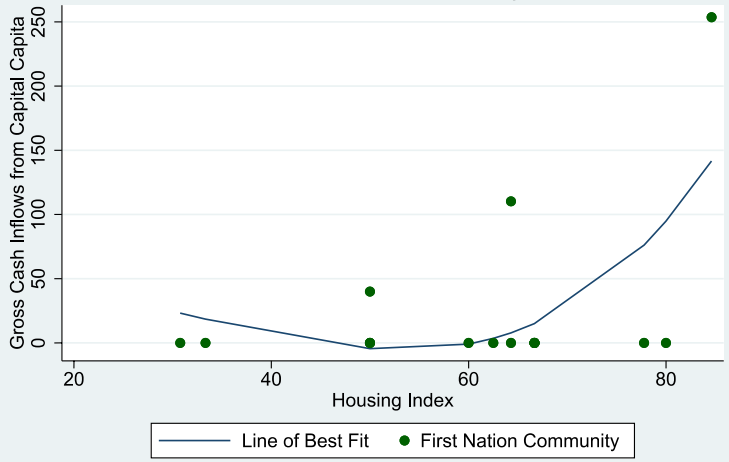
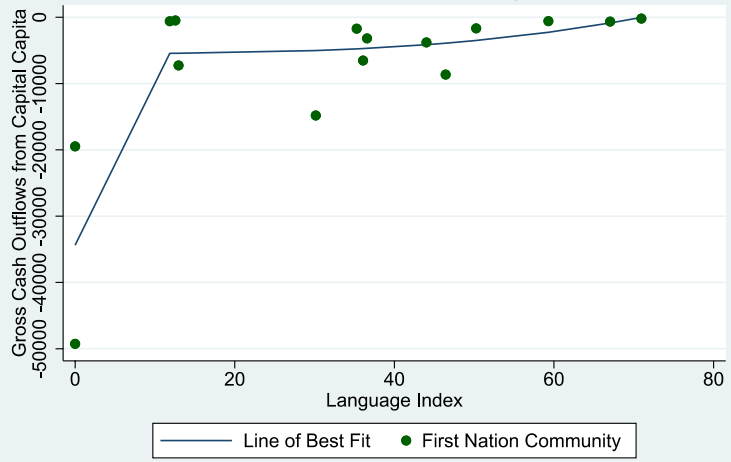
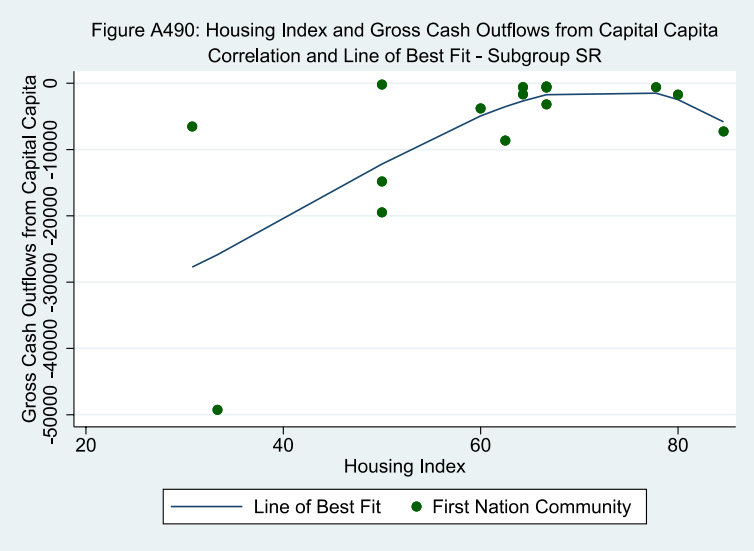
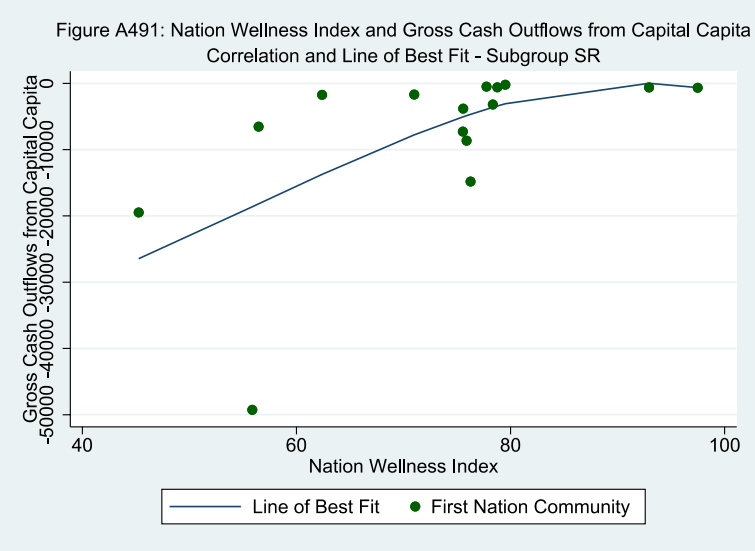


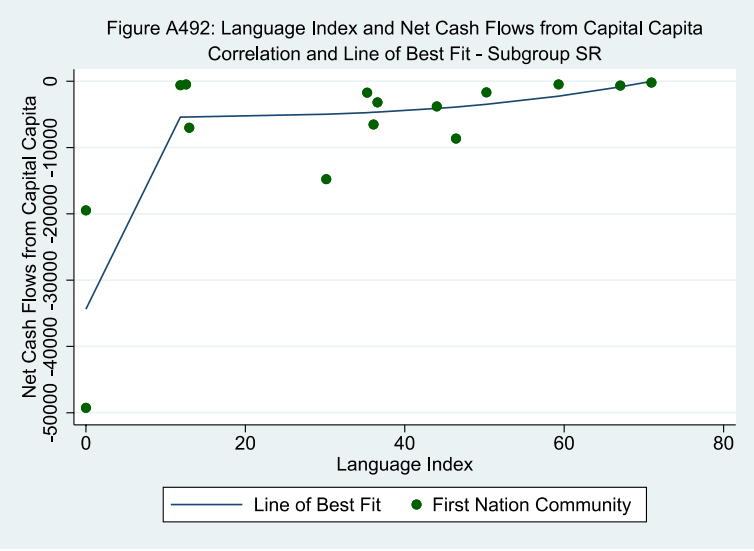
Figure A489: Language Index and Gross Cash Outflows from Capital Capita
Correlation and Line of Best Fit - Subgroup SR

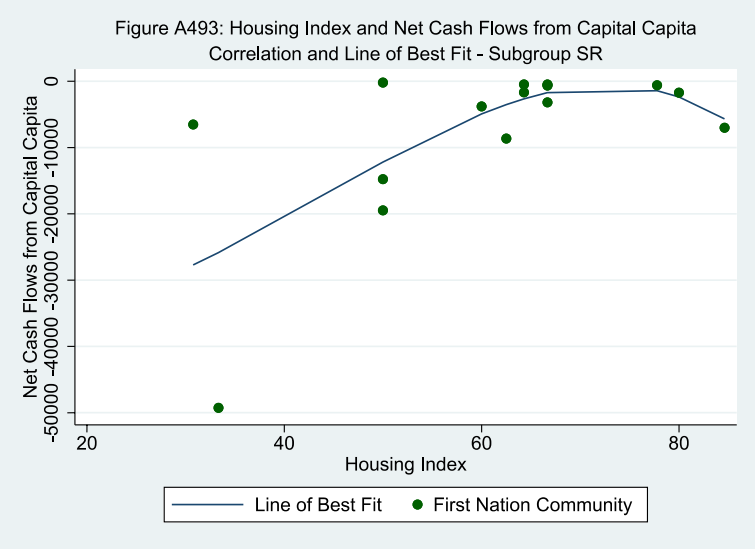


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A494: Nation Wellness Index and Net Cash Flows from Capital Capita
Correlation and Line of Best Fit - Subgroup SR

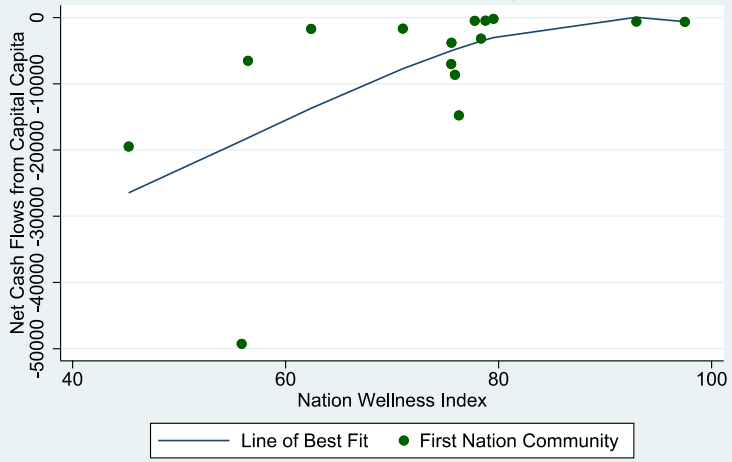


Figure A495: Workforce Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup MM

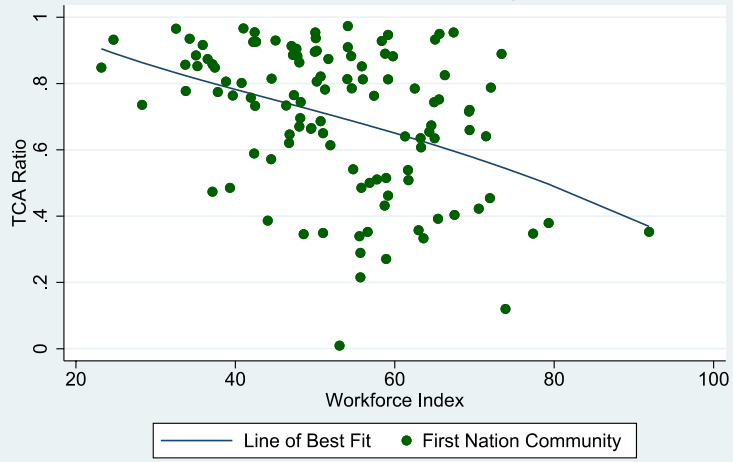


Figure A496: Income Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup MM

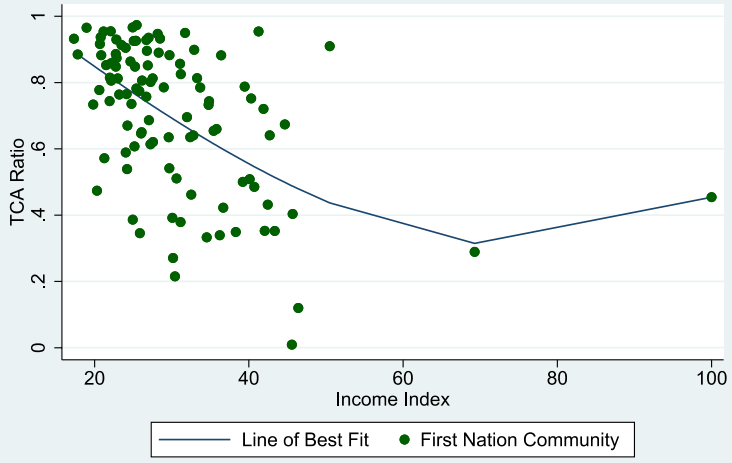
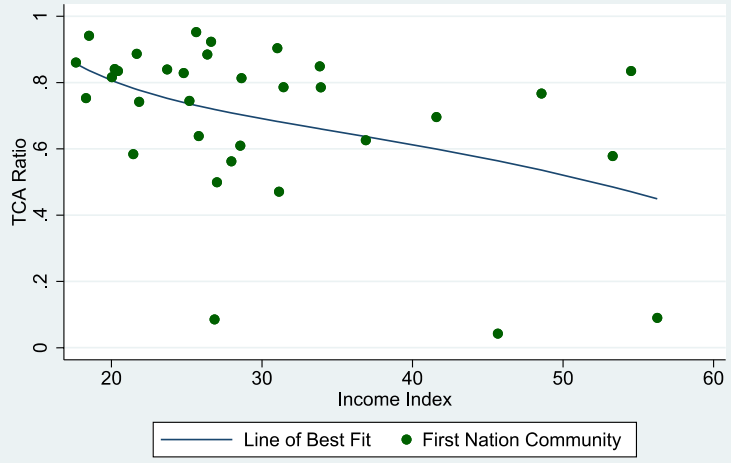


Figure A497: Income Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup MR



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A498: Income Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup LC

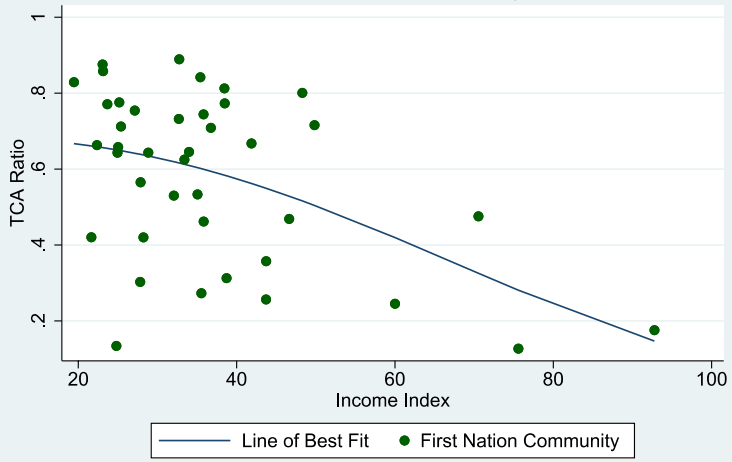


Figure A499: Education Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup LC

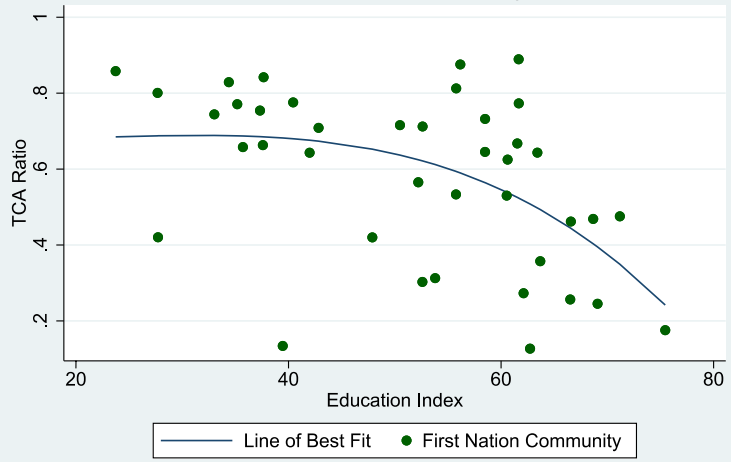


Figure A500: Income Index and TCA Ratio
Correlation and Line of Best Fit - Subgroup LR

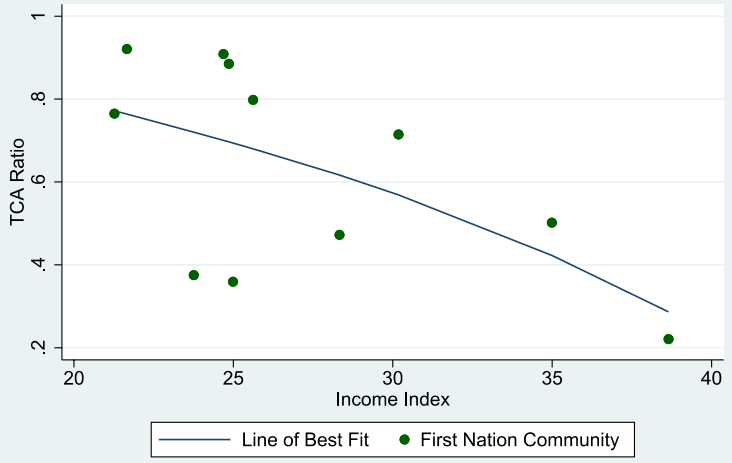
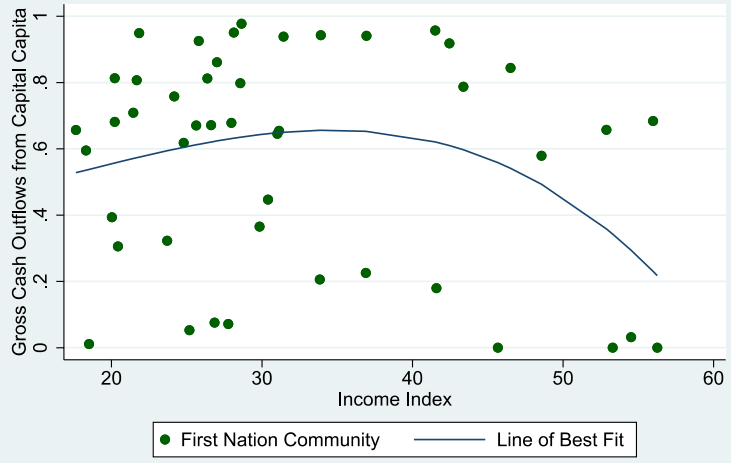
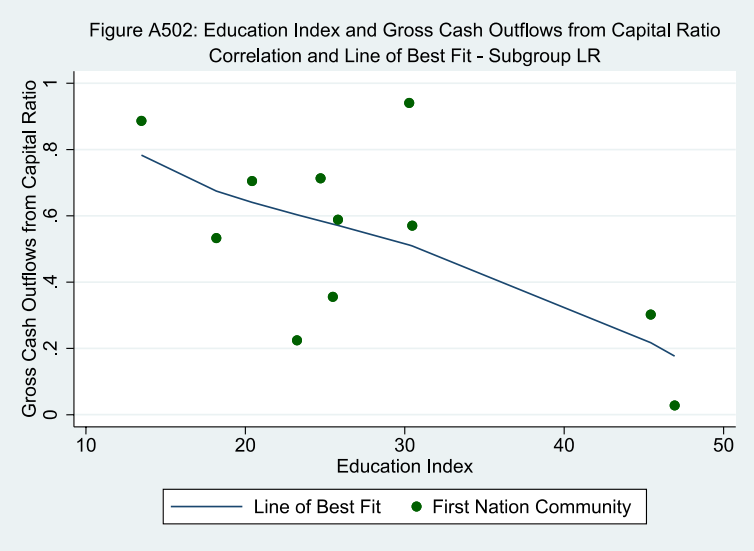
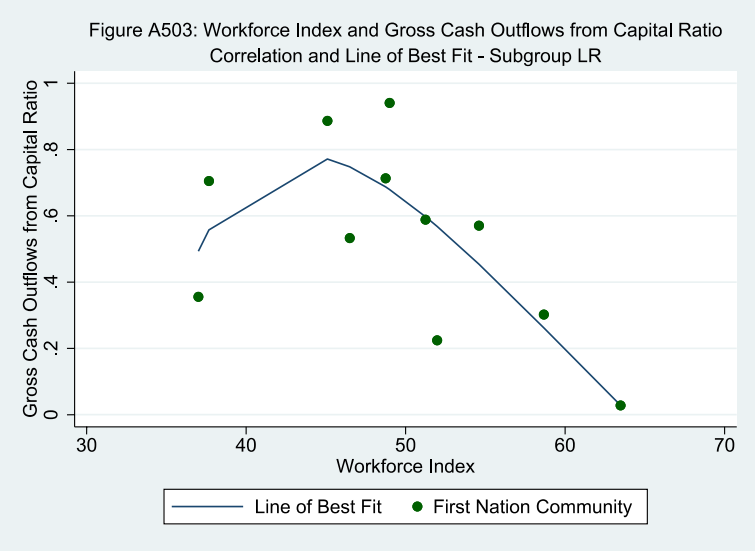


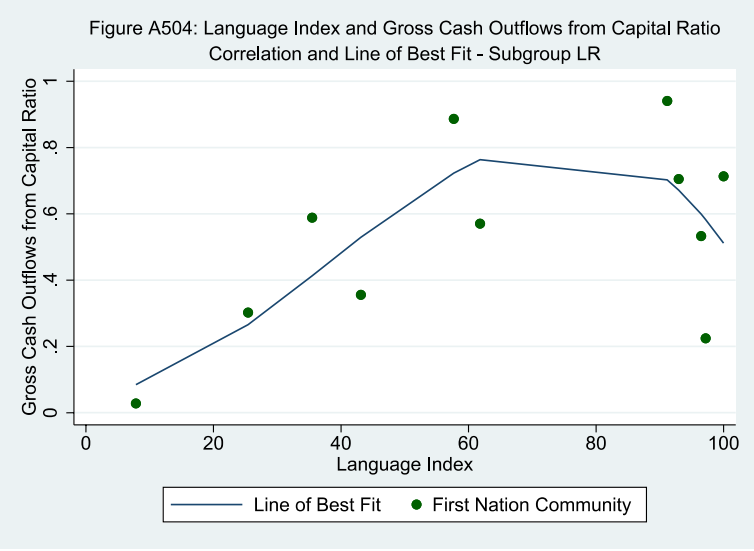
Figure A501: Income Index and Gross Cash Outflows from Capital Ratio
Correlation and Line of Best Fit - Subgroup MR

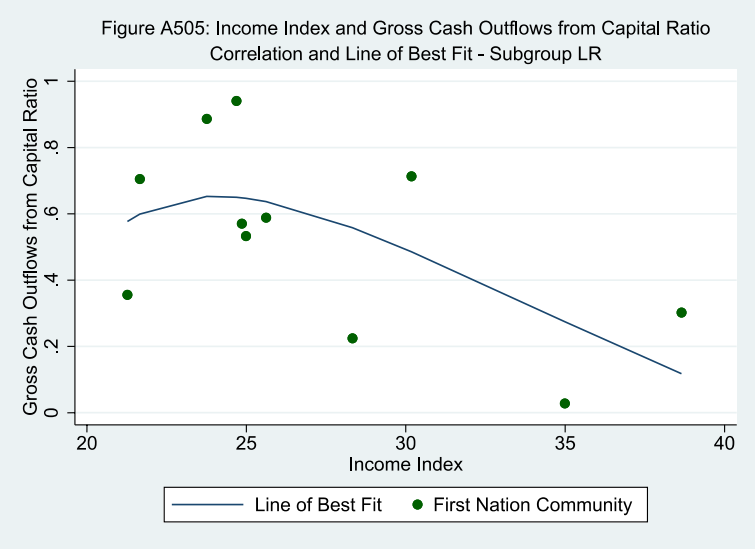


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A506: Education Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

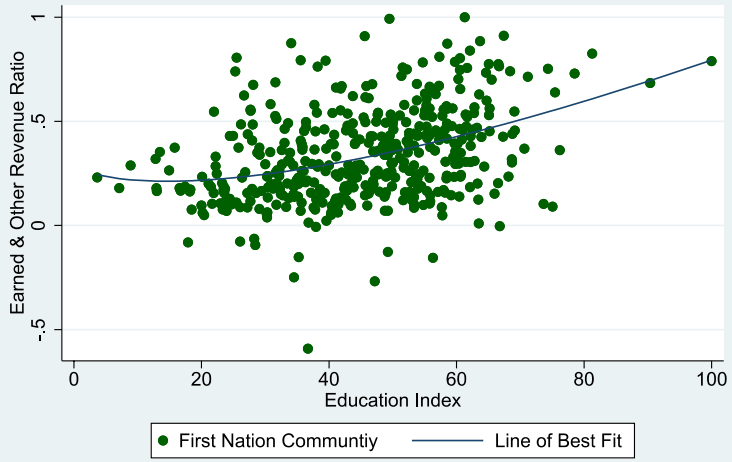


Figure A507: Workforce Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

Figure A508: Language Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Poulation

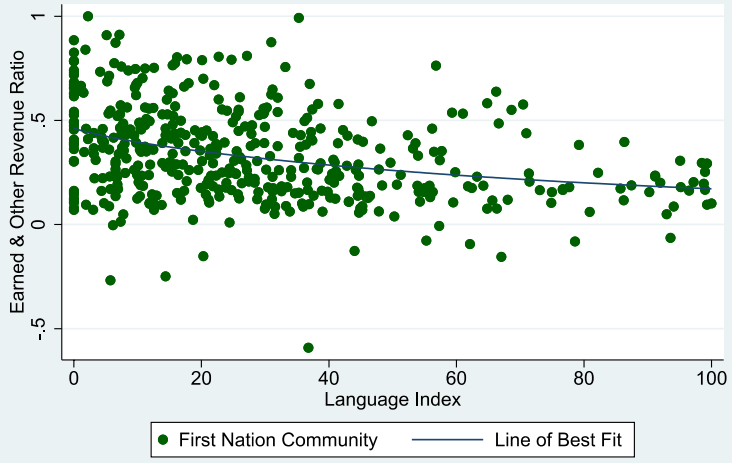
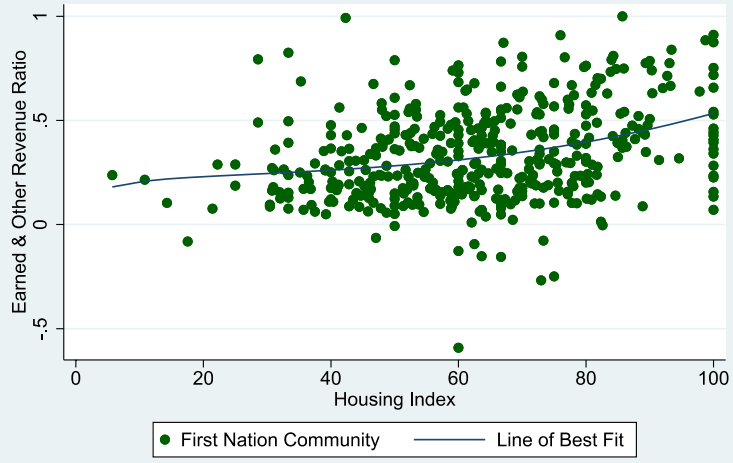


Figure A509: Housing Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A510: Income Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

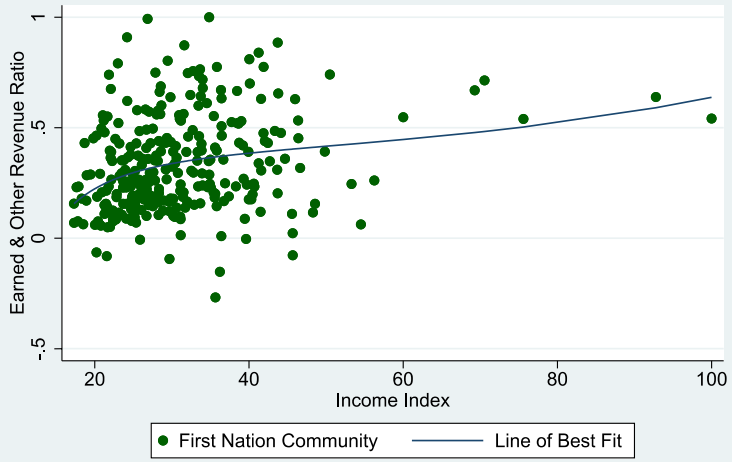


Figure A511: Nation Wellness Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

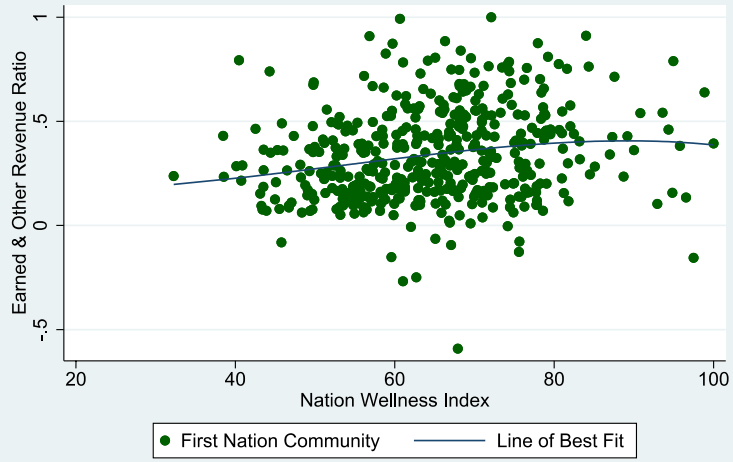


Figure A512: Education Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population

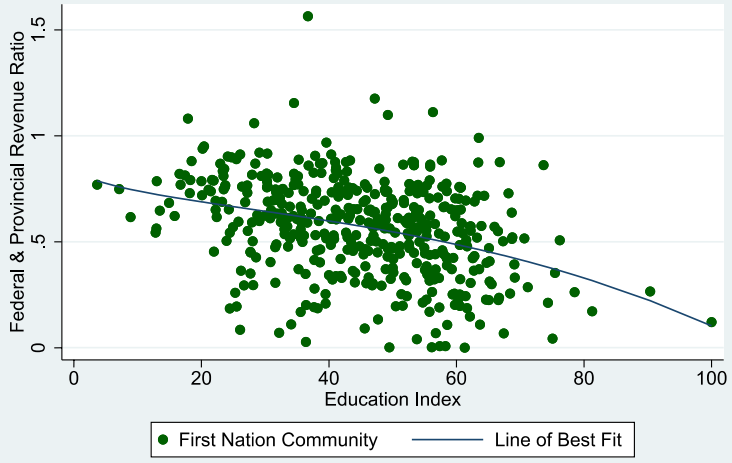
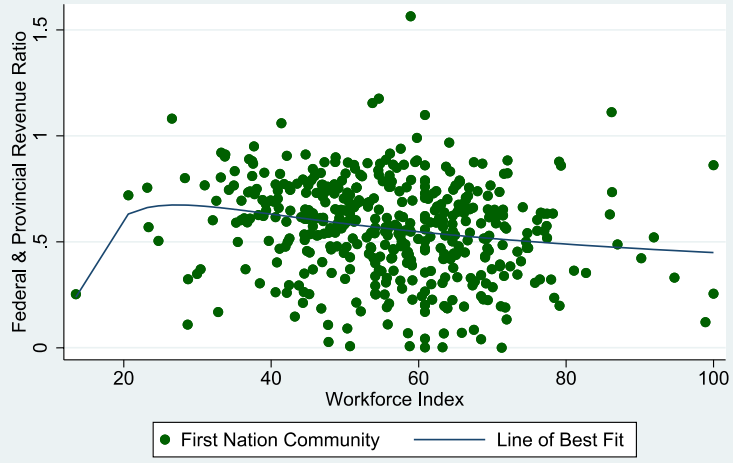


Figure A513: Workforce Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A514: Language Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population

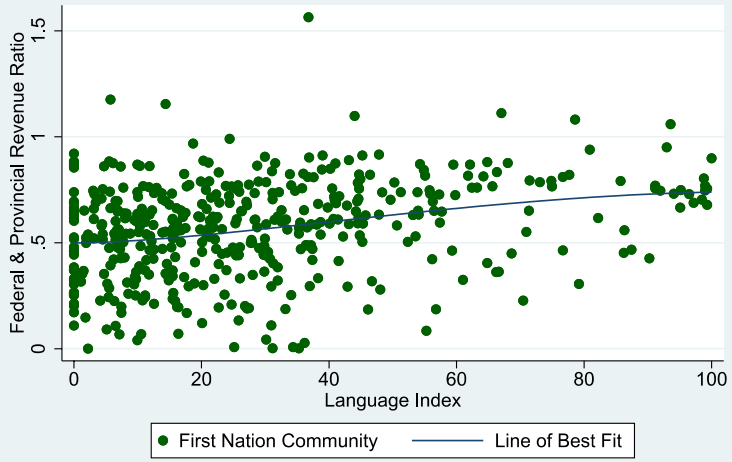


Figure A515: Housing Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population

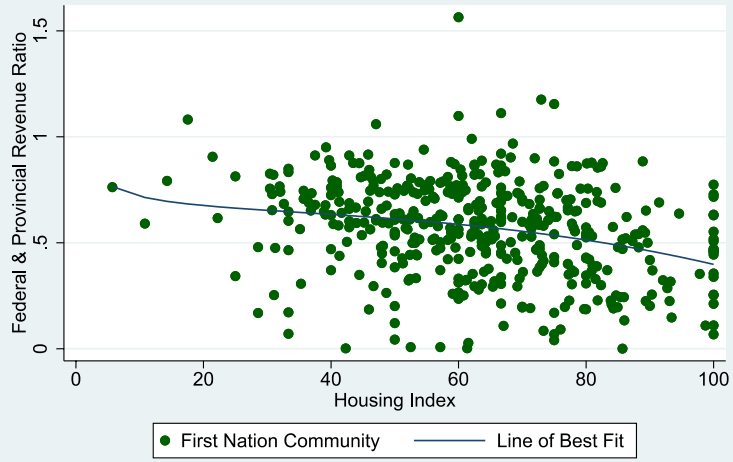


Figure A516: Income Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population

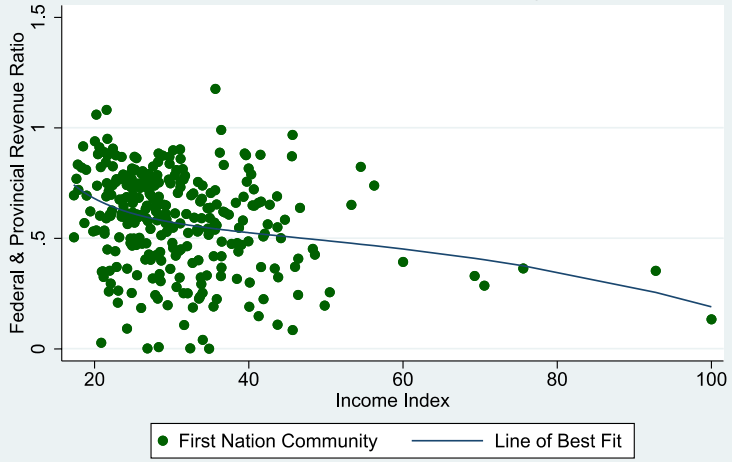
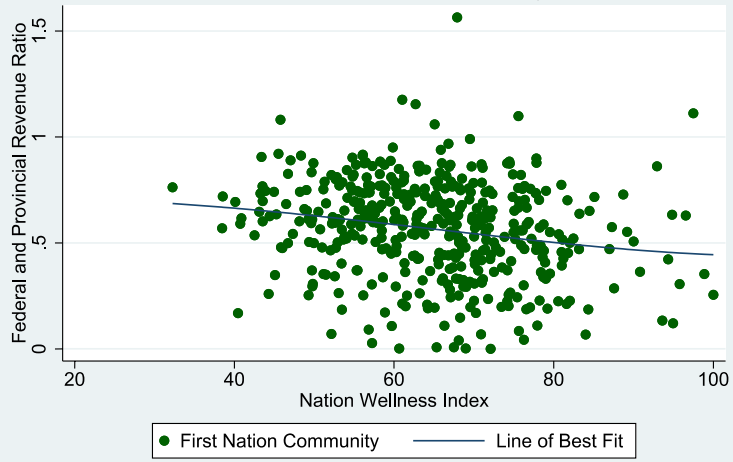
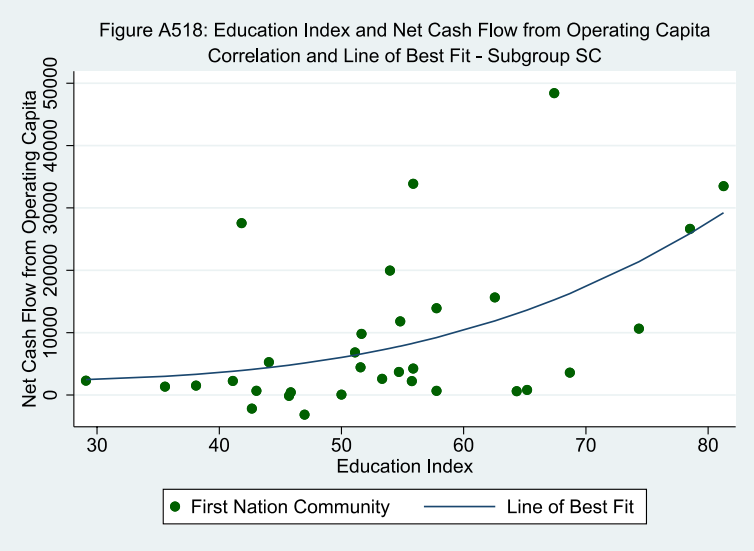
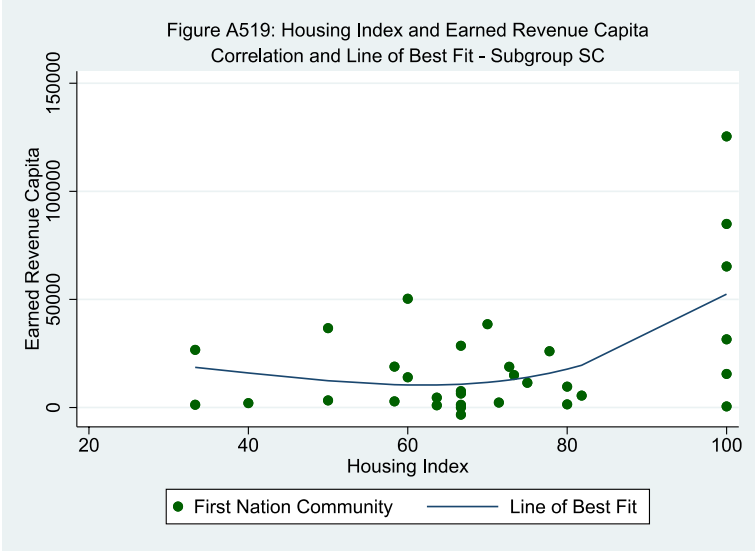


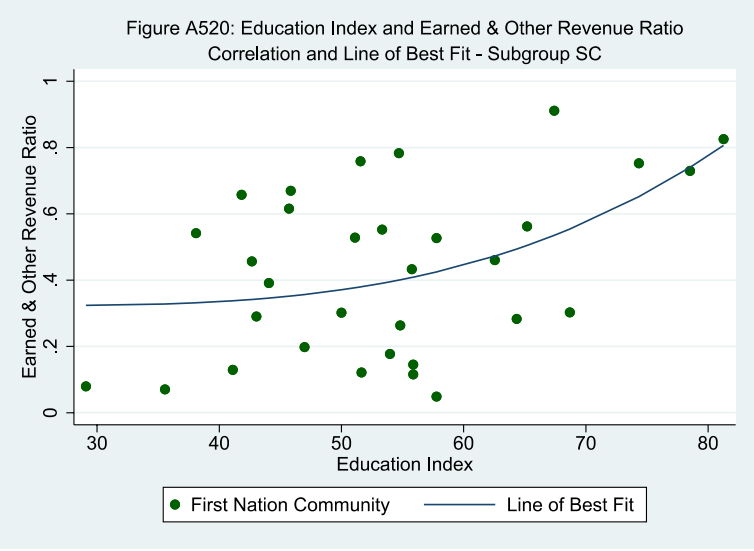
Figure A517: Nation Wellness Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Total Population

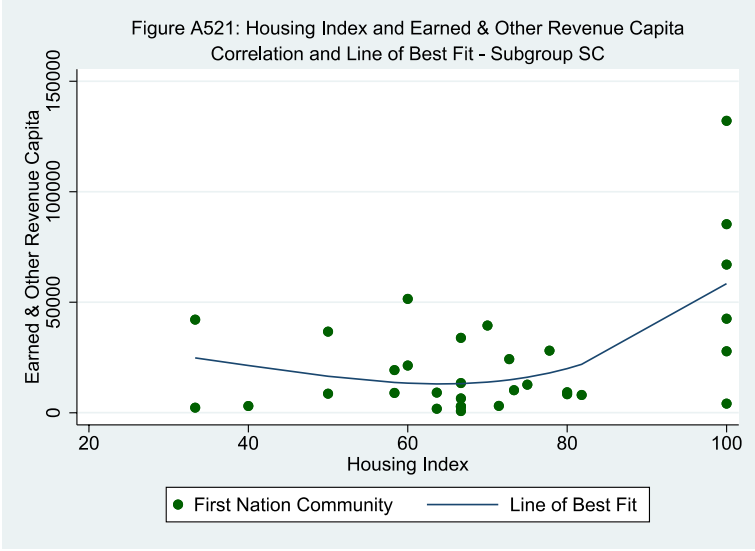


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

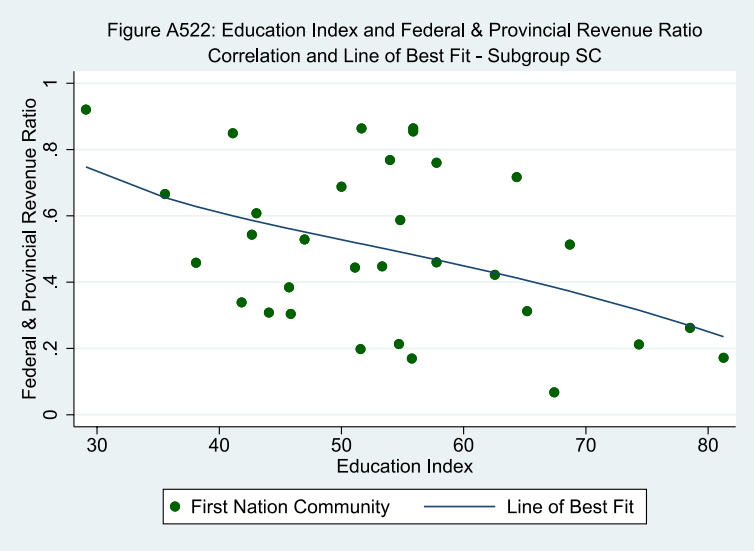


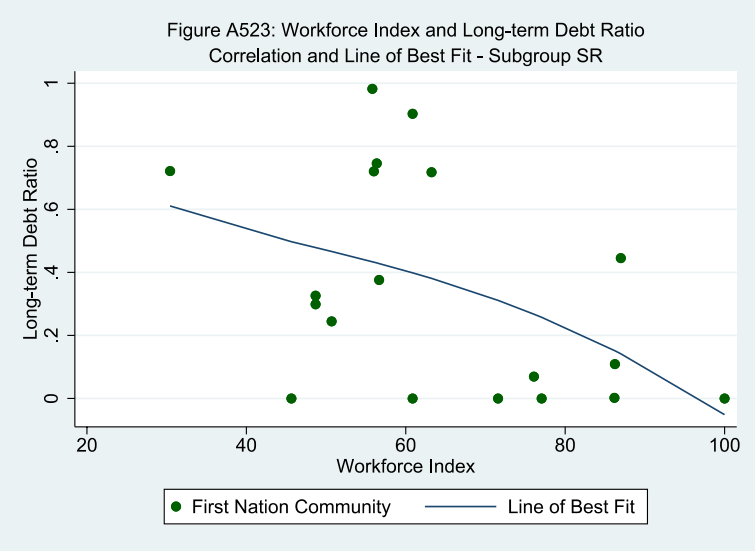


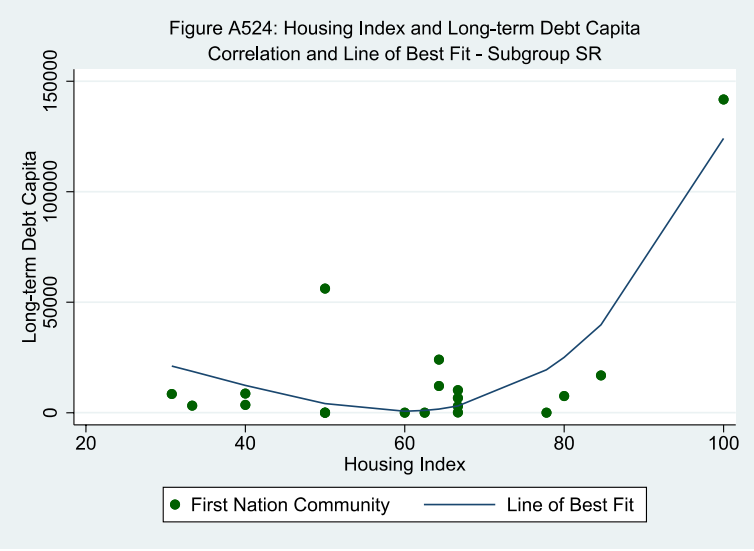


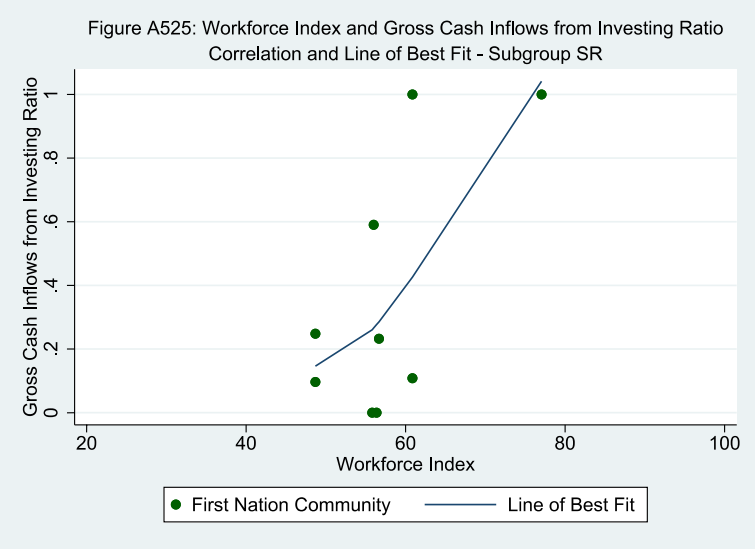


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

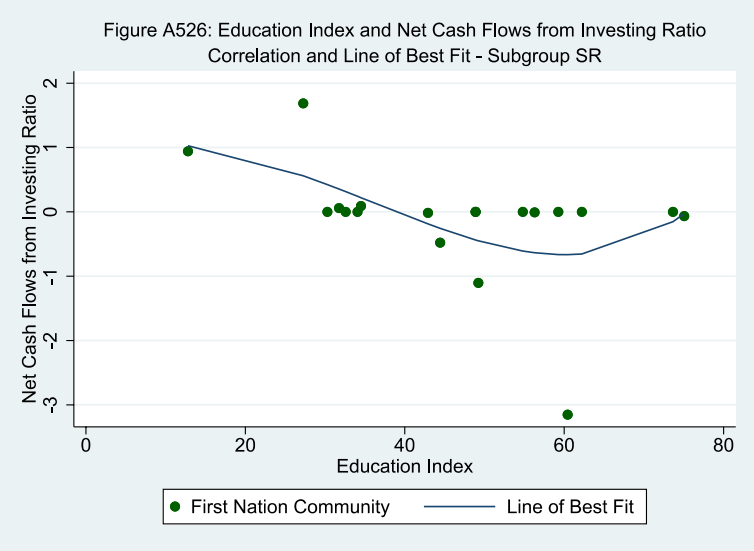


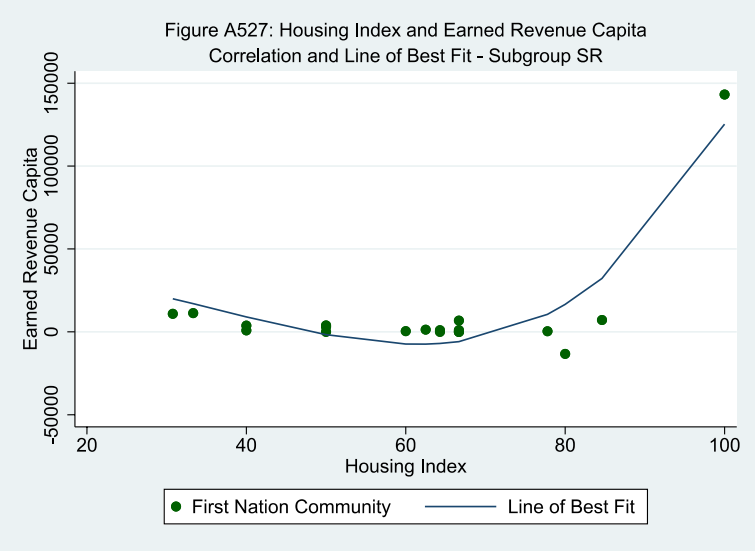


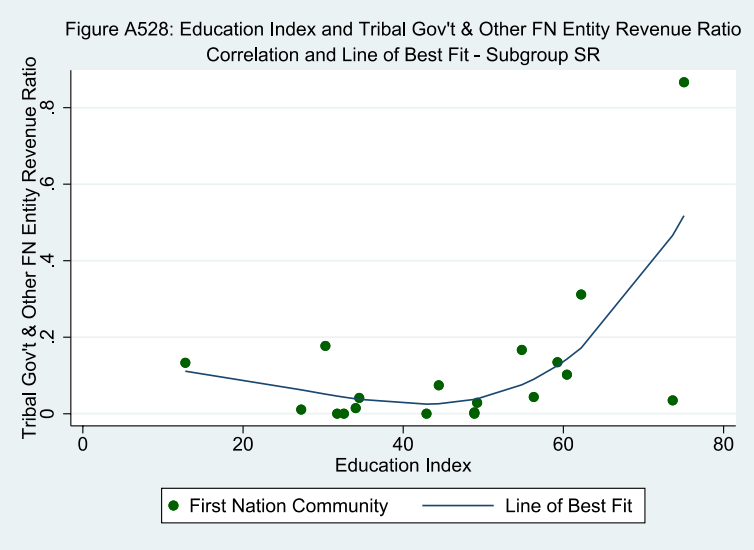


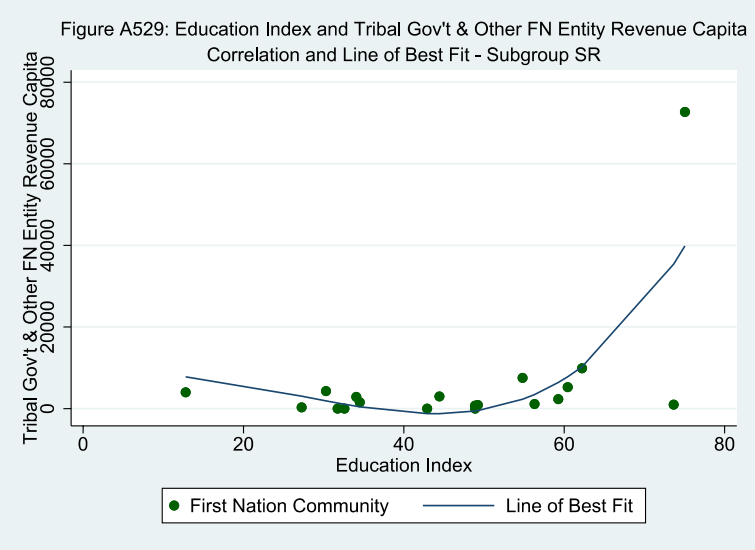


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

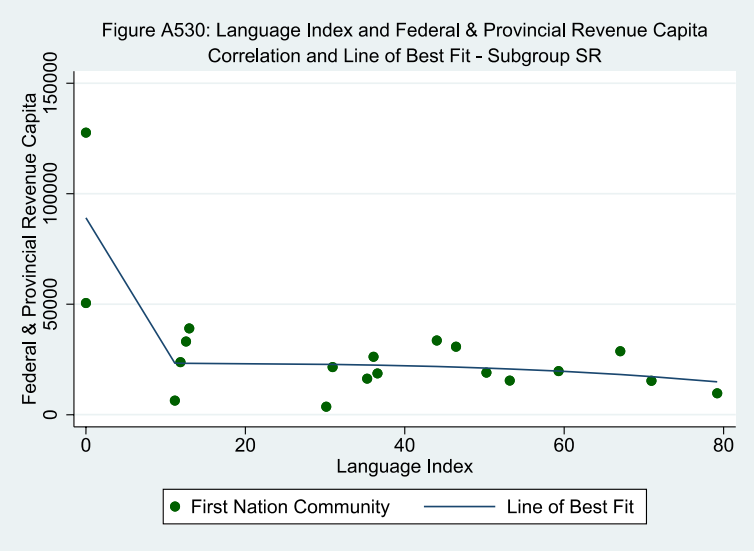


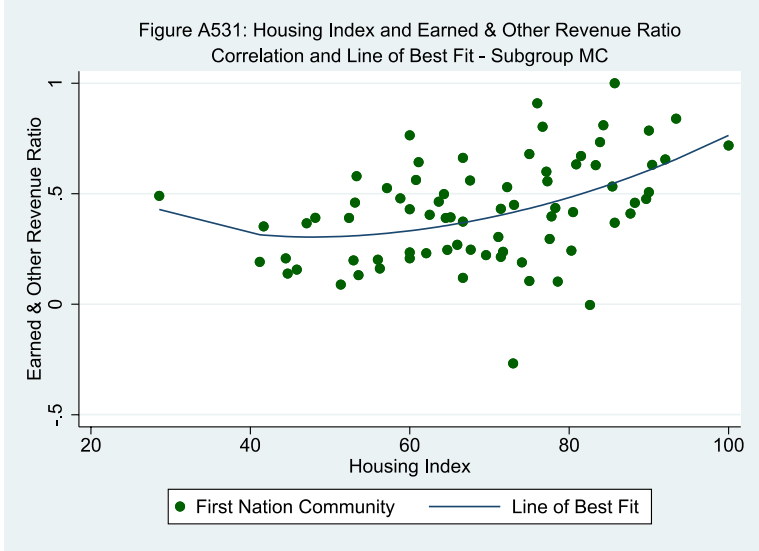


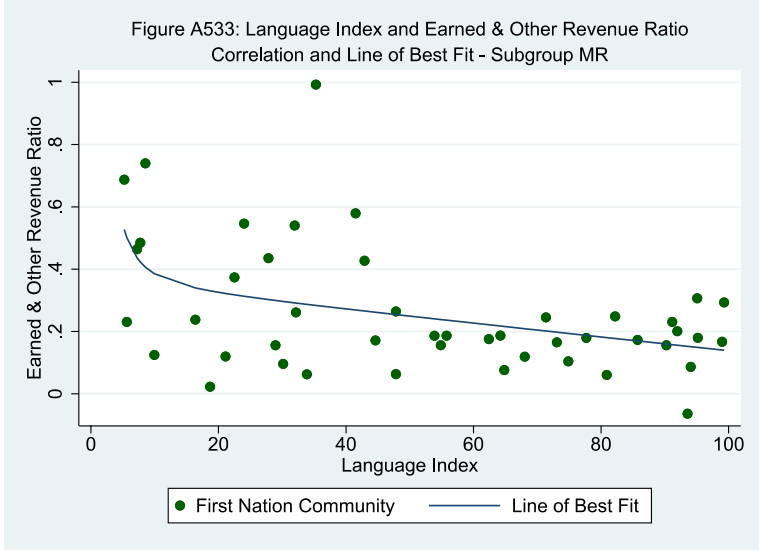




Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs







Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A534: Income Index and Federal & Provincial Revenue Capita
Correlation and Line of Best Fit - Subgroup MR

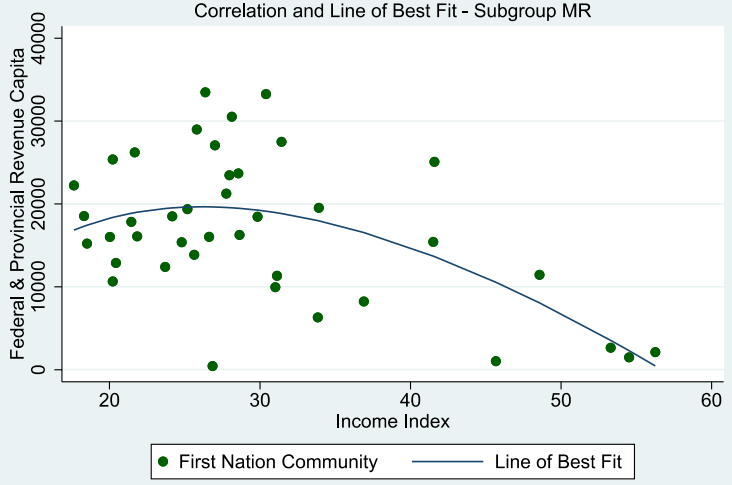


Figure A535: Education Index and Earned Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC

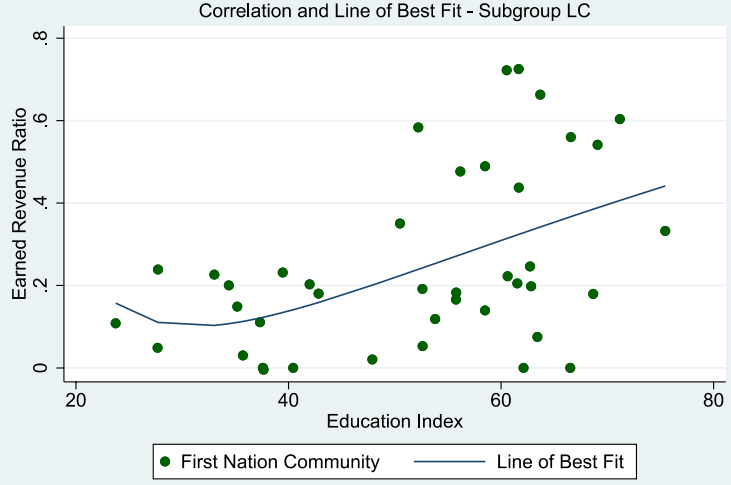


Figure A536: Housing Index and Earned Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC

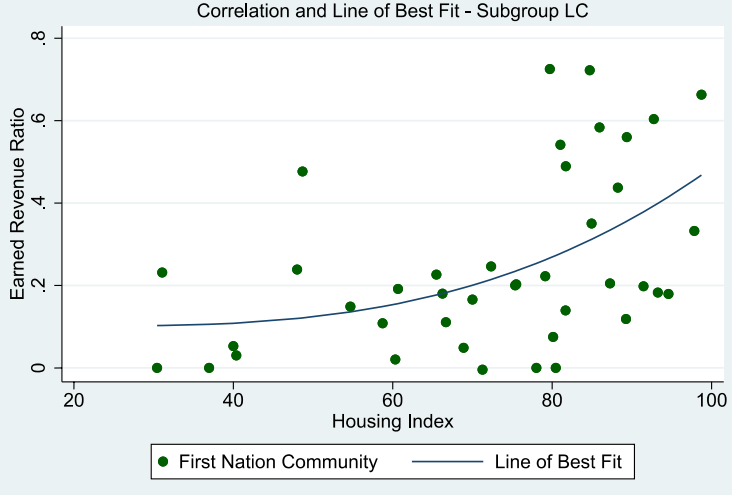
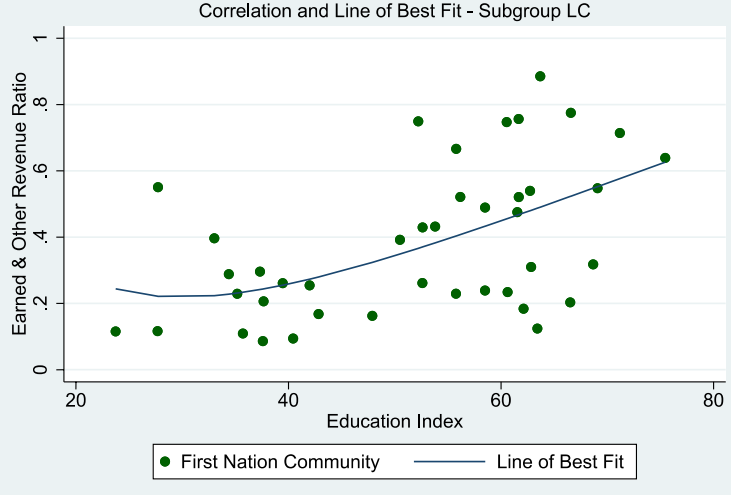


Figure A537: Education Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A538: Language Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC

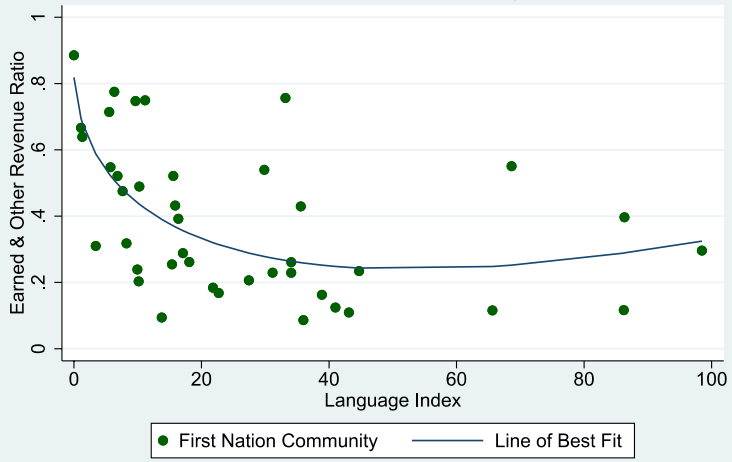


Figure A539: Housing Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Subgroup LC

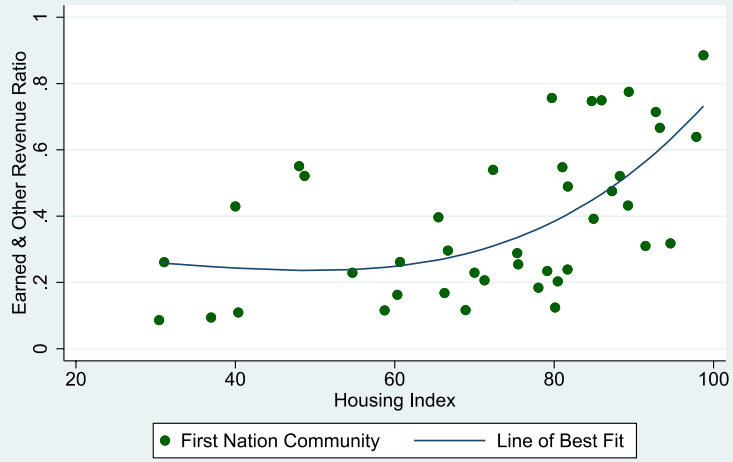


Figure A540: Income Index and Gross Cash Inflows from Investing Ratio
Correlation and Line of Best Fit - Subgroup LM

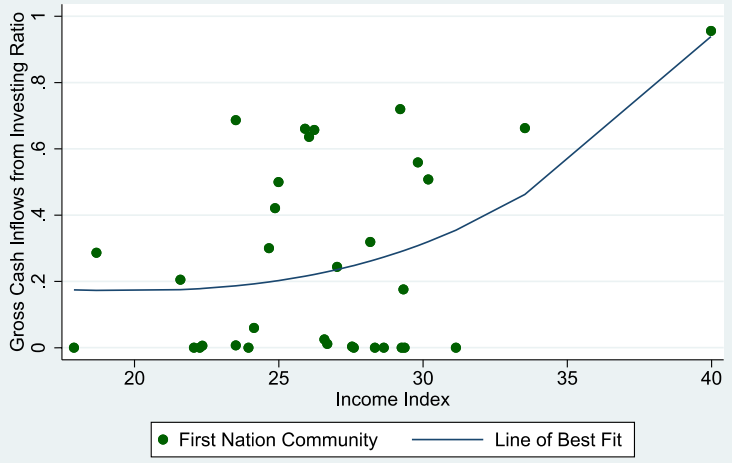
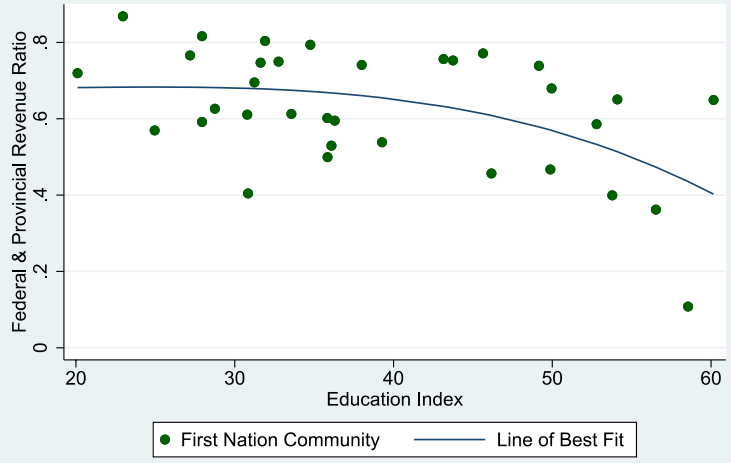
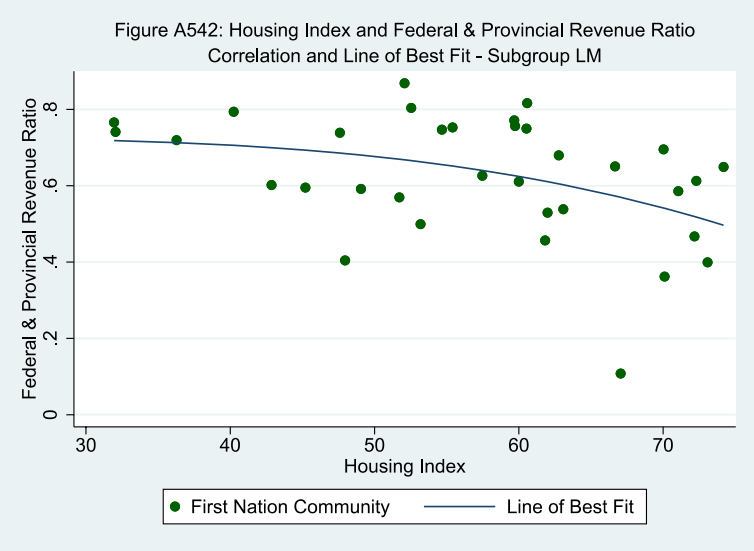
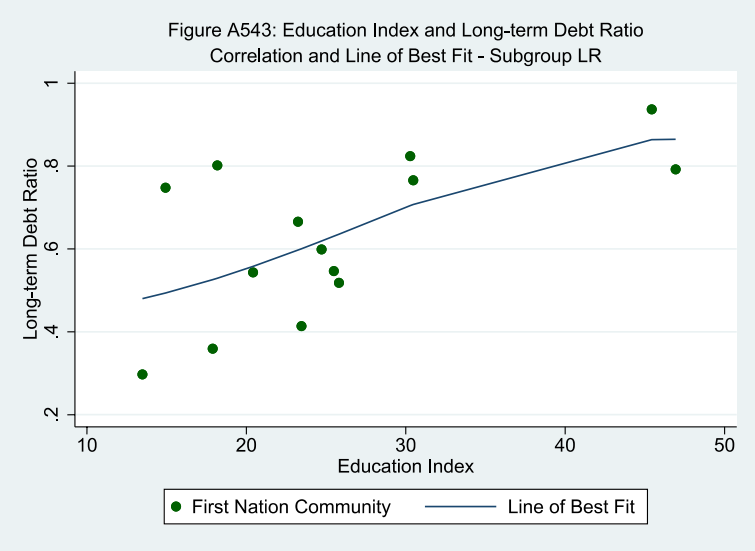


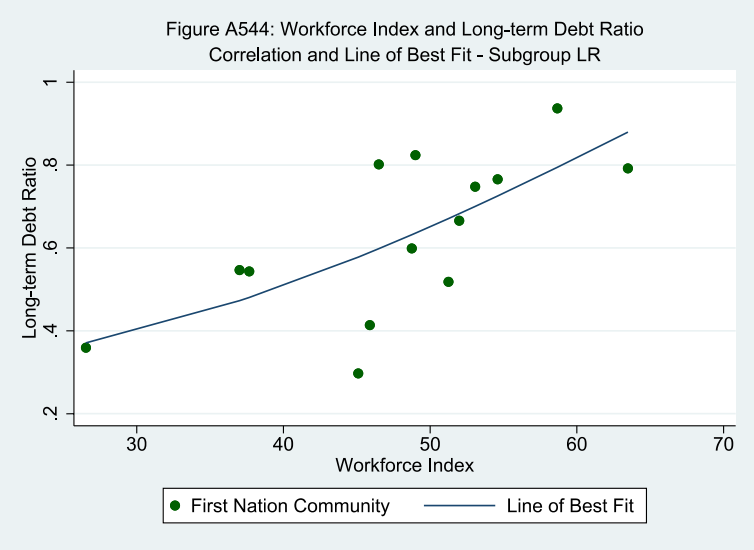
Figure A541: Education Index and Federal & Provincial Revenue Ratio
Correlation and Line of Best Fit - Subgroup LM

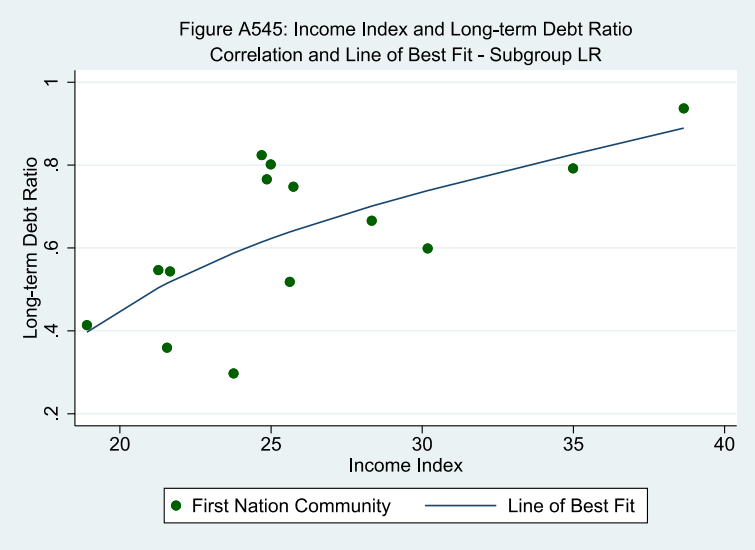


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A546: Nation Wellness Index and Long-term Debt Ratio
Correlation and Line of Best Fit - Subgroup LR

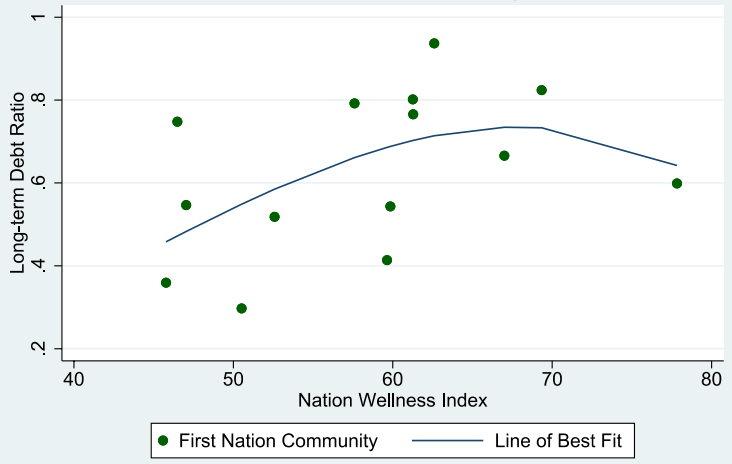


Figure A547: Education Index and Long-term Debt Capita
Correlation and Line of Best Fit - Subgroup LR

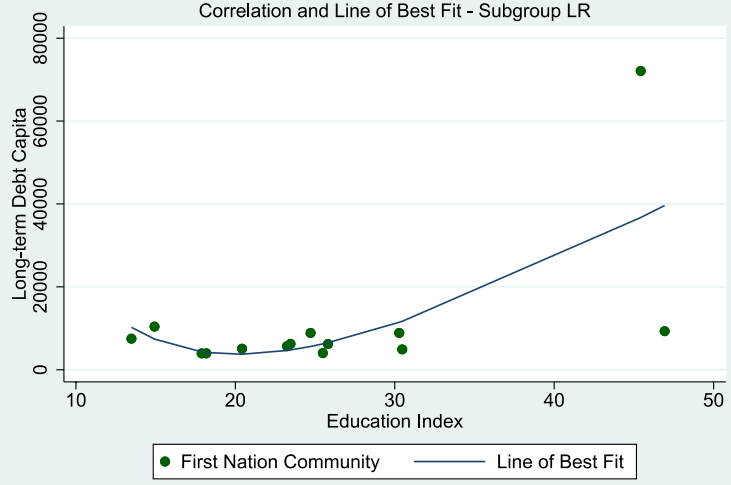


Figure A548: Workforce Index and Long-term Debt Capita
Correlation and Line of Best Fit - Subgroup LR

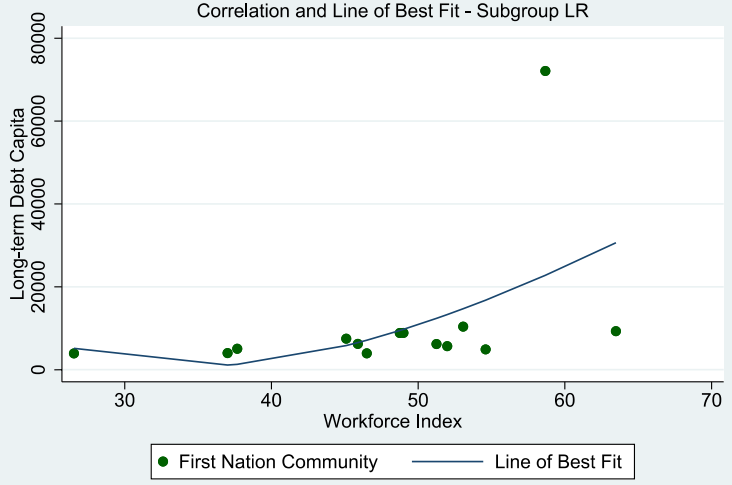
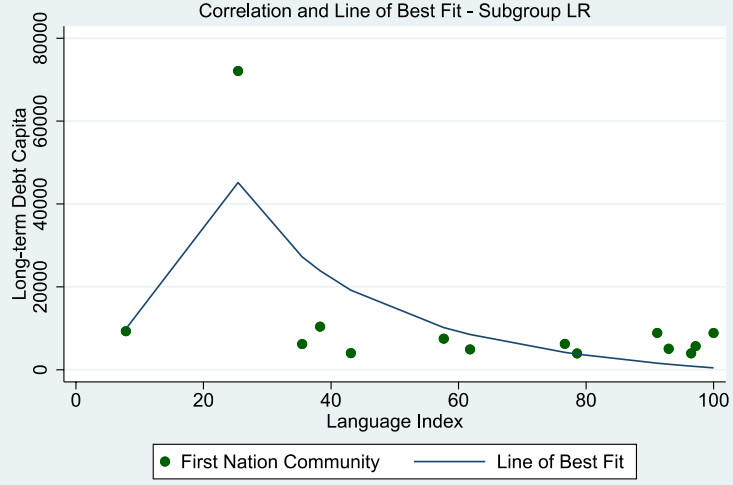
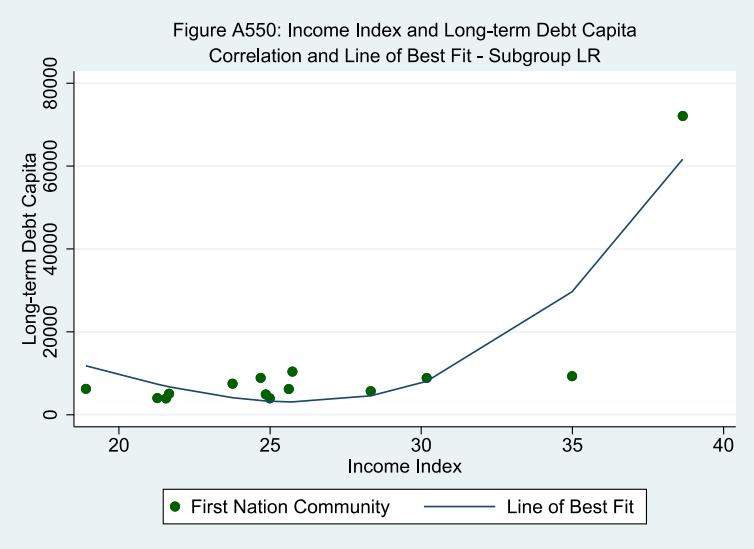
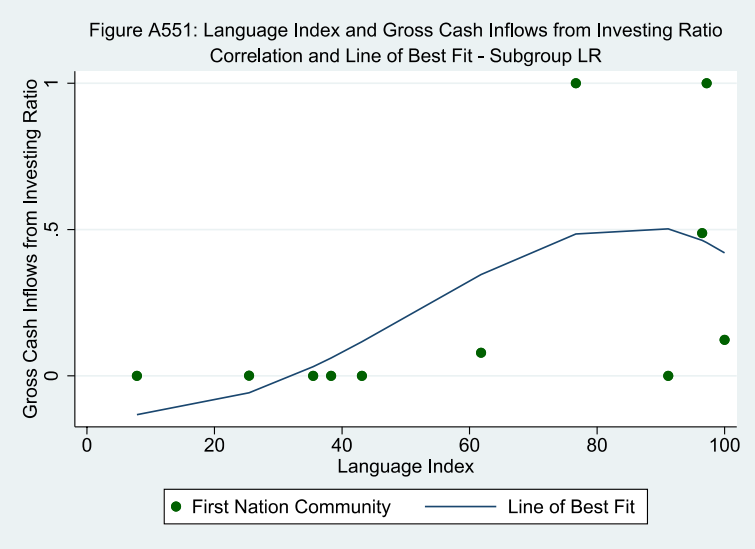


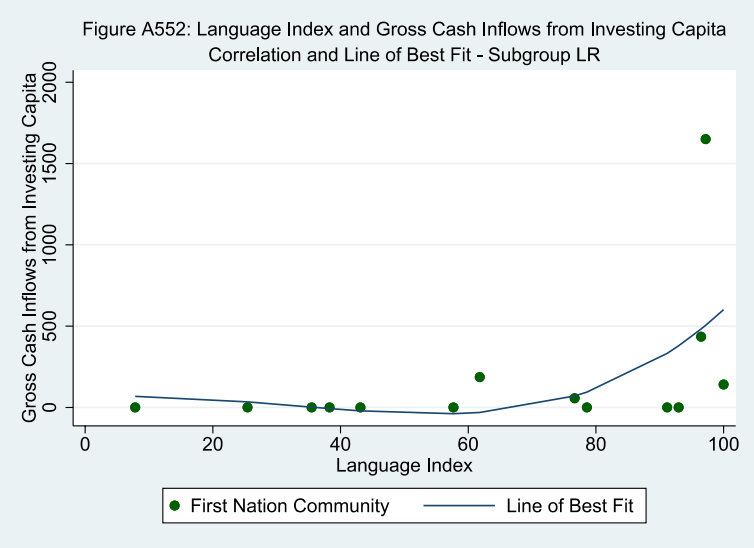
Figure A549: Language Index and Long-term Debt Capita
Correlation and Line of Best Fit - Subgroup LR

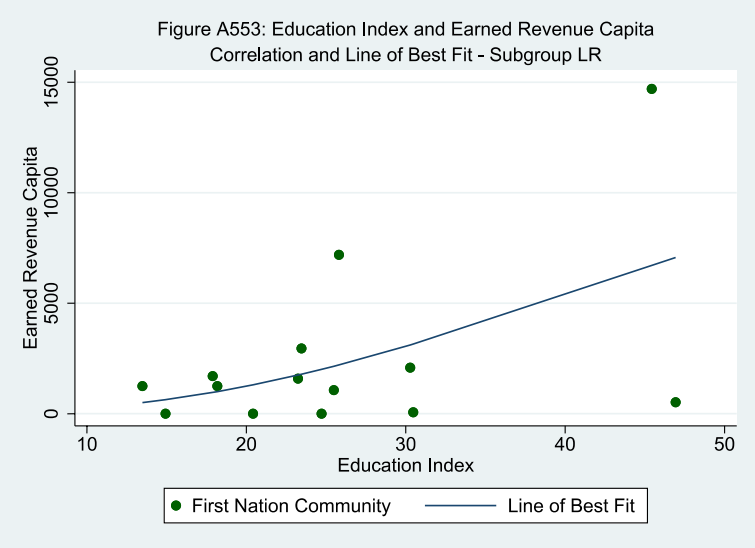


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

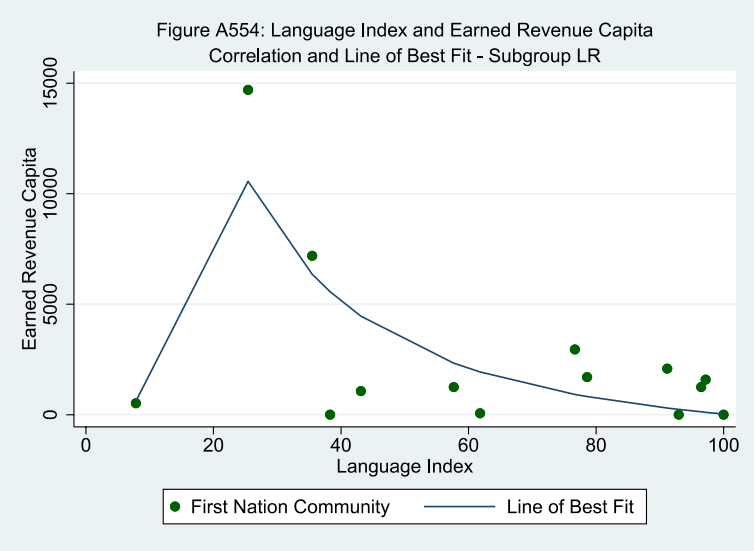


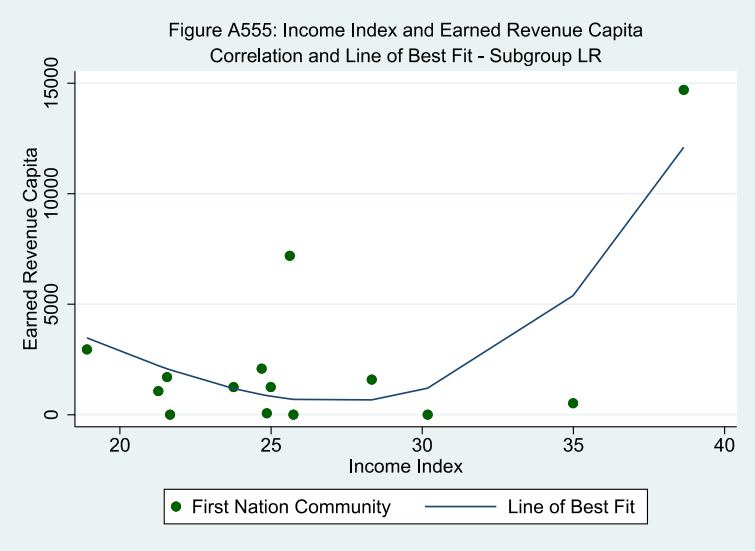


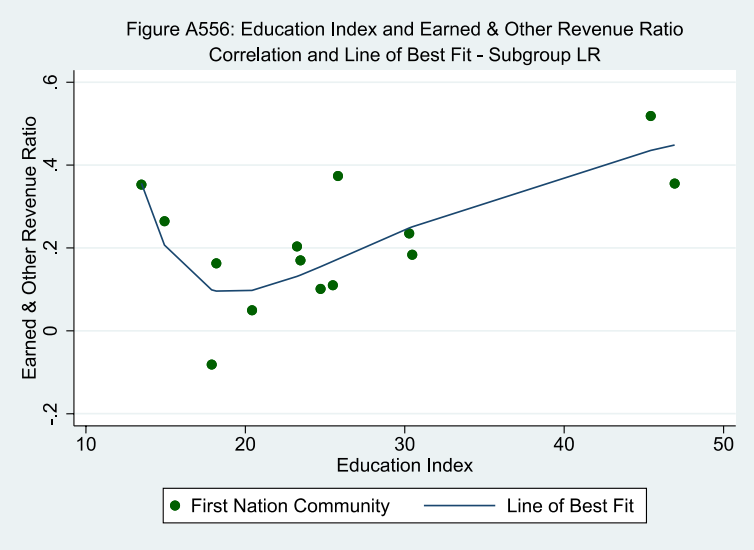


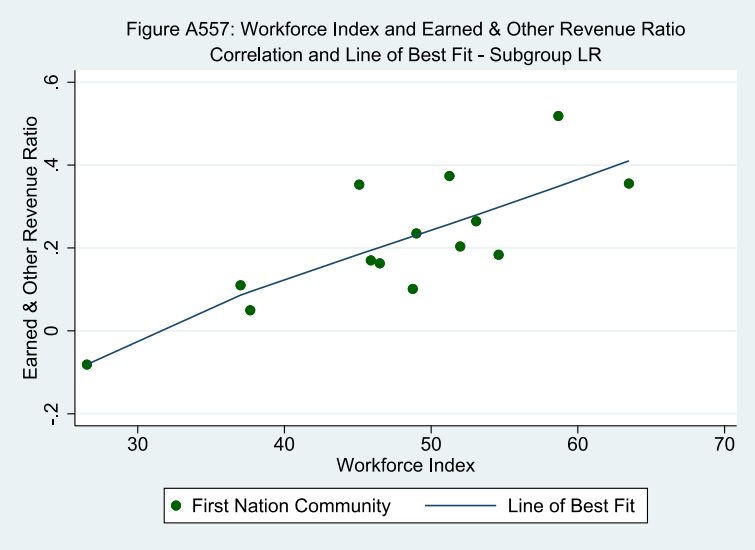


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

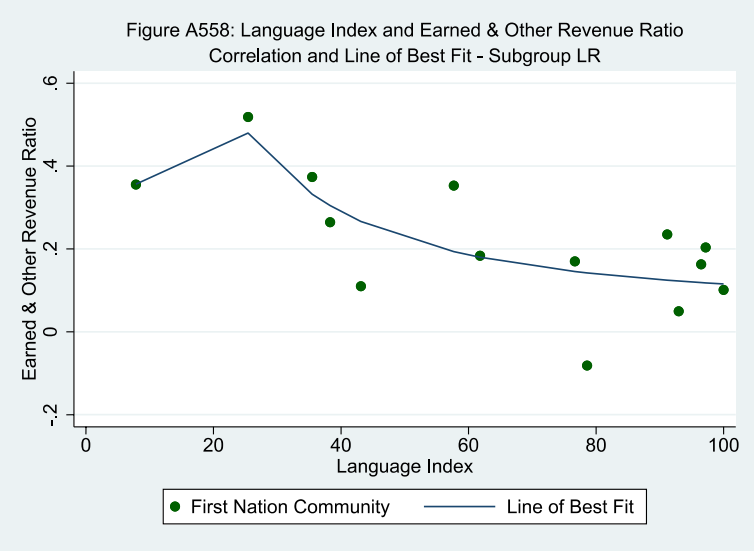


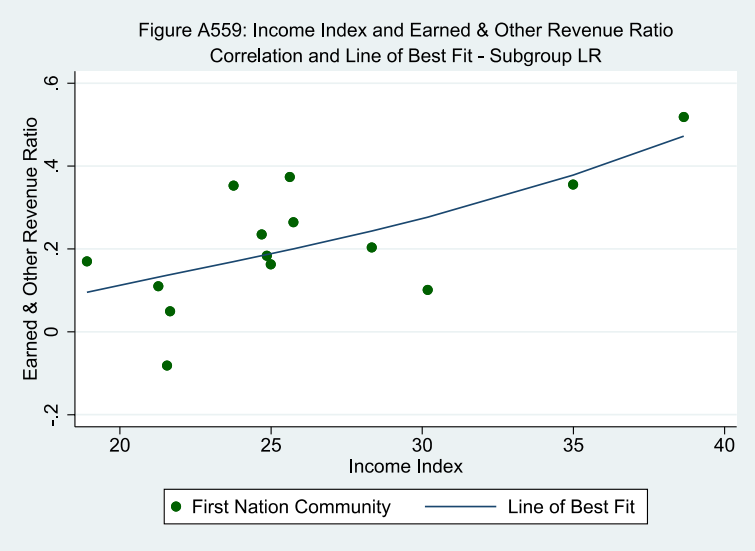


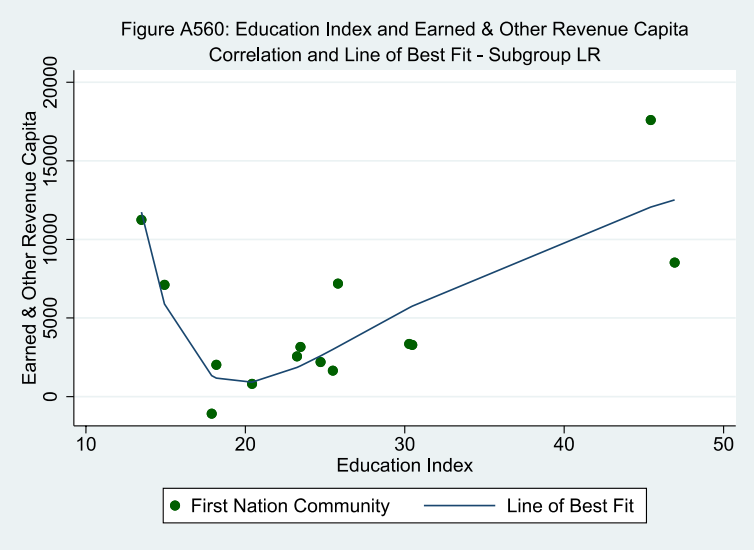


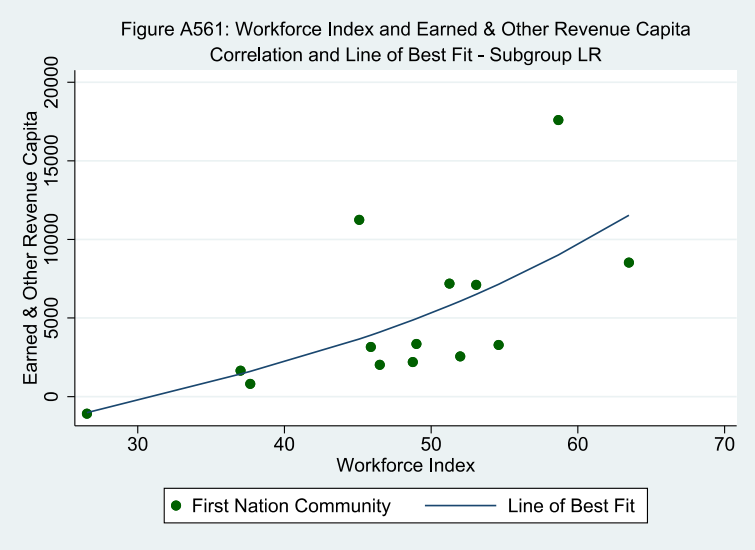


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A562: Language Index and Earned & Other Revenue Capita
Correlation and Line of Best Fit - Subgroup LR

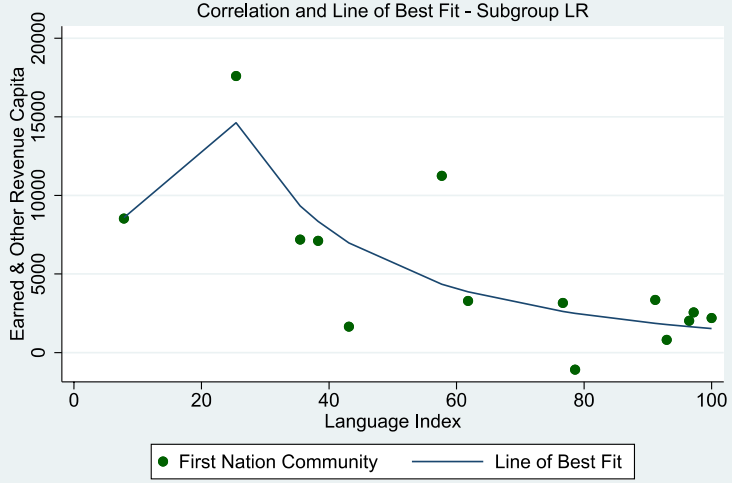


Figure A563: Income Index and Earned & Other Revenue Capita
Correlation and Line of Best Fit - Subgroup LR

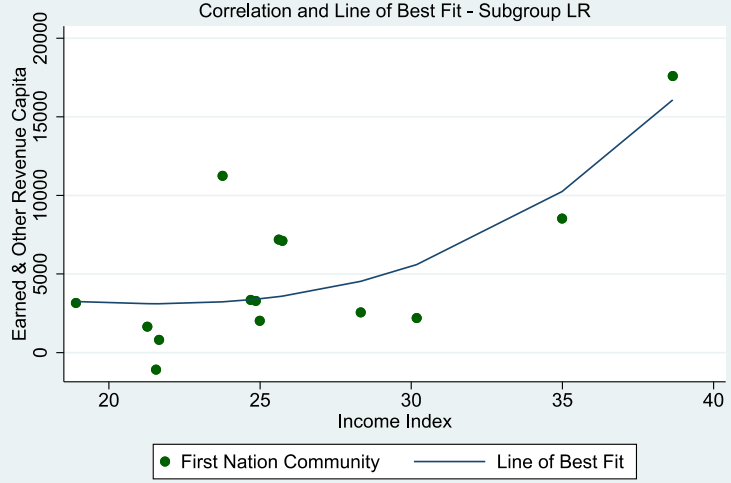


Figure A564: Workforce Index and Tribal Gov't & Other FN Entity Revenue Capita
Correlation and Line of Best Fit - Subgroup LR

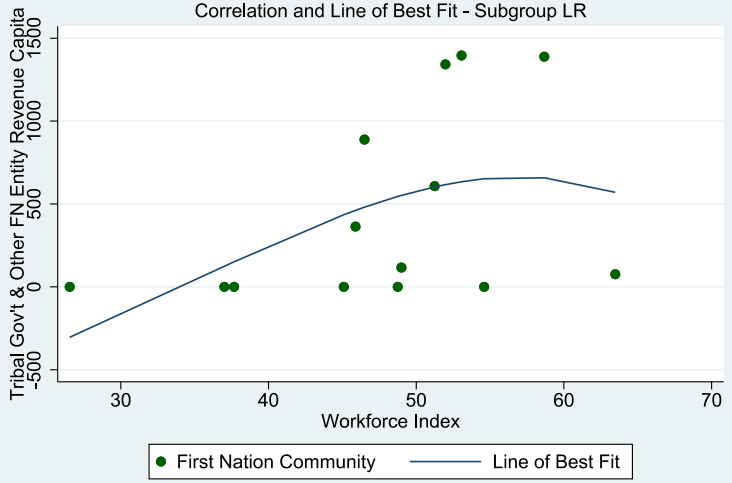
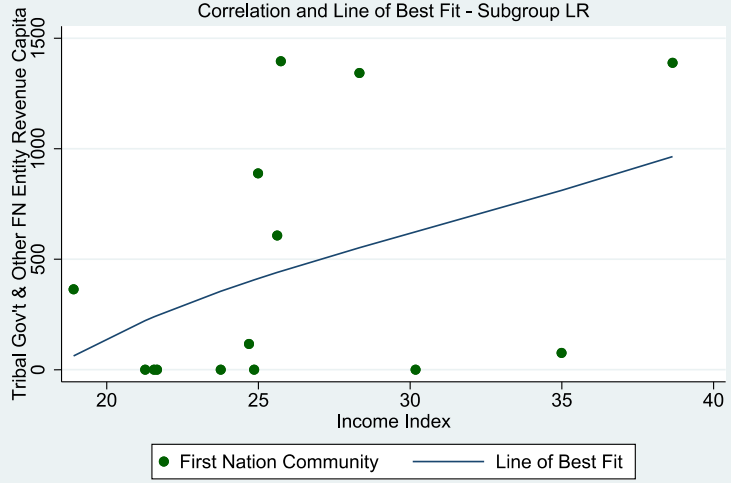
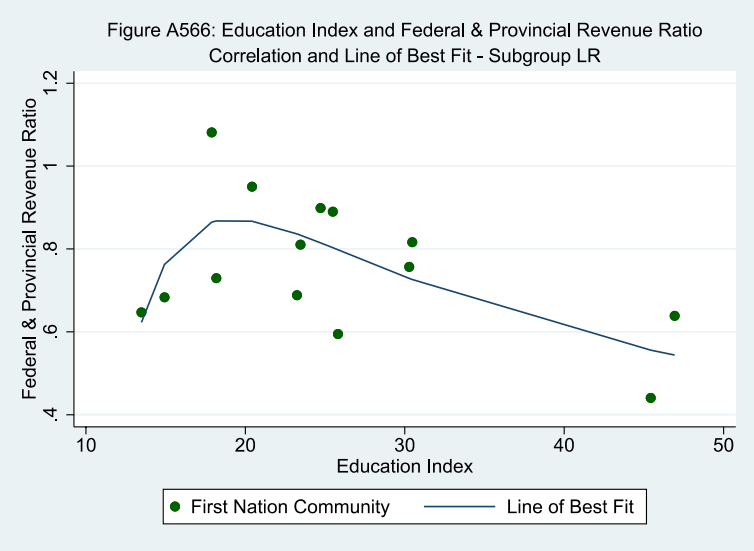
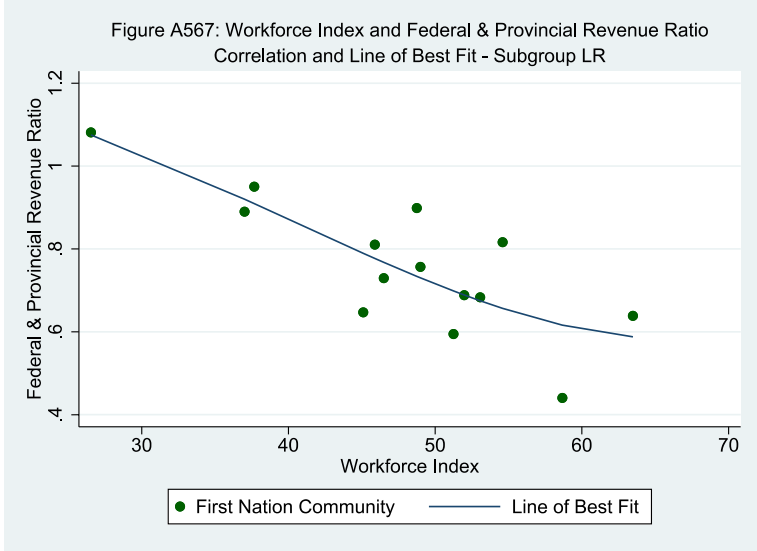


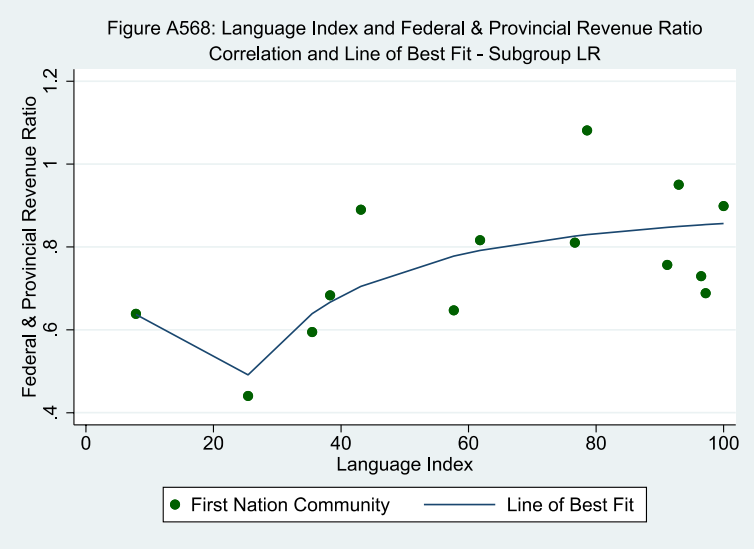
Figure A565: Income Index and Tribal Gov't & Other FN Entity Revenue Capita
Correlation and Line of Best Fit - Subgroup LR

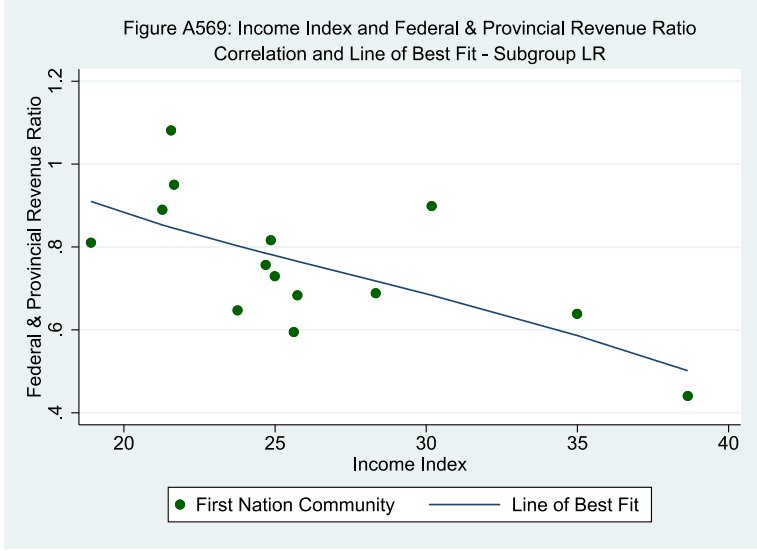


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A570: Workforce Index and Education Index
Correlation and Line of Best Fit - Total Population

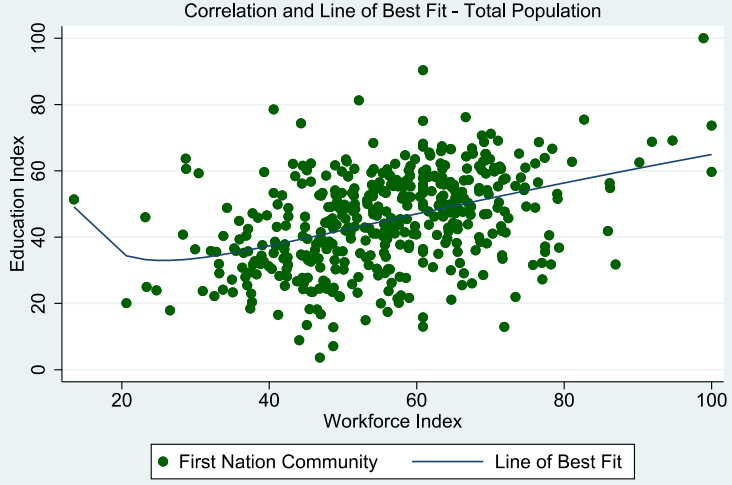


Figure A571: Language Index and Education Index
Correlation and Line of Best Fit - Total Population

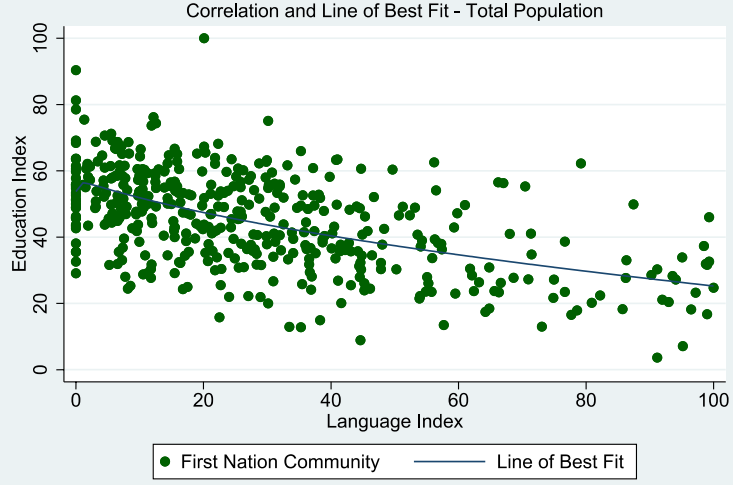


Figure A572: Housing Index and Education Index
Correlation and Line of Best Fit - Total Population

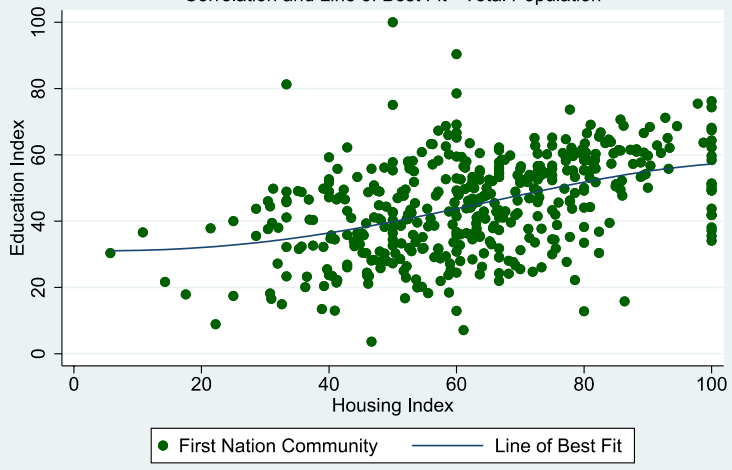
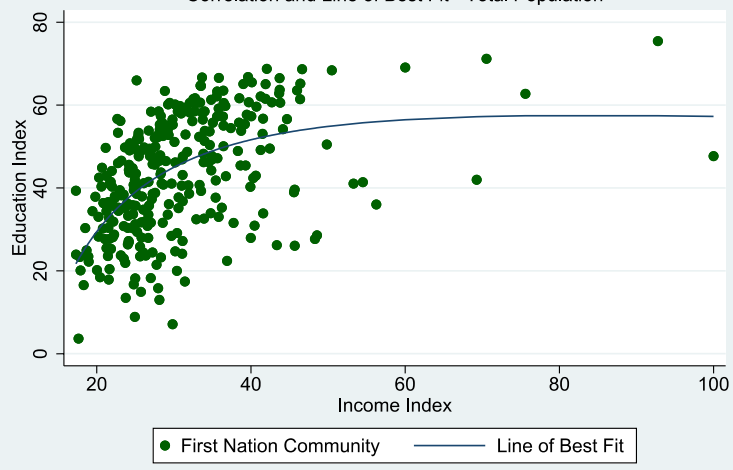


Figure A573: Income Index and Education Index
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A574: Nation Wellness Index and Education Index
Correlation and Line of Best Fit - Total Population

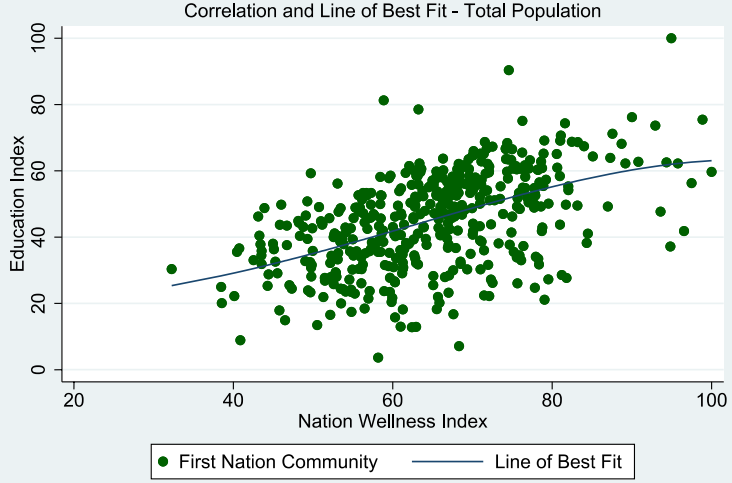


Figure A575: Income Index and Workforce Index
Correlation and Line of Best Fit - Total Population

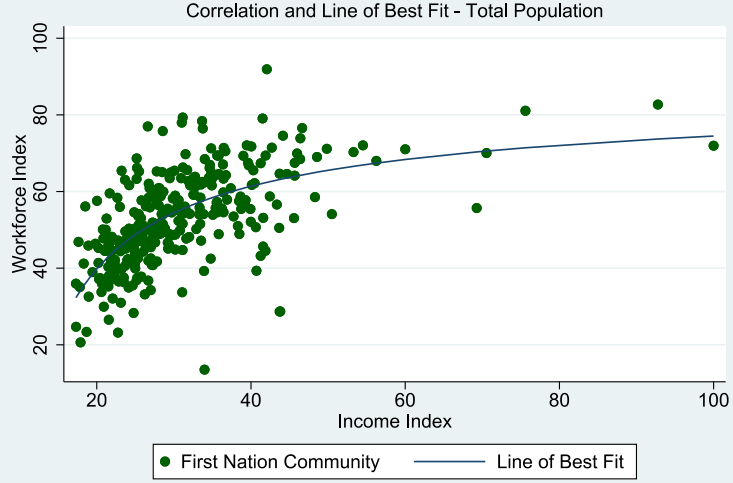


Figure A576: Nation Wellness Index and Workforce Index
Correlation and Line of Best Fit - Total Population

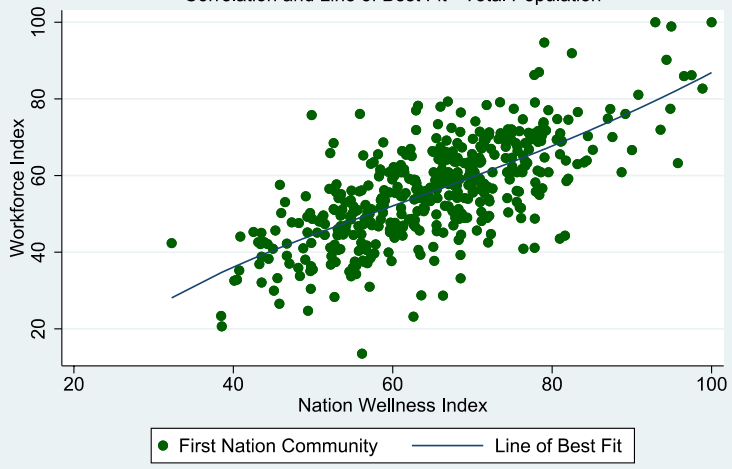
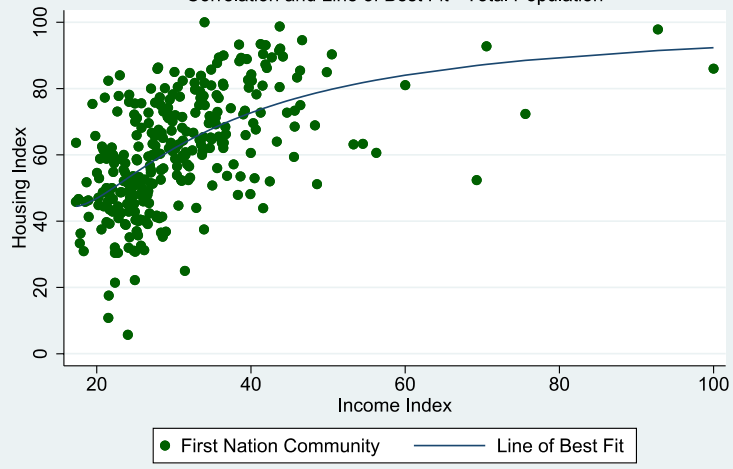


Figure A577: Income Index and Housing Index
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A578: Nation Wellness Index and Housing Index
Correlation and Line of Best Fit - Total Population

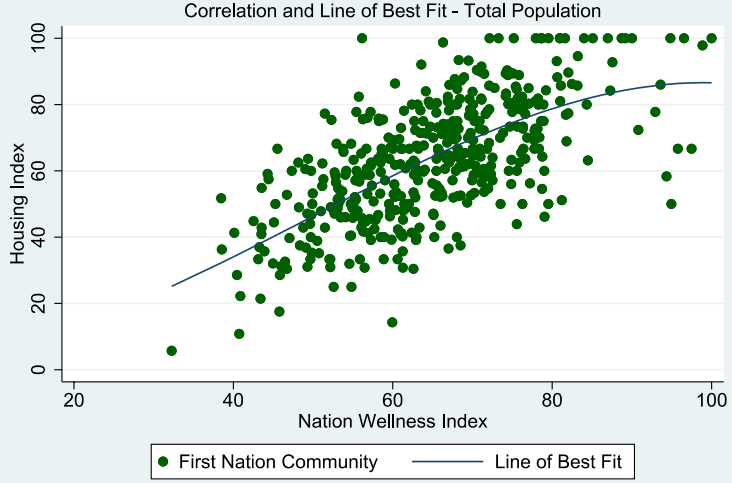


Figure A579: Nation Wellness Index and Income Index
Correlation and Line of Best Fit - Total Population

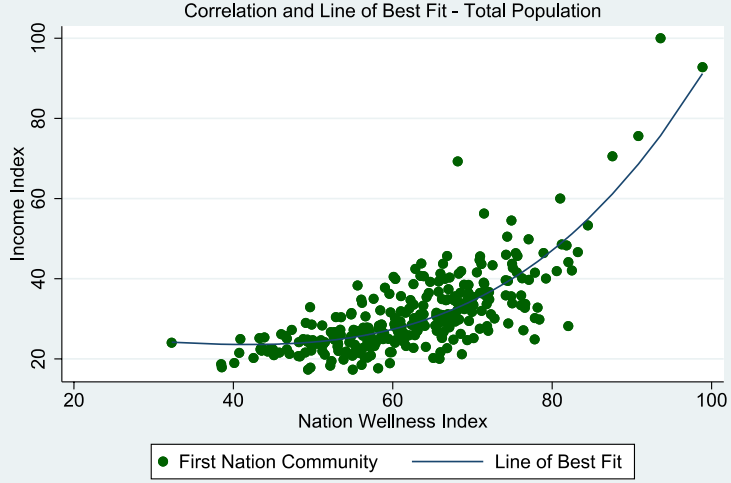


Figure A580: Nation Wellness Index and Workforce Index
Correlation and Line of Best Fit - Subgroup SC

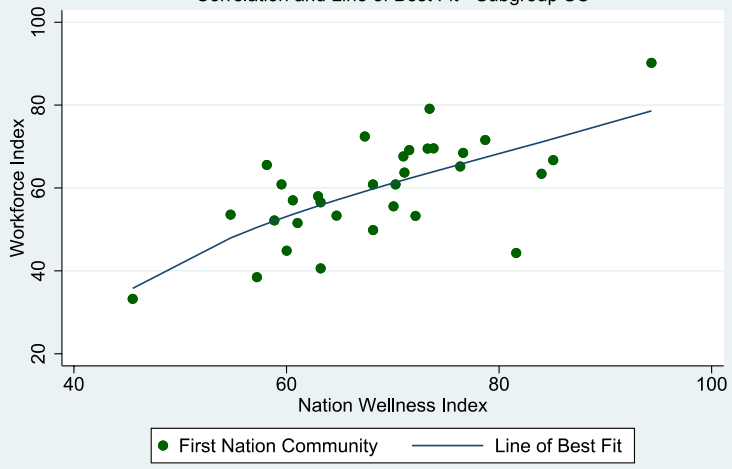
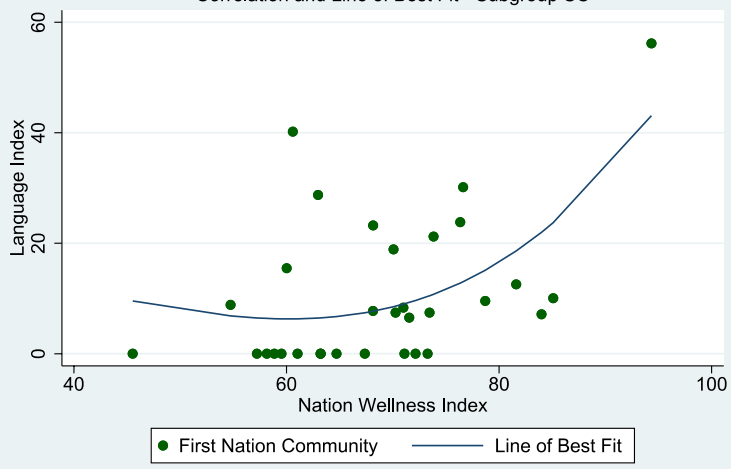


Figure A581: Nation Wellness Index and Language Index
Correlation and Line of Best Fit - Subgroup SC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A582: Nation Wellness Index and Housing Index
Correlation and Line of Best Fit - Subgroup SC

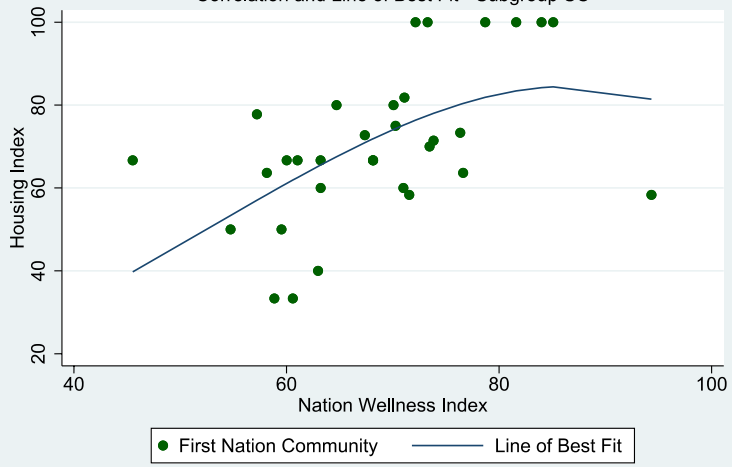


Figure A583: Nation Wellness Index and Education Index
Correlation and Line of Best Fit - Subgroup SM

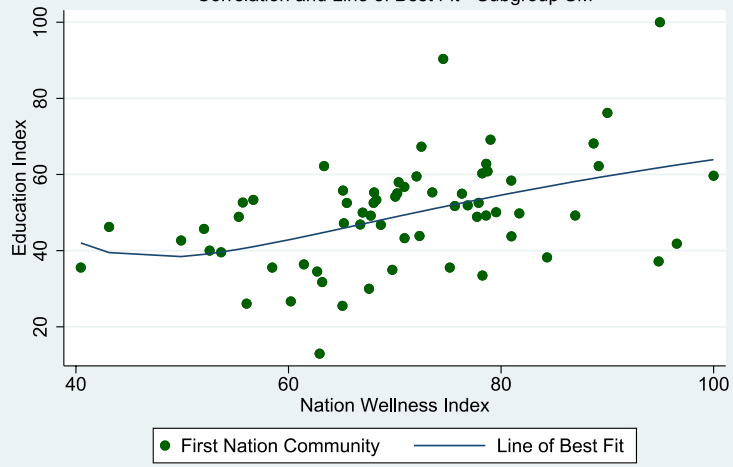


Figure A584: Nation Wellness Index and Workforce Index
Correlation and Line of Best Fit - Subgroup SM

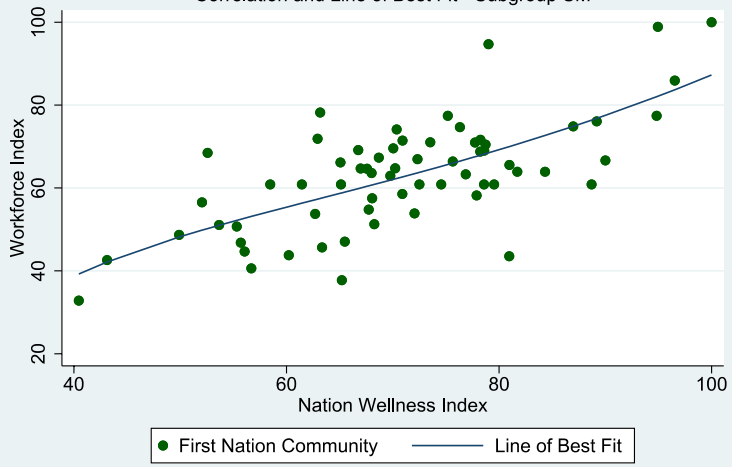
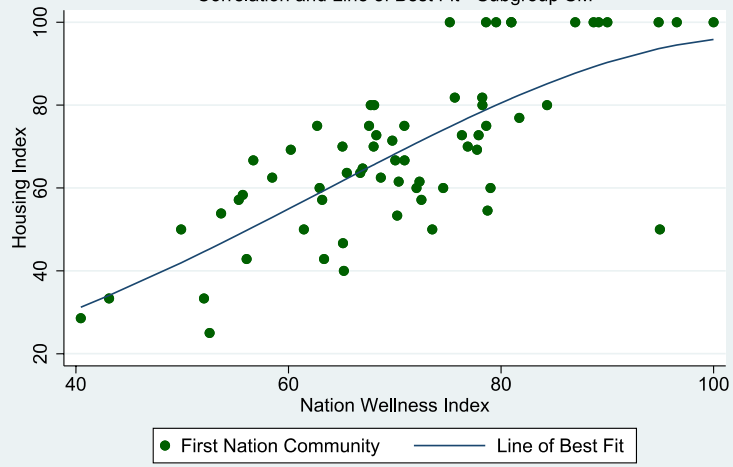


Figure A585: Nation Wellness Index and Housing Index
Correlation and Line of Best Fit - Subgroup SM



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A586: Nation Wellness Index and Workforce Index
Correlation and Line of Best Fit - Subgroup SR

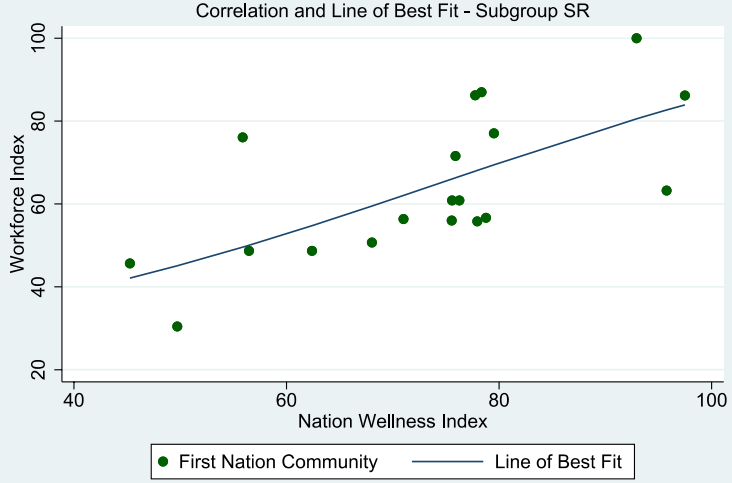


Figure A587: Nation Wellness Index and Language Index
Correlation and Line of Best Fit - Subgroup SR

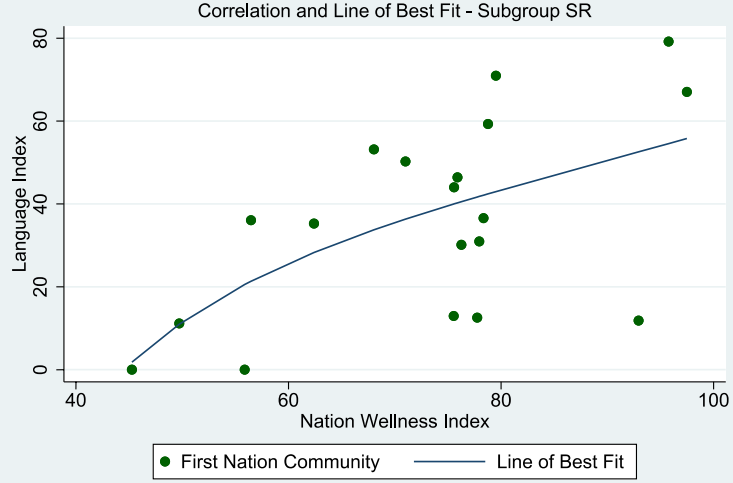


Figure A588: Nation Wellness Index and Housing Index
Correlation and Line of Best Fit - Subgroup SR

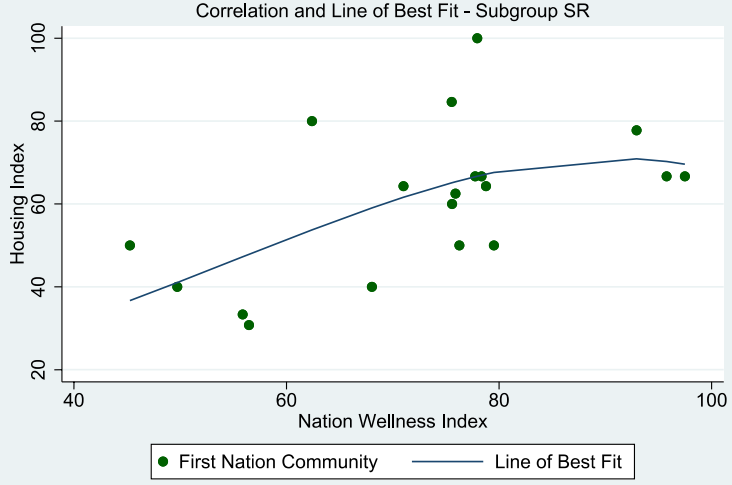
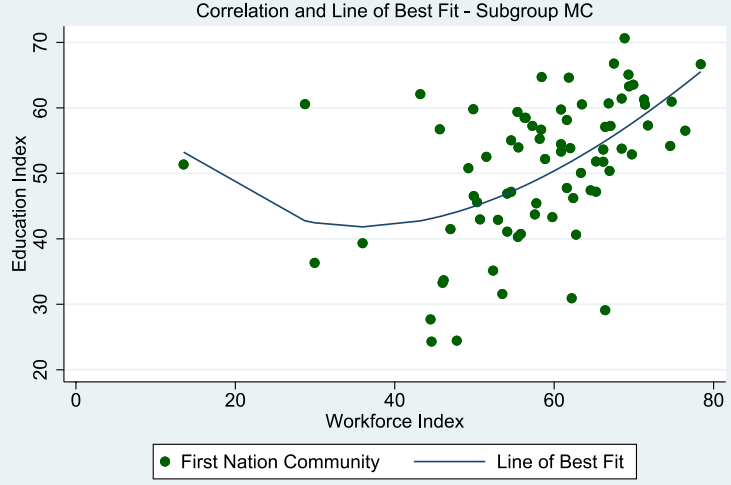


Figure A589: Workforce Index and Education Index
Correlation and Line of Best Fit - Subgroup MC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A590: Language Index and Education Index
Correlation and Line of Best Fit - Subgroup MC

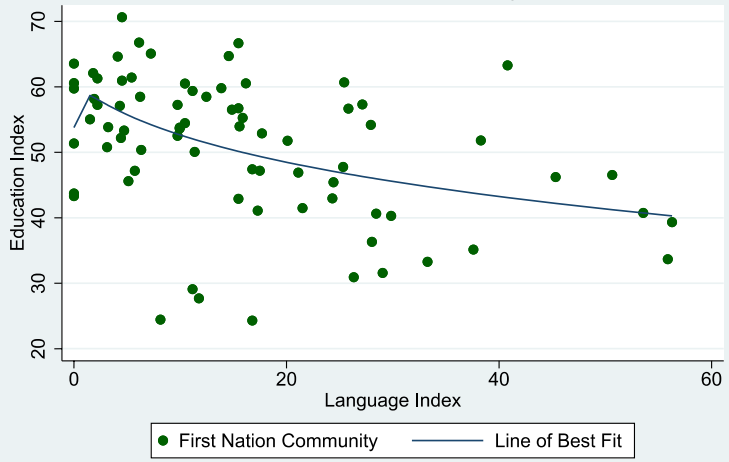


Figure A591: Housing Index and Education Index
Correlation and Line of Best Fit - Subgroup MC

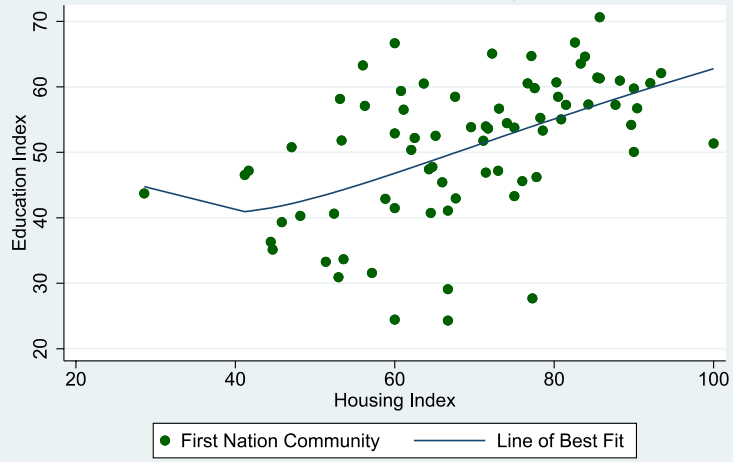


Figure A592: Income Index and Education Index
Correlation and Line of Best Fit - MC

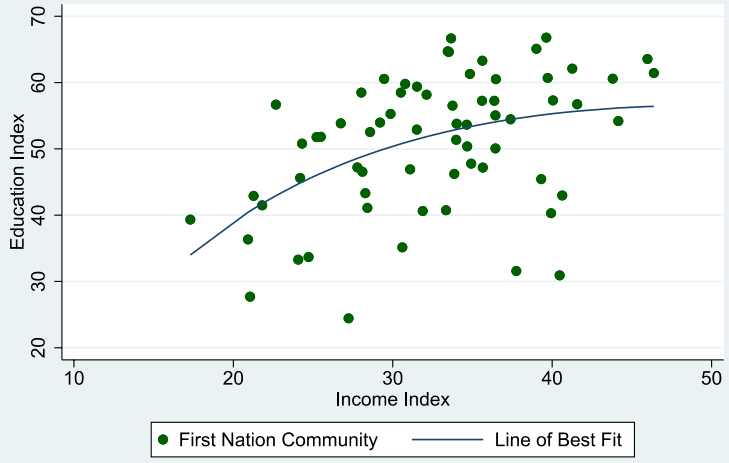
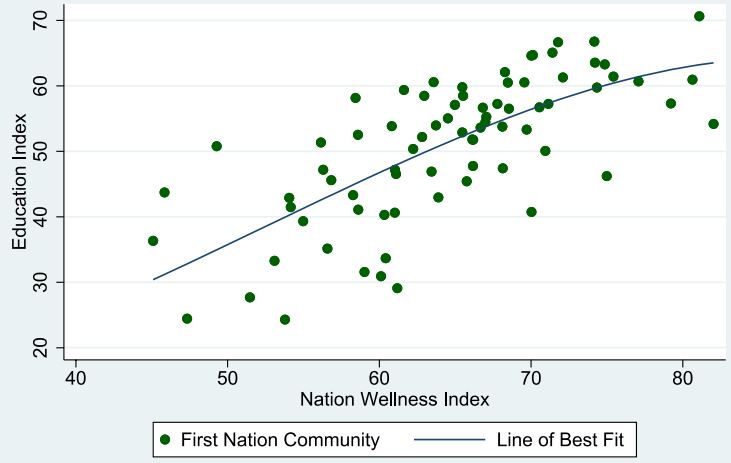
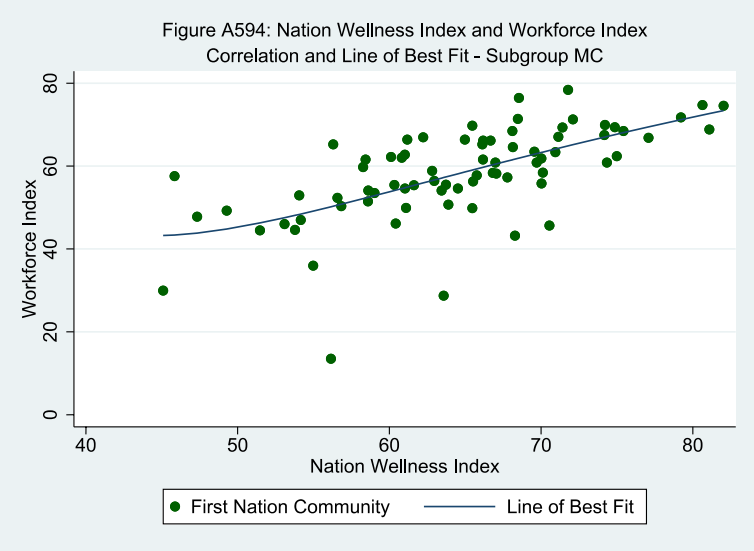
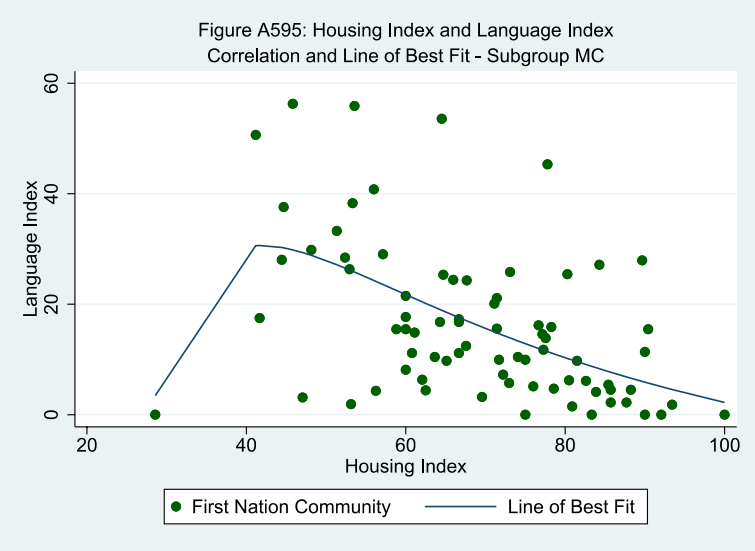


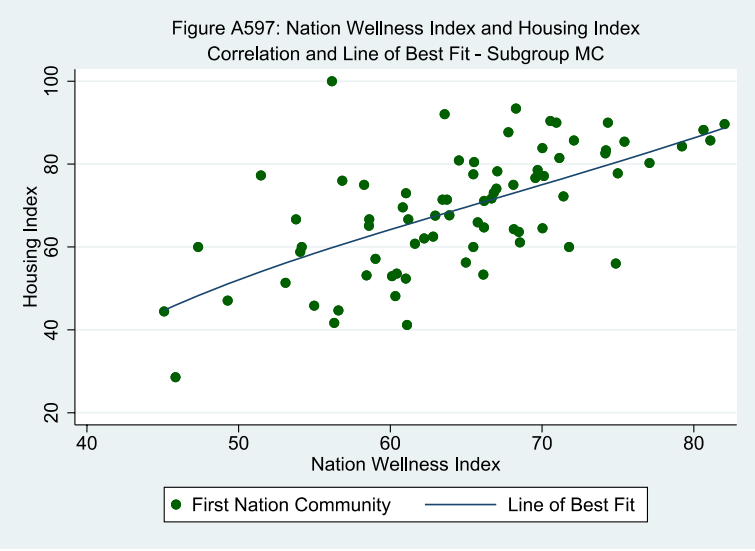
Figure A593: Nation Wellness Index and Education Index
Correlation and Line of Best Fit - Subgroup MC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs







Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A598: Nation Wellness Index and Income Index
Correlation and Line of Best Fit - Subgroup MC

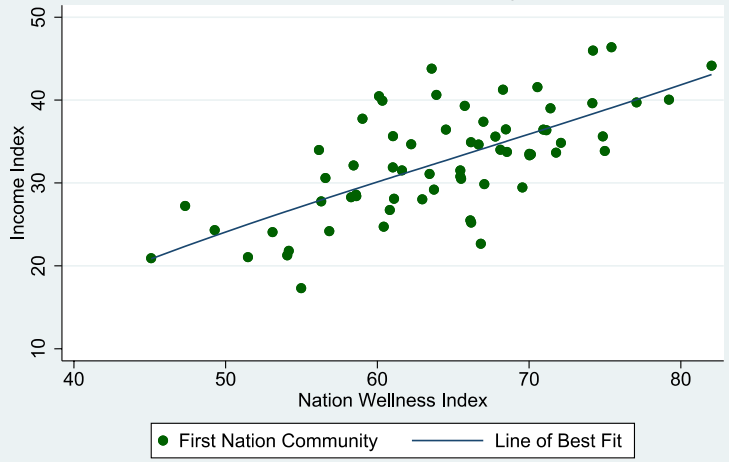


Figure A599: Workforce Index and Education Index
Correlation and Line of Best Fit - Subgroup MM

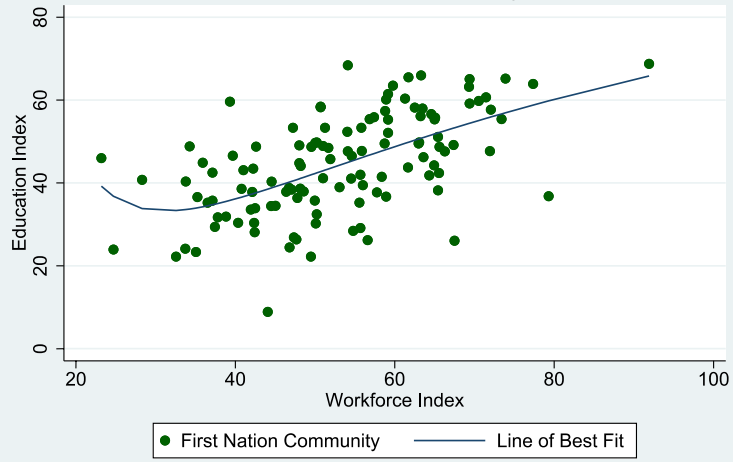


Figure A600: Nation Wellness Index and Education Index
Correlation and Line of Best Fit - Subgroup MM

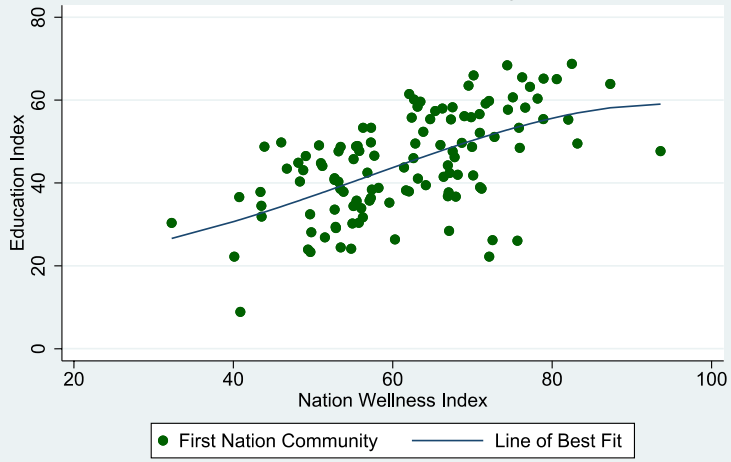
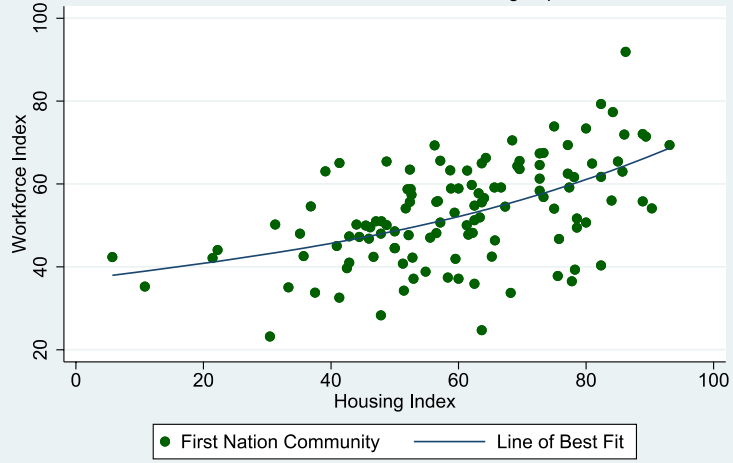
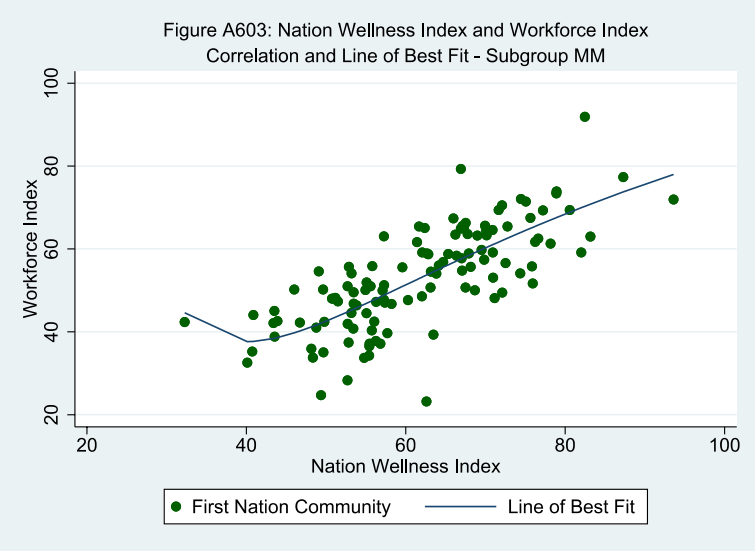
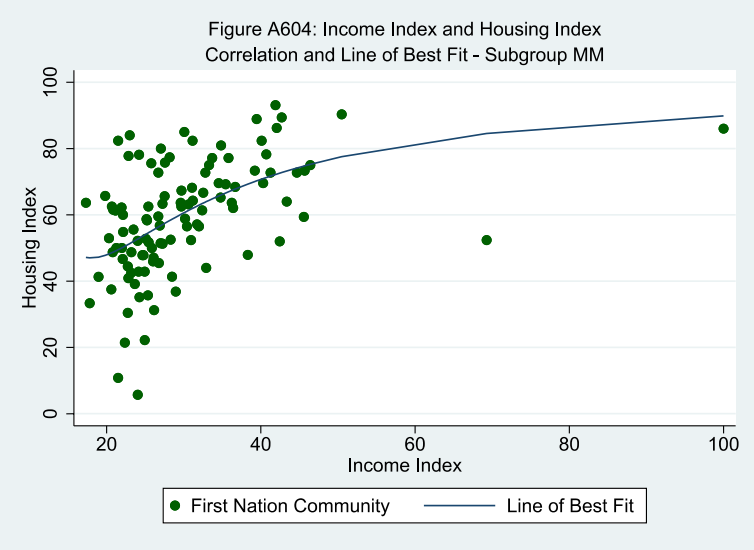


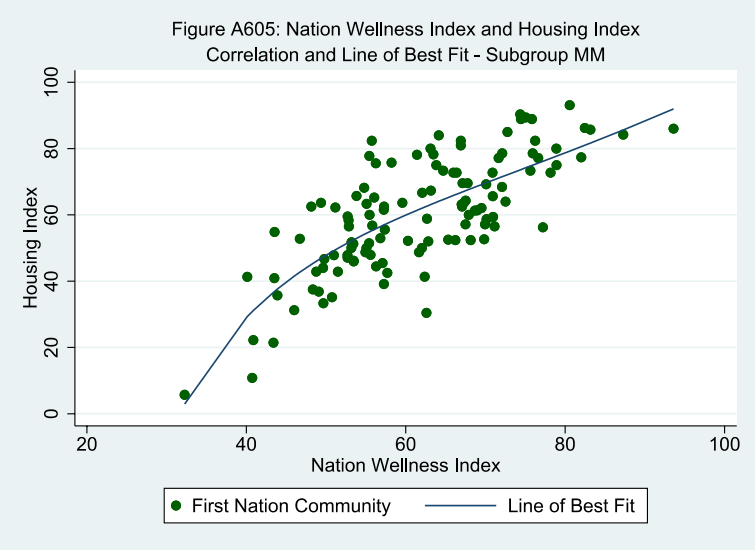
Figure A601: Housing Index and Workforce Index
Correlation and Line of Best Fit - Subgroup MM



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs







Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A606: Nation Wellness Index and Income Index
Correlation and Line of Best Fit - Subgroup MM

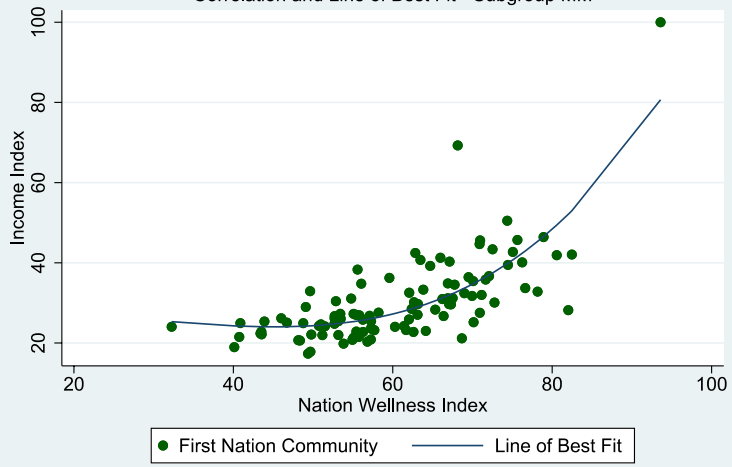


Figure A607: Workforce Index and Education Index
Correlation and Line of Best Fit - Subgroup MR

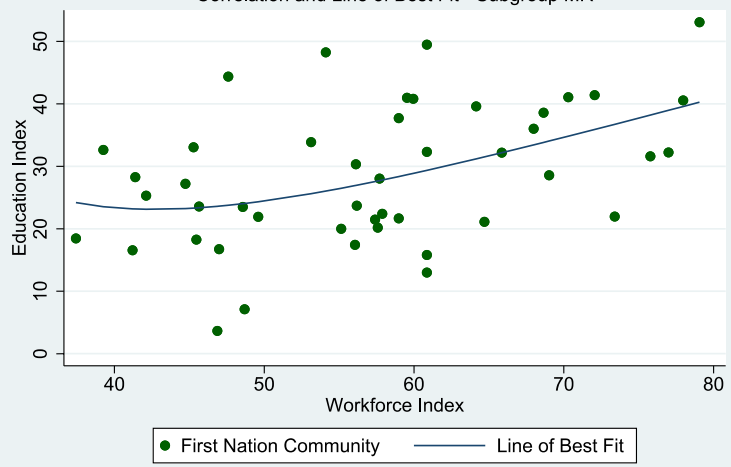


Figure A608: Language Index and Education Index
Correlation and Line of Best Fit - Subgroup MR

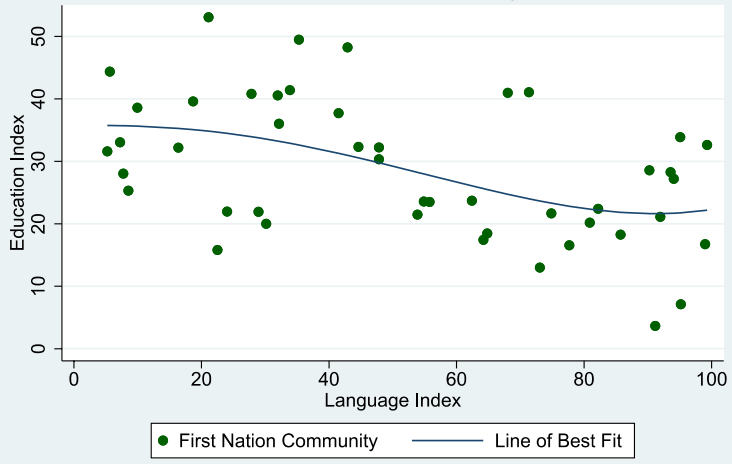
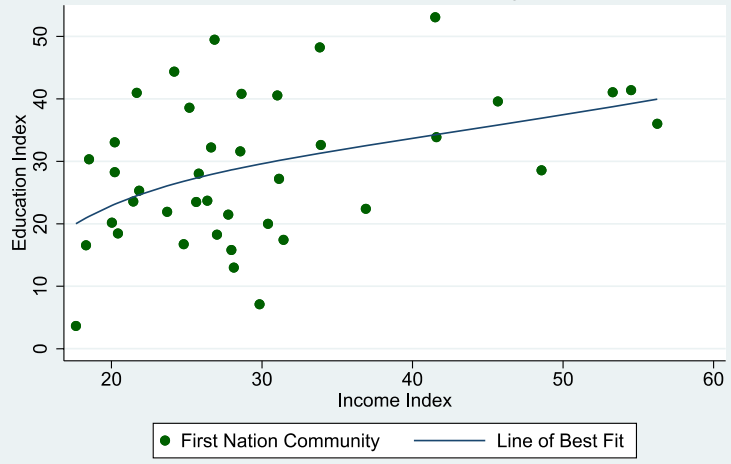


Figure A609: Income Index and Education Index
Correlation and Line of Best Fit - Subgroup MR



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A610: Income Index and Workforce Index
Correlation and Line of Best Fit - Subgroup MR

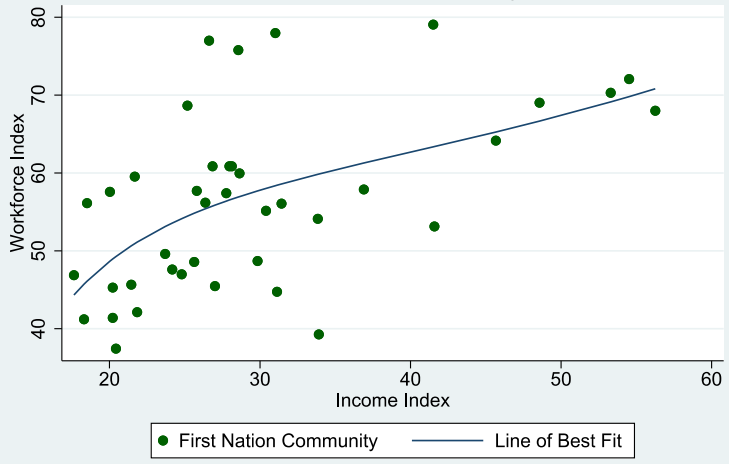


Figure A611: Nation Wellness Index and Language Index
Correlation and Line of Best Fit - Subgroup MR

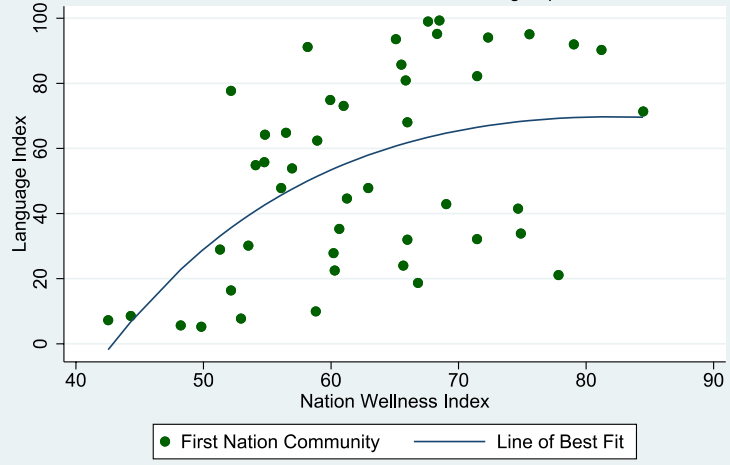


Figure A612: Nation Wellness Index and Income Index
Correlation and Line of Best Fit - Subgroup MR

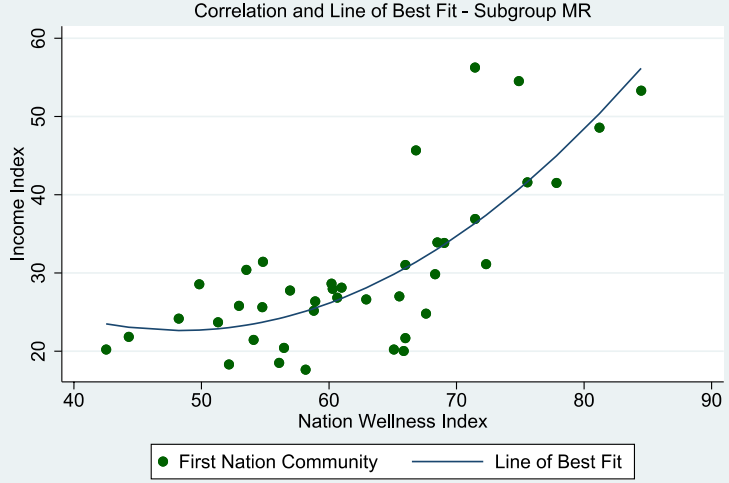
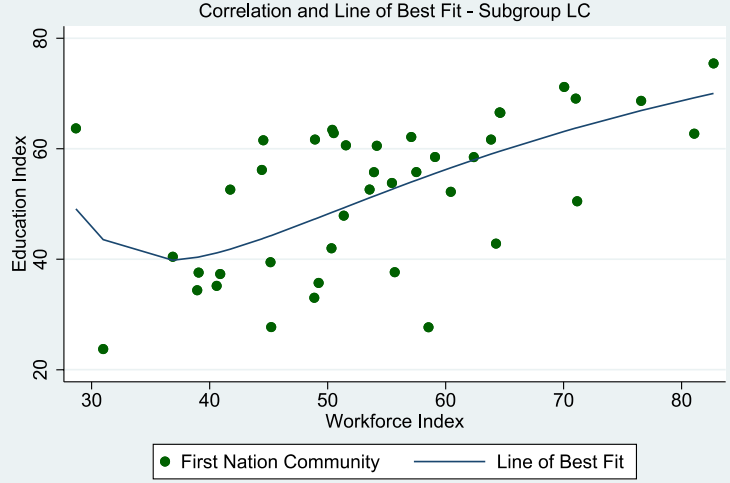


Figure A613: Workforce Index and Education Index
Correlation and Line of Best Fit - Subgroup LC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A614: Language Index and Education Index
Correlation and Line of Best Fit - Subgroup LC

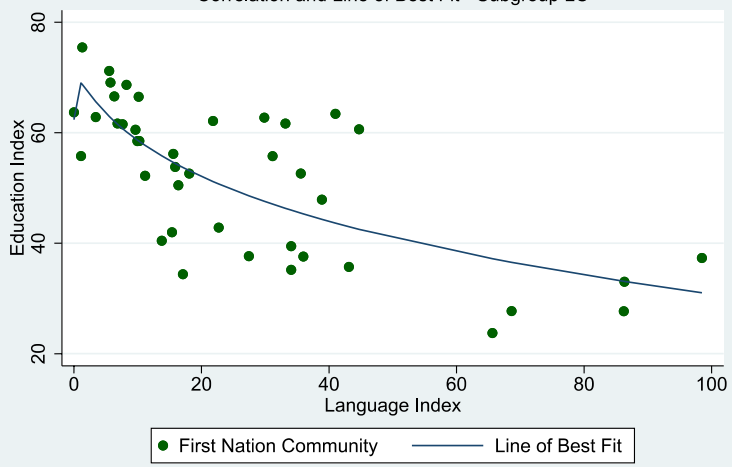


Figure A615: Housing Index and Education Index
Correlation and Line of Best Fit - Subgroup LC

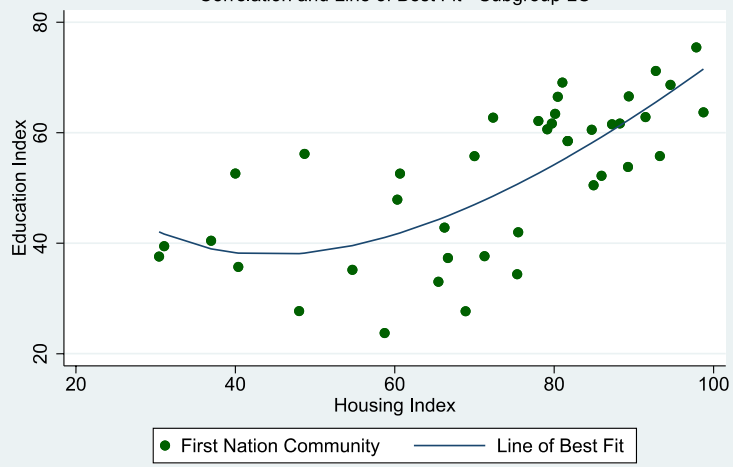


Figure A616: Income Index and Education Index
Correlation and Line of Best Fit - Subgroup LC

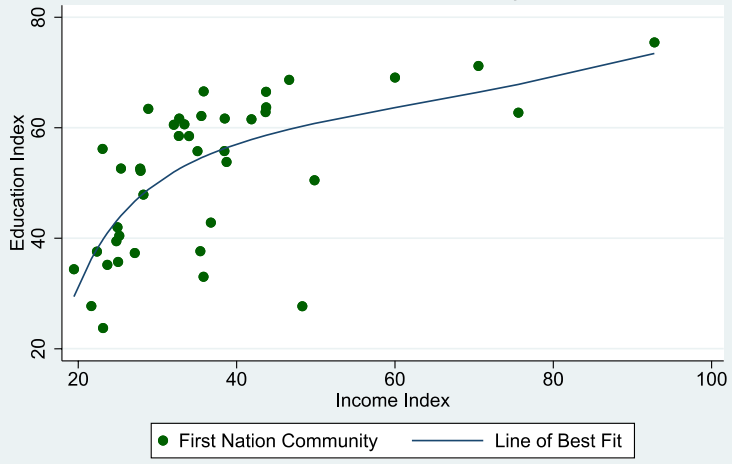
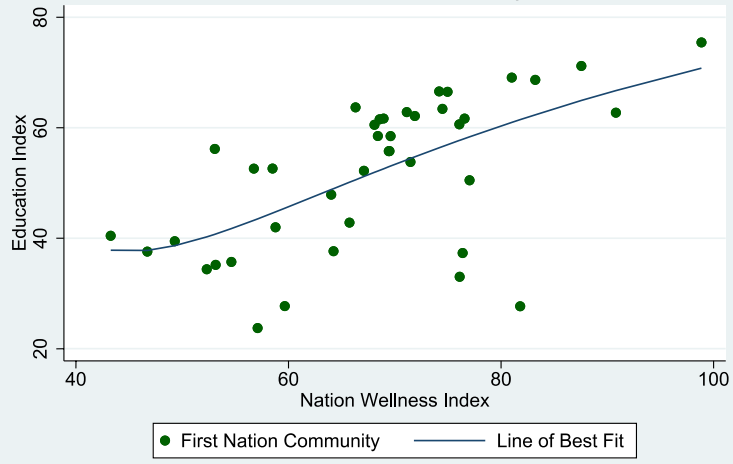


Figure A617: Nation Wellness Index and Education Index
Correlation and Line of Best Fit - Subgroup LC



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A618: Housing Index and Workforce Index
Correlation and Line of Best Fit - Subgroup LC

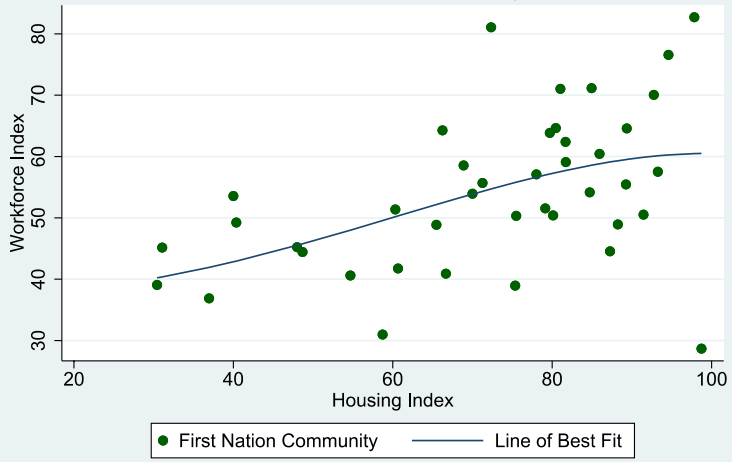


Figure A619: Income Index and Workforce Index
Correlation and Line of Best Fit - Subgroup LC

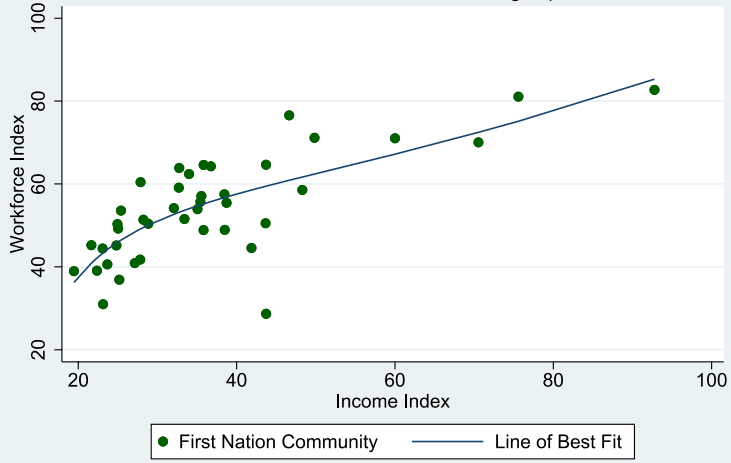


Figure A620: Nation Wellness Index and Workforce Index
Correlation and Line of Best Fit - Subgroup LC

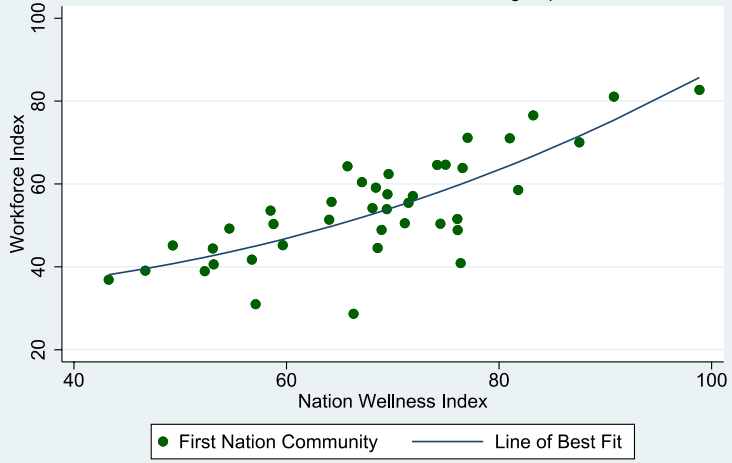
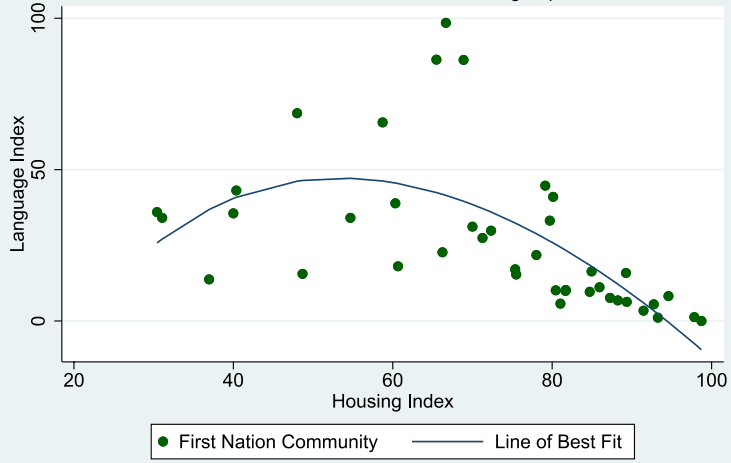
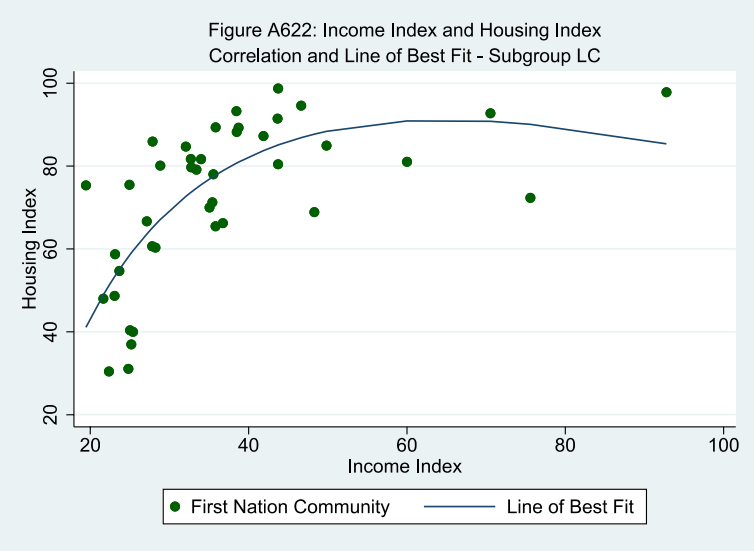
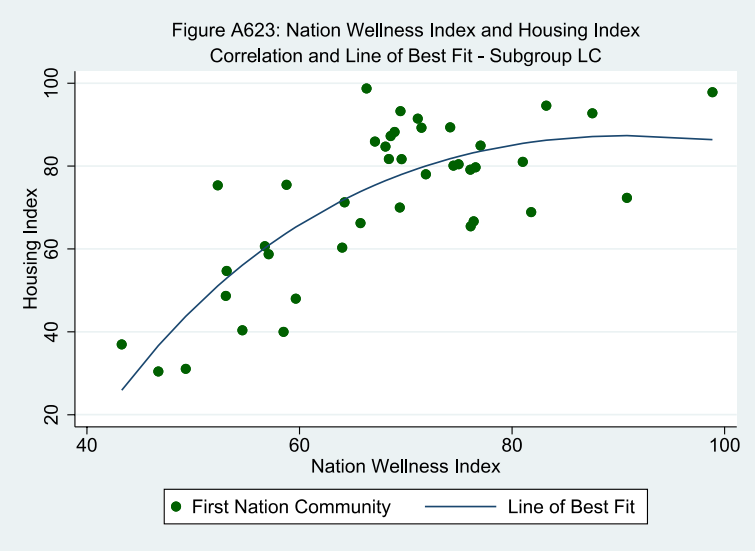


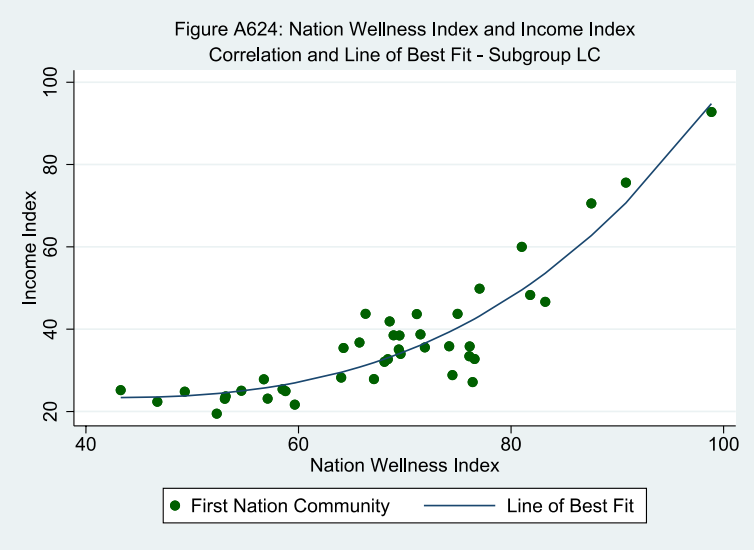
Figure A621: Housing Index and Language Index
Correlation and Line of Best Fit - Subgroup LC

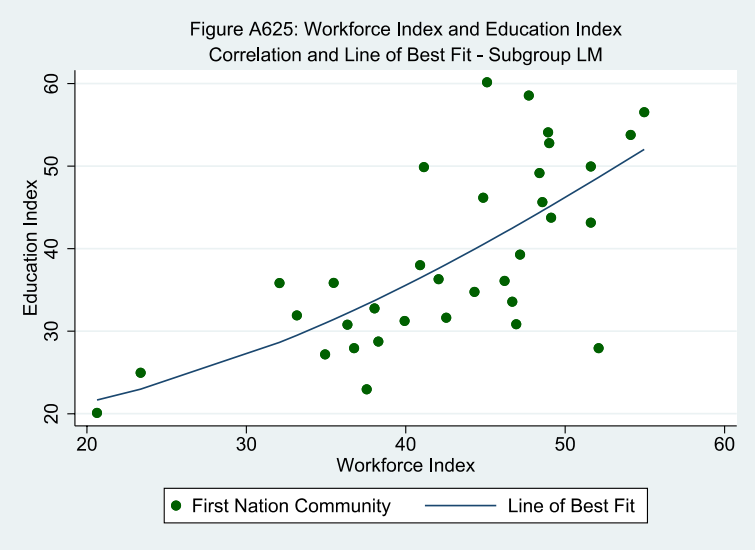


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

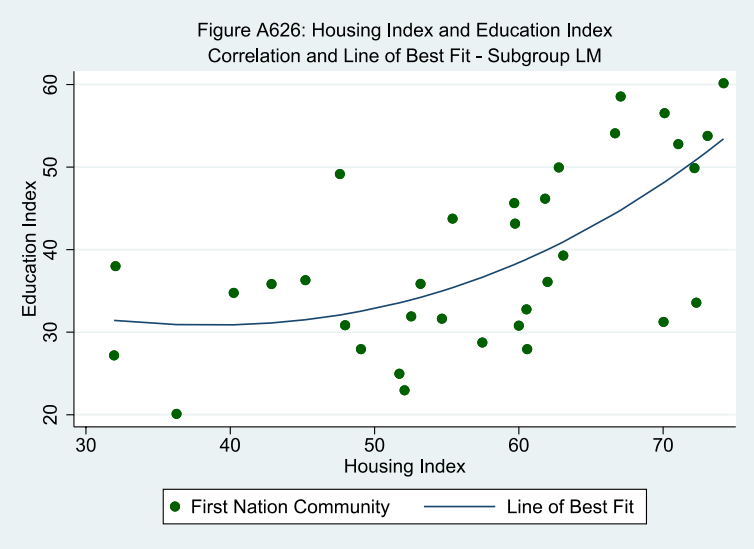


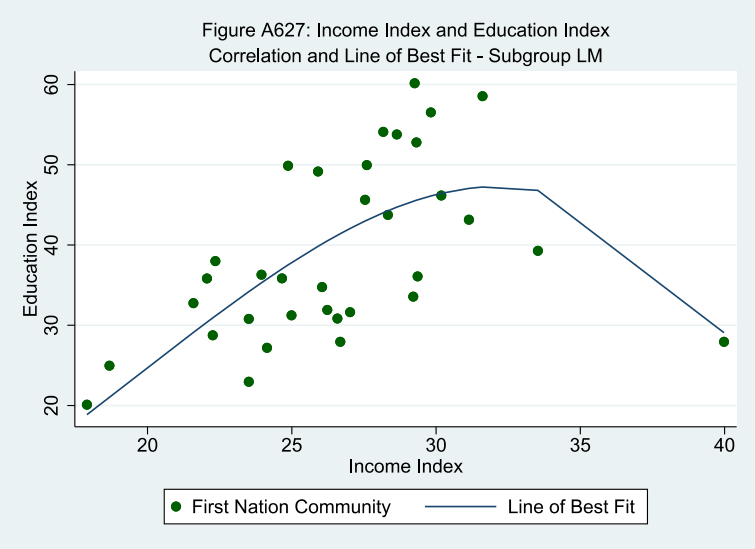


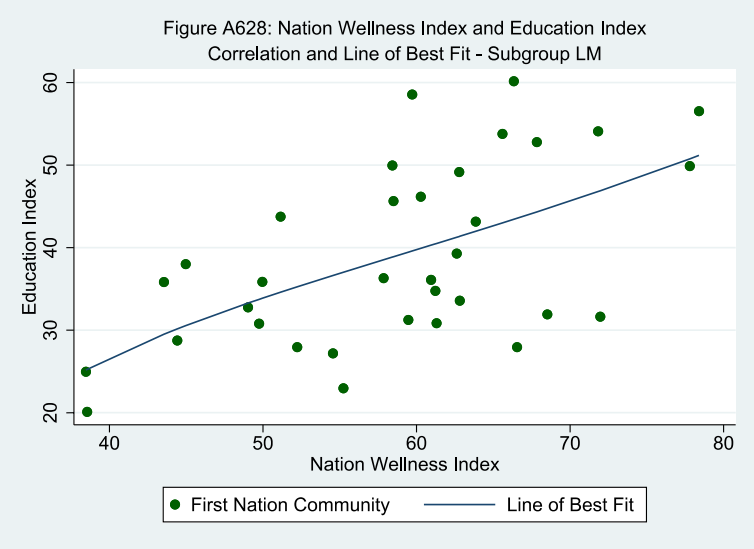


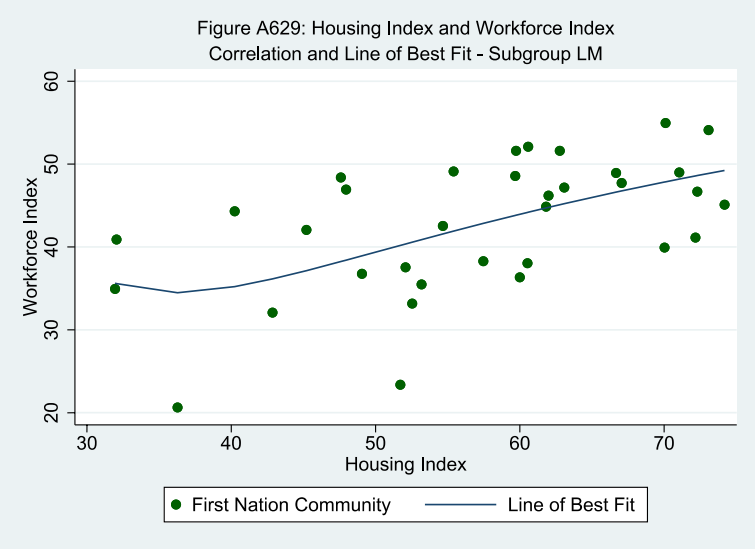


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

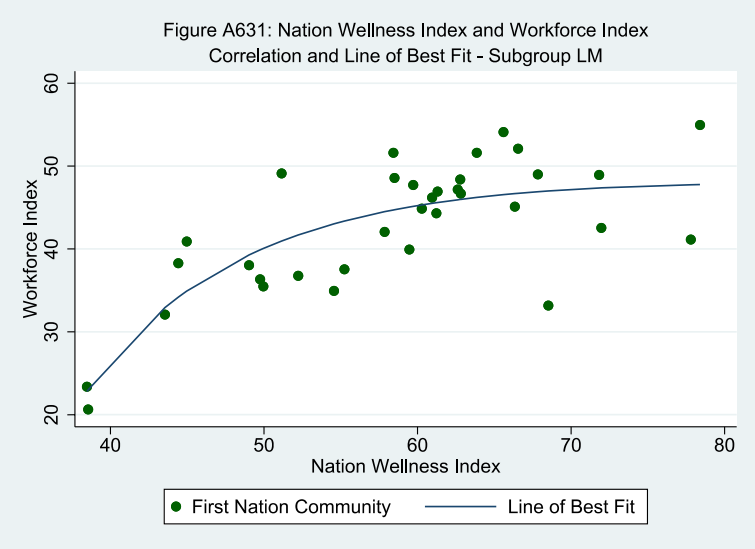


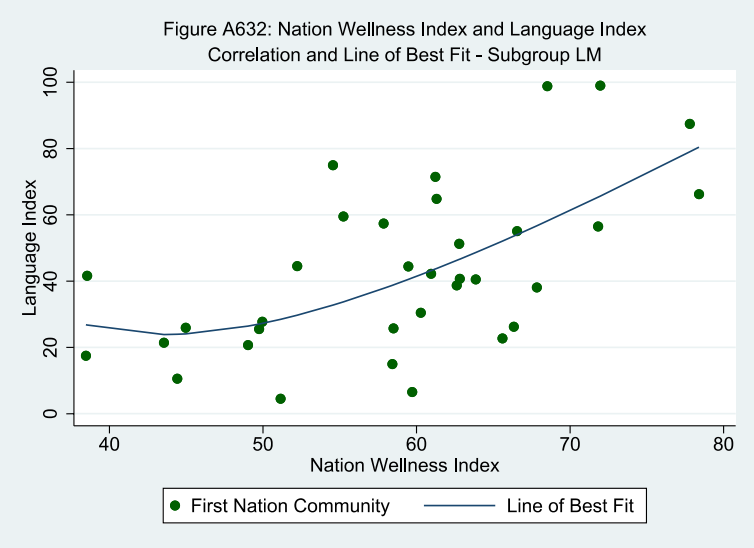


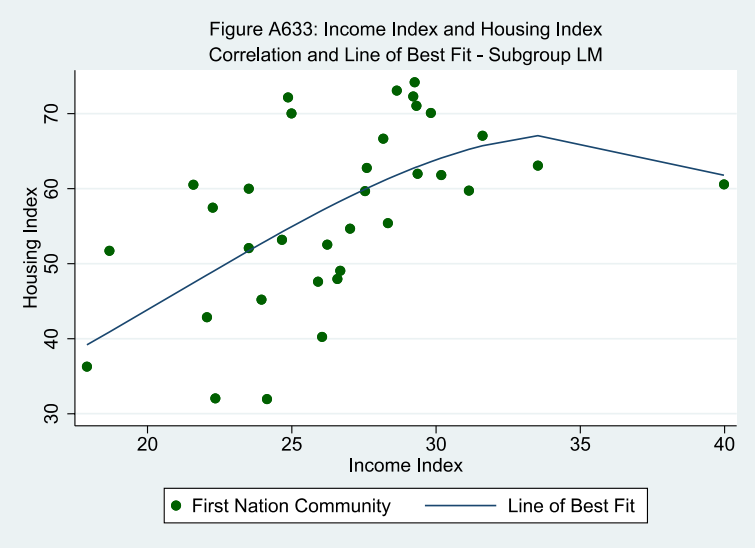




Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs







Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A634: Nation Wellness Index and Housing Index
Correlation and Line of Best Fit - Subgroup LM

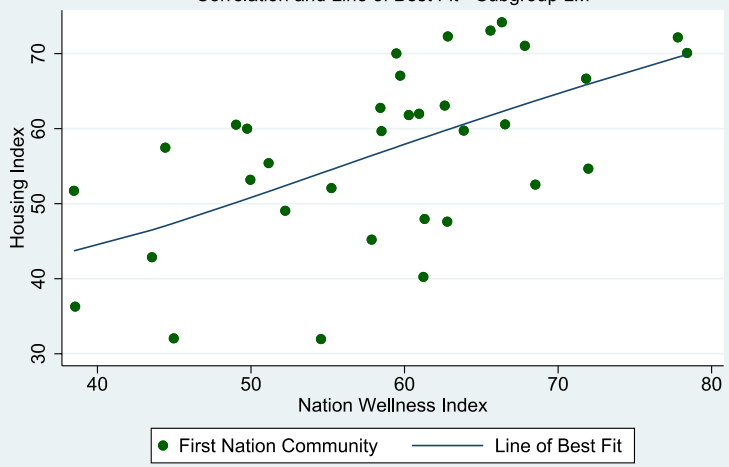


Figure A635: Nation Wellness Index and Income Index
Correlation and Line of Best Fit - Subgroup LM

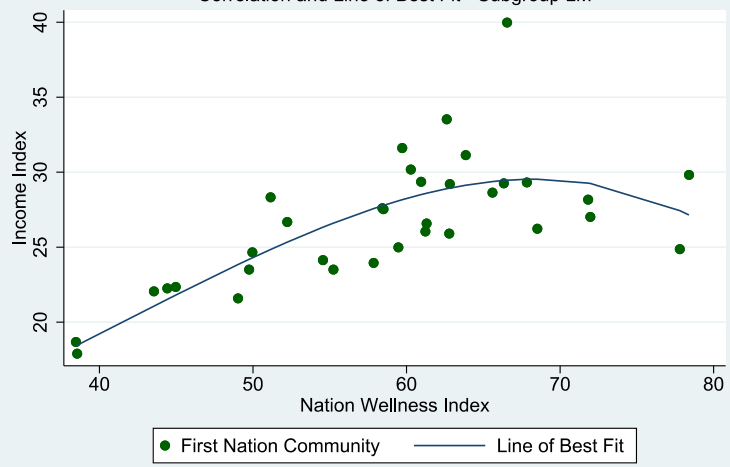


Figure A636: Workforce Index and Education Index
Correlation and Line of Best Fit - Subgroup LR

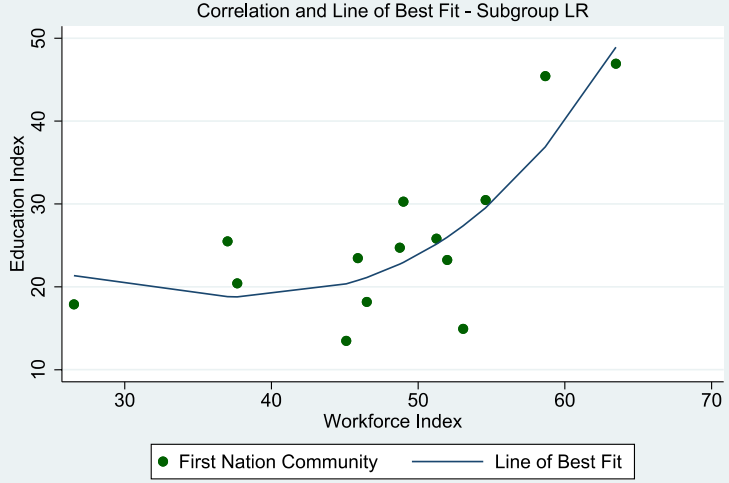
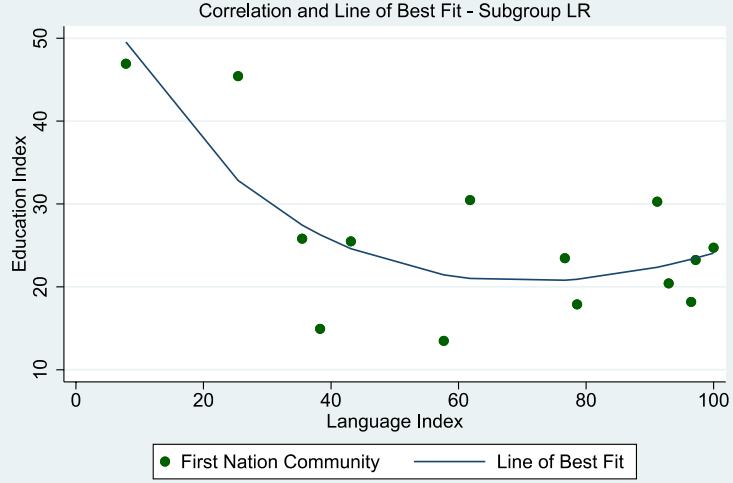
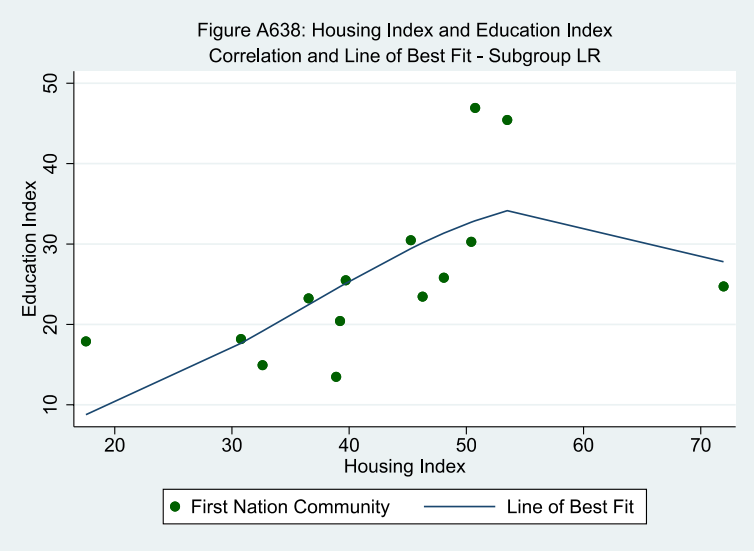
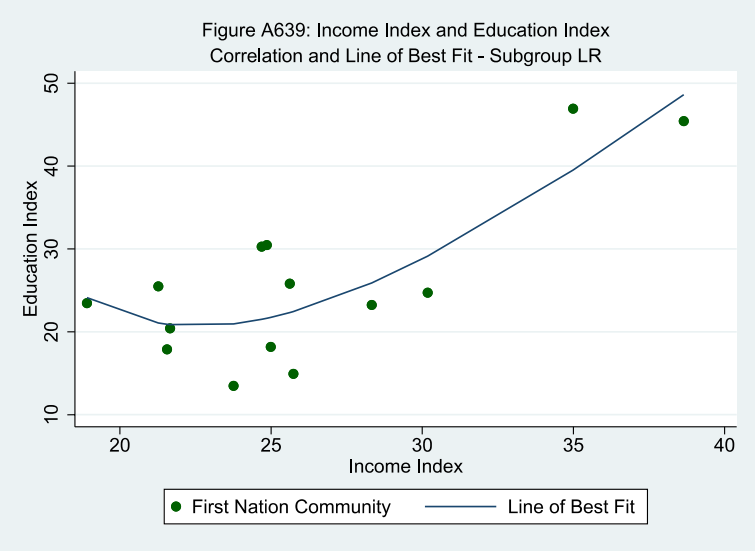


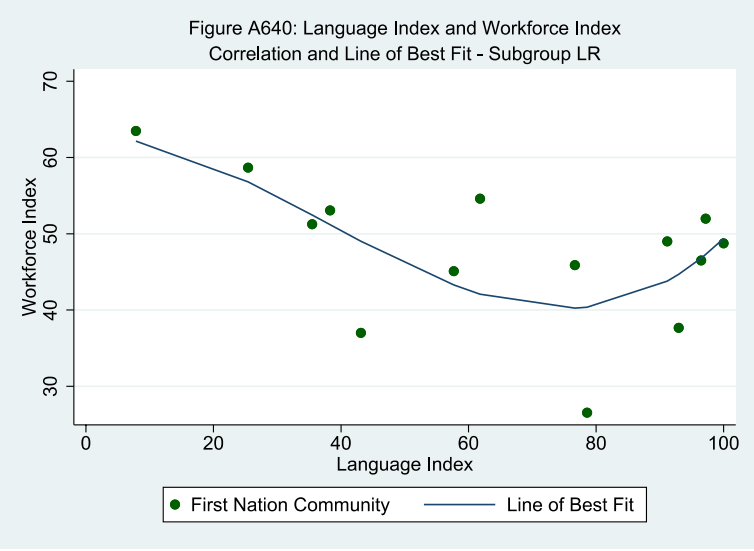
Figure A637: Language Index and Education Index
Correlation and Line of Best Fit - Subgroup LR

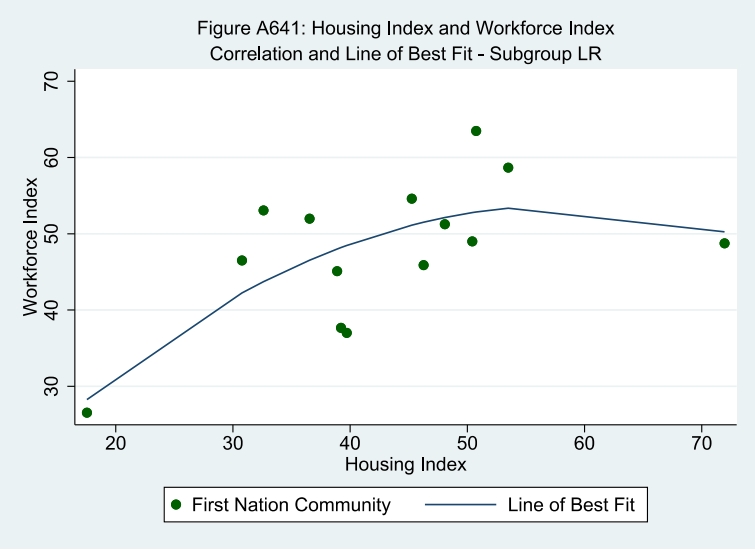


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

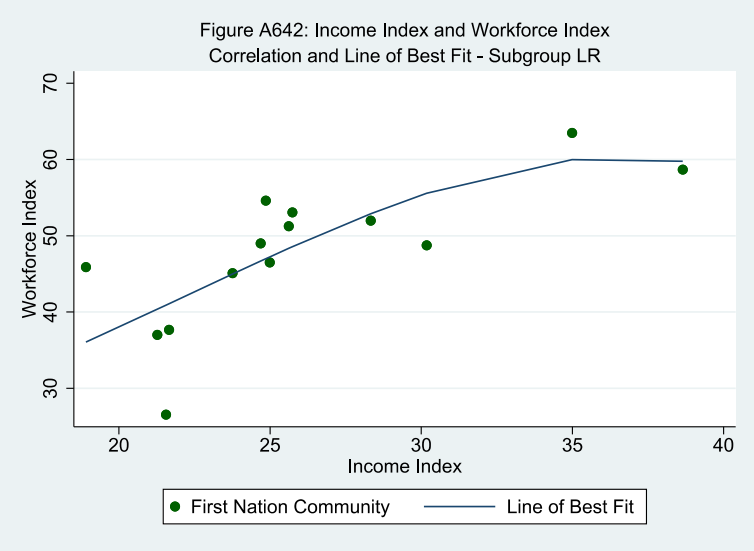


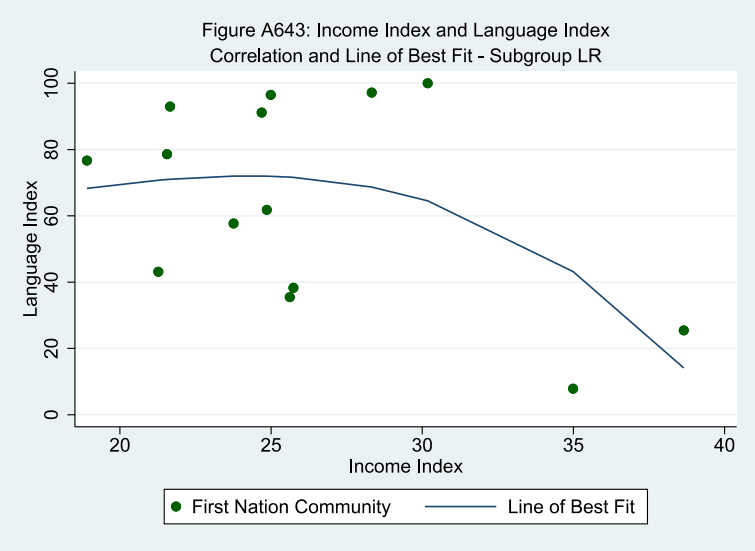


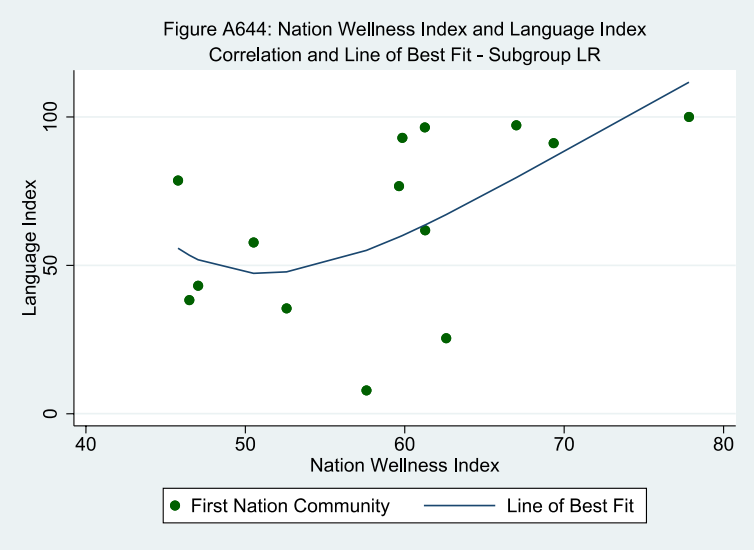


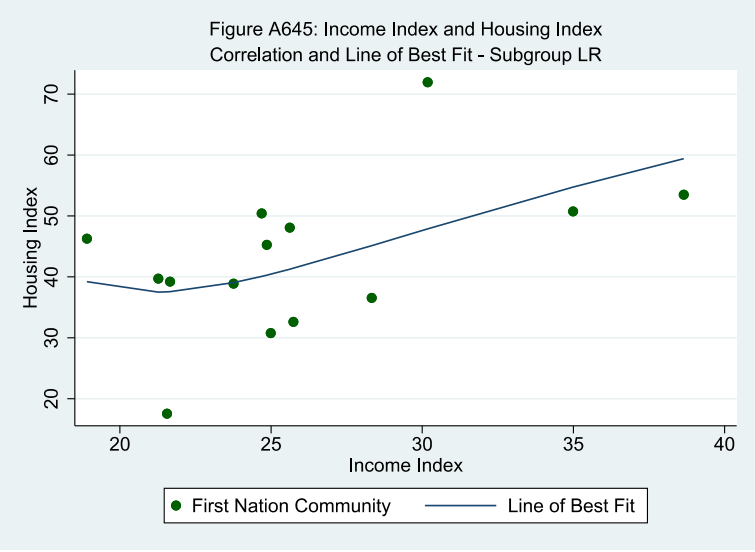


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

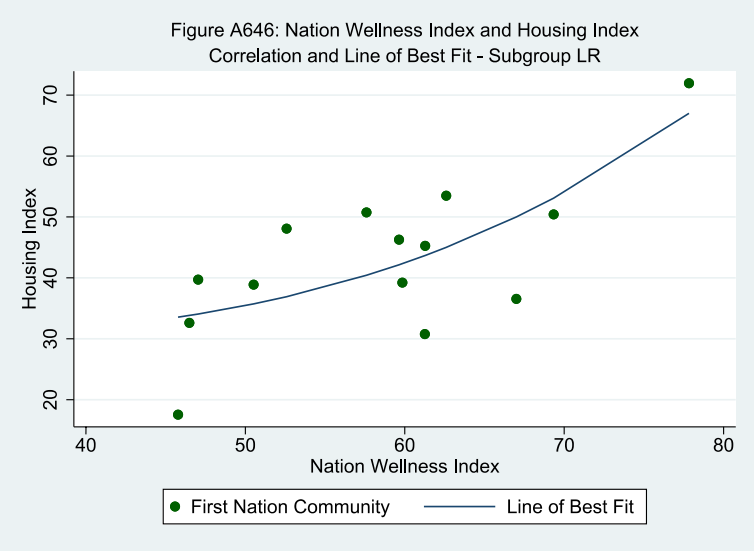


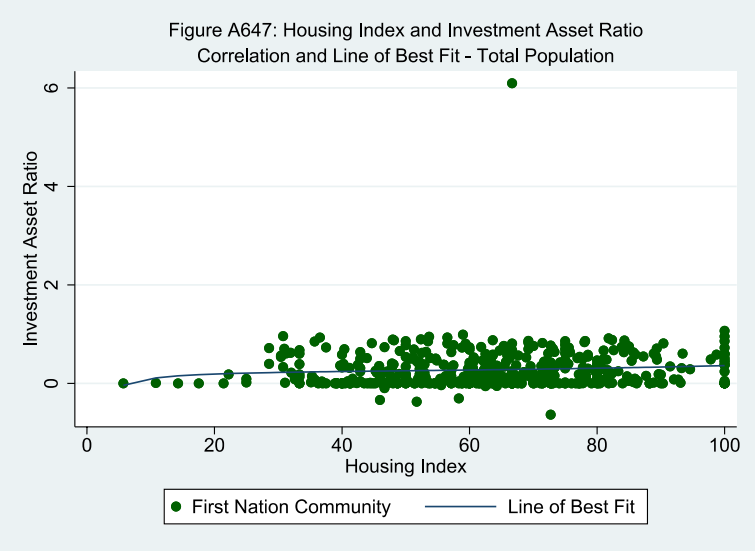


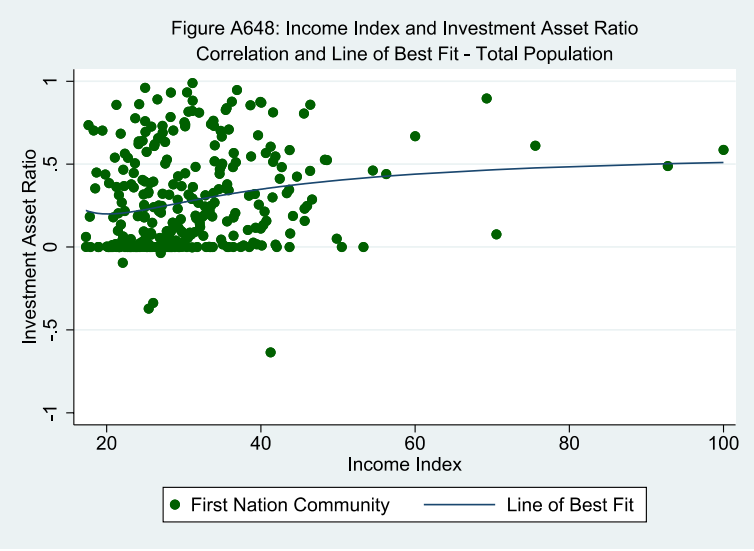


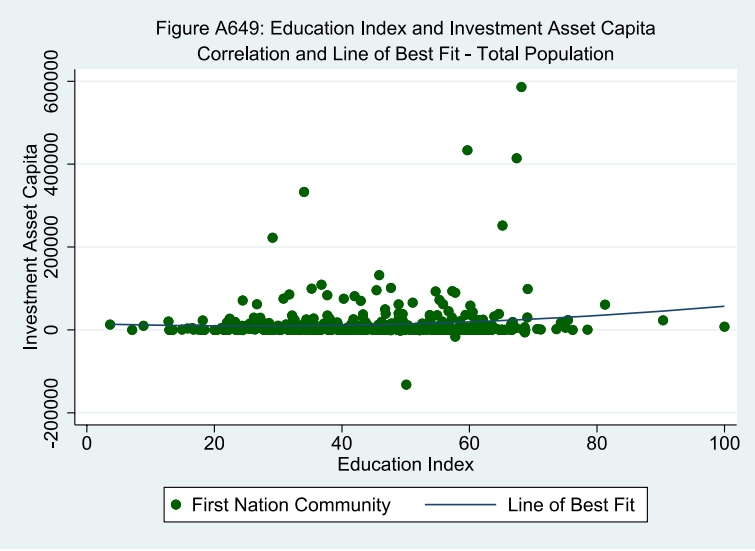


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

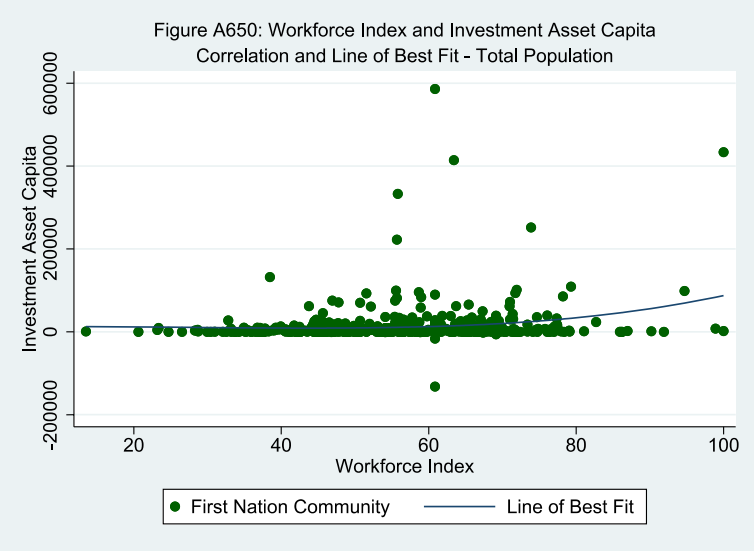


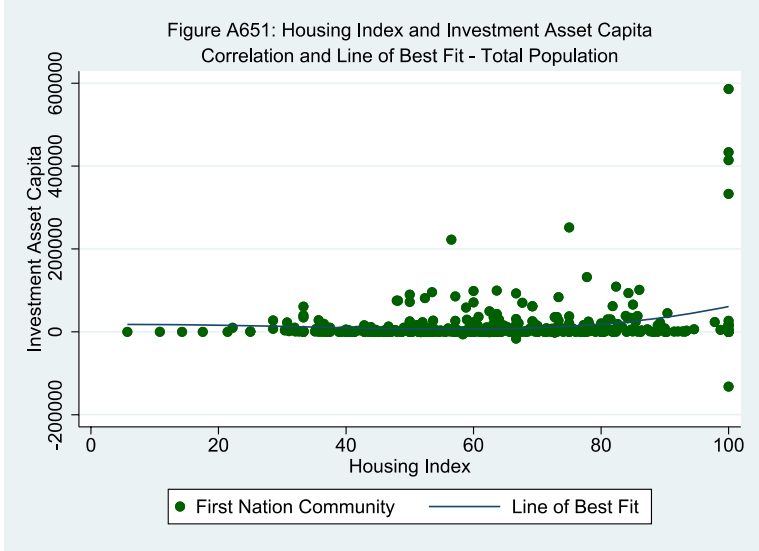


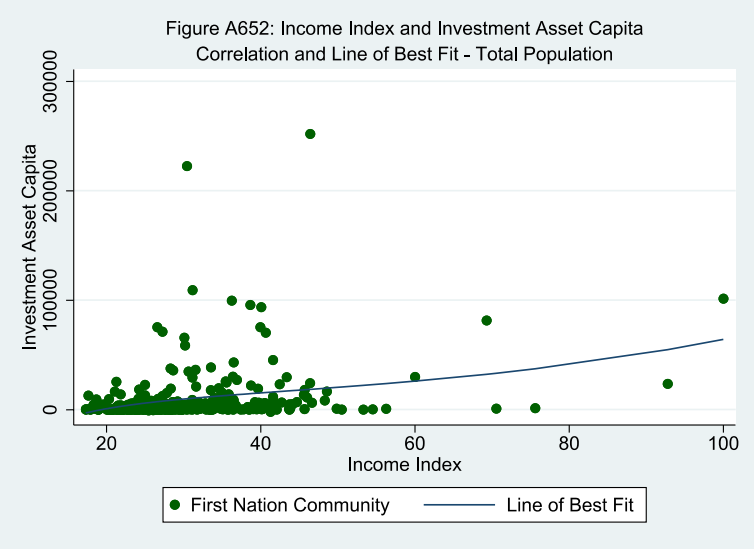


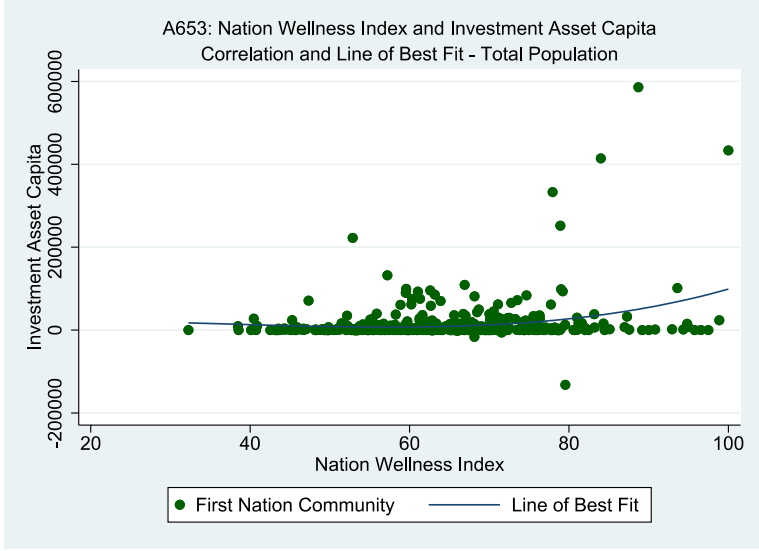


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A654: Education Index and Gross Business Sales Ratio
Correlation and Line of Best Fit - Total Population

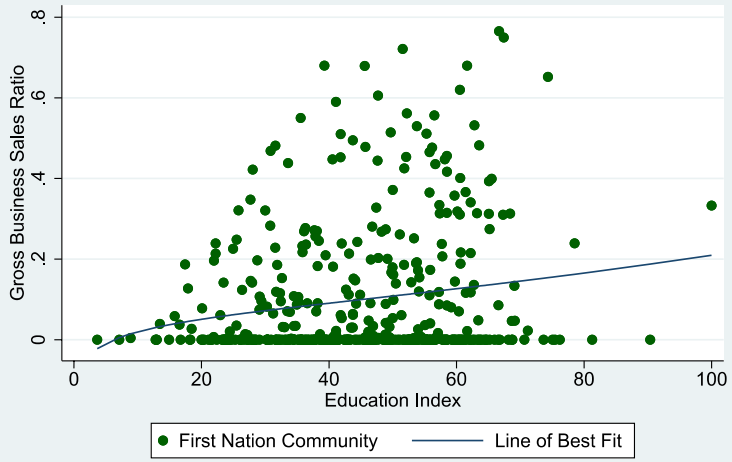


Figure A655: Workforce Index and Gross Business Sales Ratio
Correlation and Line of Best Fit - Total Population

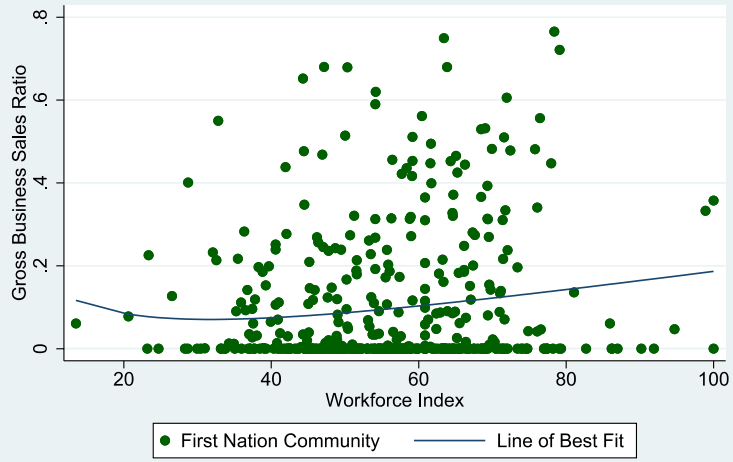


Figure A656: Language Index and Gross Business Sales Ratio
Correlation and Line of Best Fit - Total Population

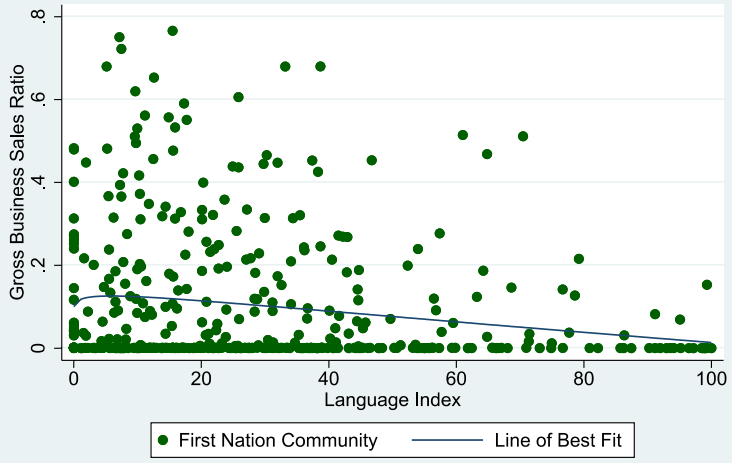
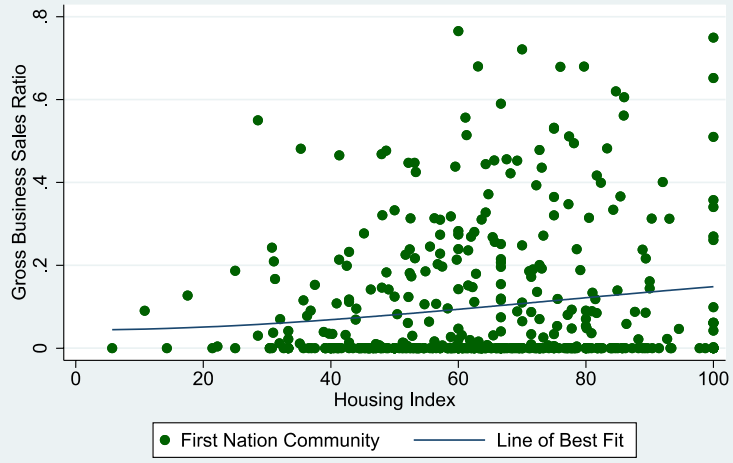


Figure A657: Housing Index and Gross Business Sales Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A658: Nation Wellness Index and Gross Business Sales Ratio
Correlation and Line of Best Fit - Total Population

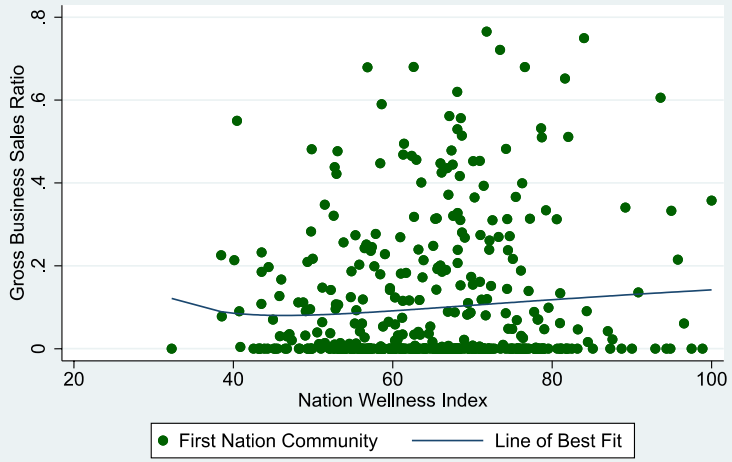


Figure A659: Education Index and Gross Business Sales Capita
Correlation and Line of Best Fit - Total Population

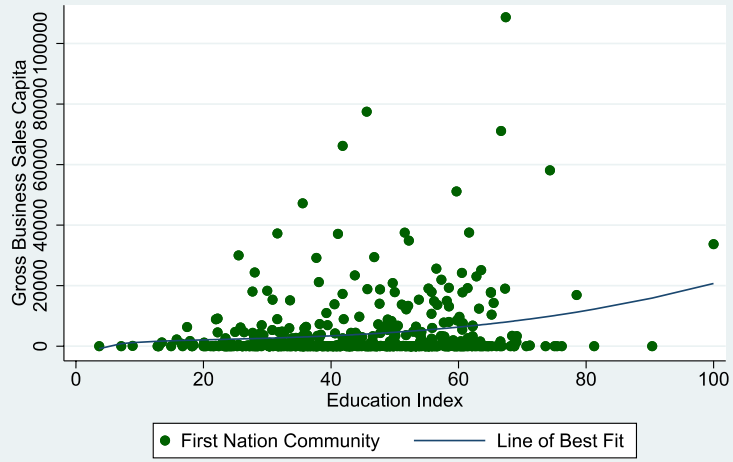


Figure A660: Workforce Index and Gross Business Sales Capita
Correlation and Line of Best Fit - Total Population

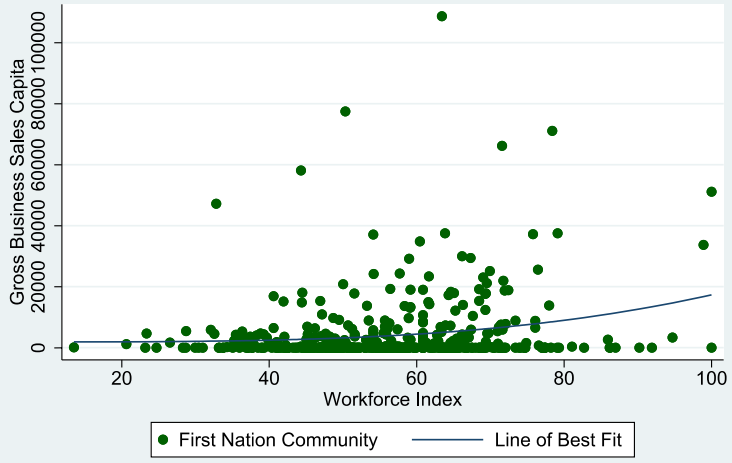
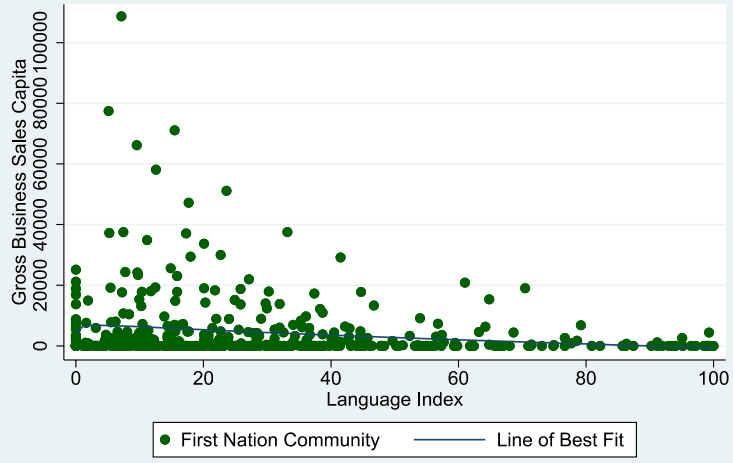


Figure A661: Language Index and Gross Business Sales Capita
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A662: Housing Index and Gross Business Sales Capita
Correlation and Line of Best Fit - Total Population

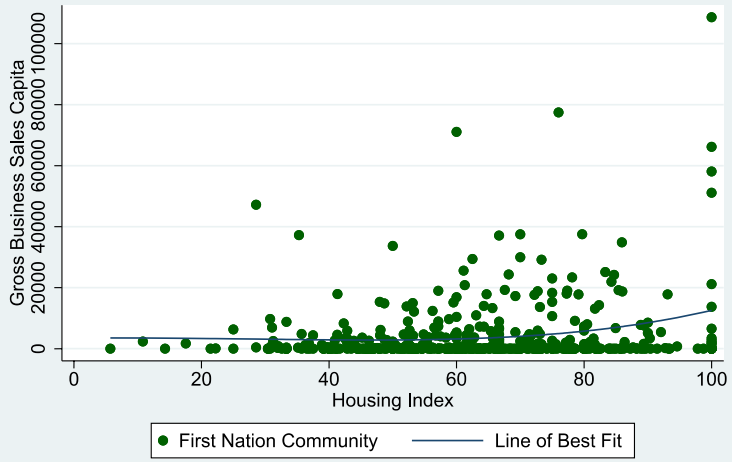


Figure A663: Nation Wellness Index and Gross Business Sales Capita
Correlation and Line of Best Fit - Total Population

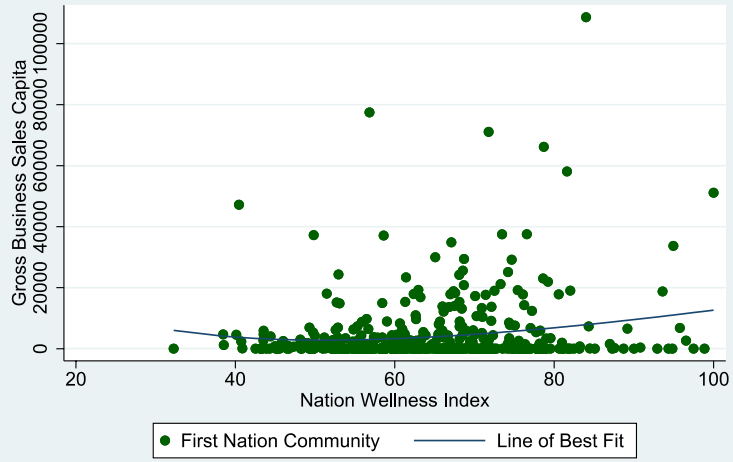


Figure A664: Education Index and Business & Ec Dev Expense Ratio
Correlation and Line of Best Fit - Total Population

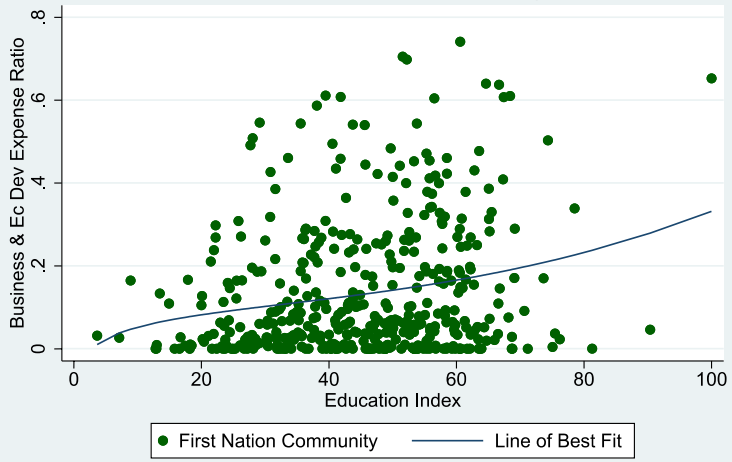
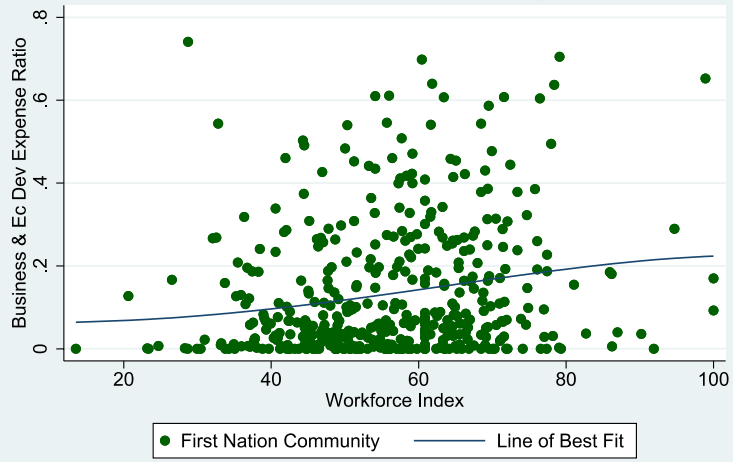


Figure A665: Workforce Index and Business & Ec Dev Expense Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A666: Language Index and Business & Ec Dev Expense Ratio
Correlation and Line of Best Fit - Total Population

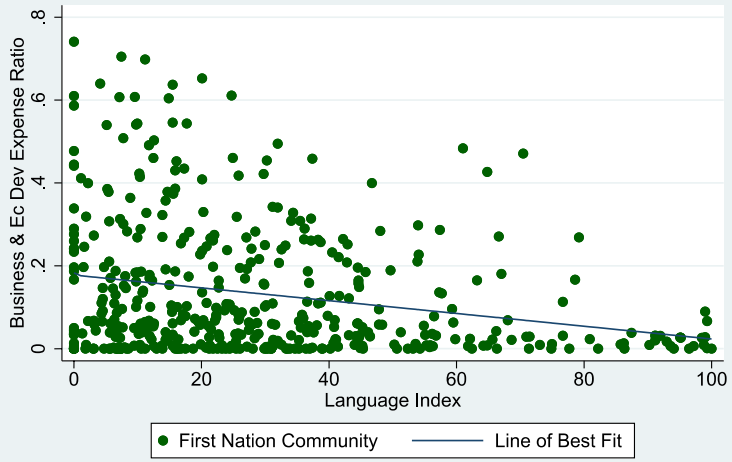


Figure A667: Housing Index and Business & Ec Dev Expense Ratio
Correlation and Line of Best Fit - Total Population

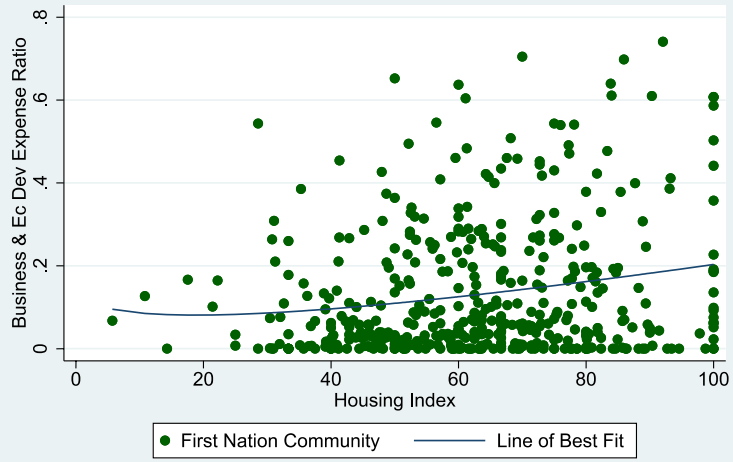


Figure A668: Nation Wellness Index and Business & Ec Dev Expense Ratio
Correlation and Line of Best Fit - Total Population

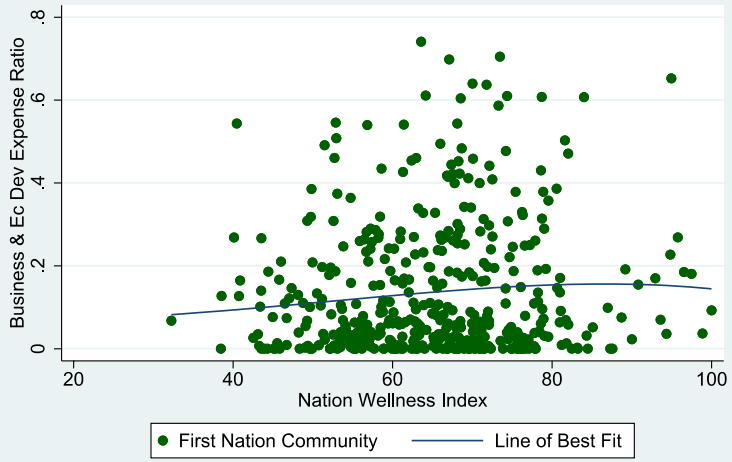
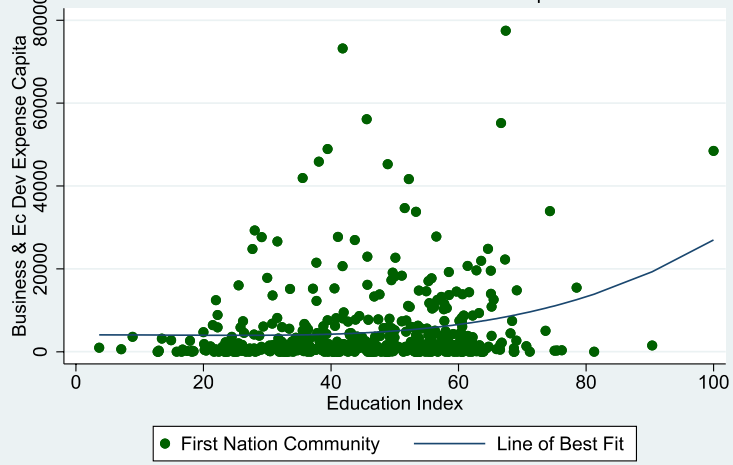
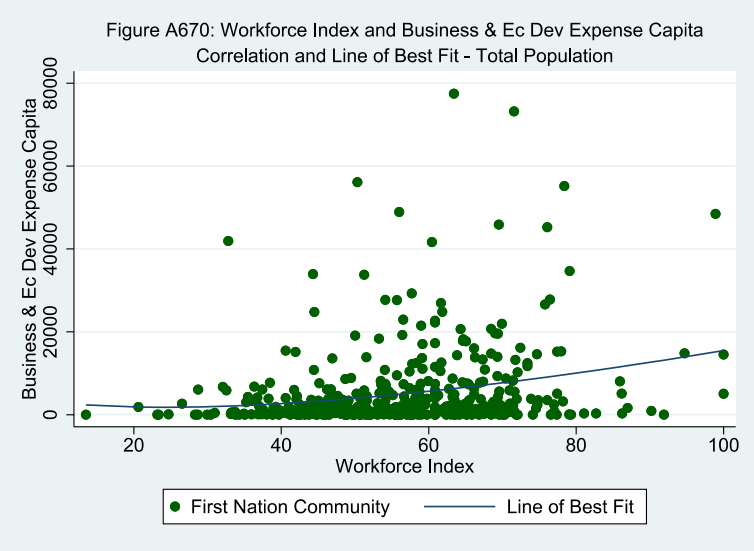
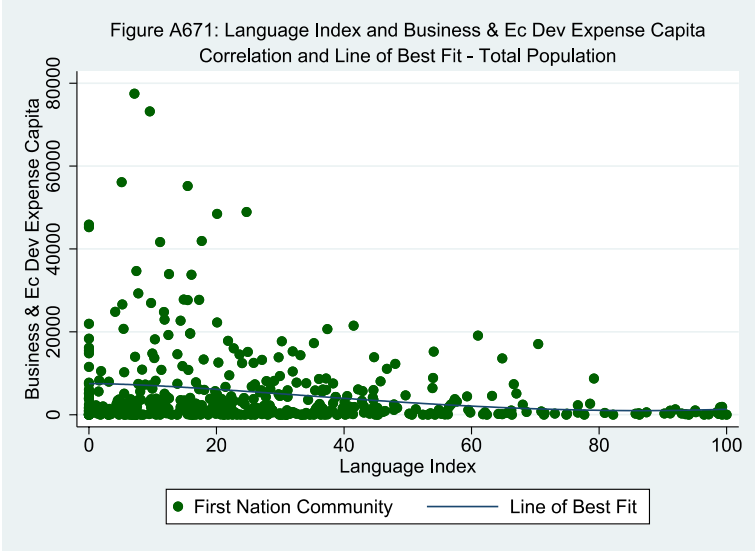


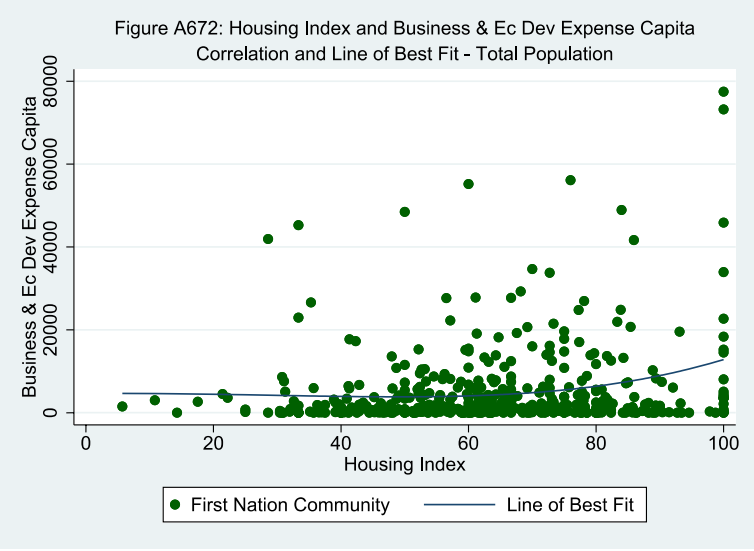
Figure A669: Education Index and Business & Ec Dev Expense Capita
Correlation and Line of Best Fit - Total Population

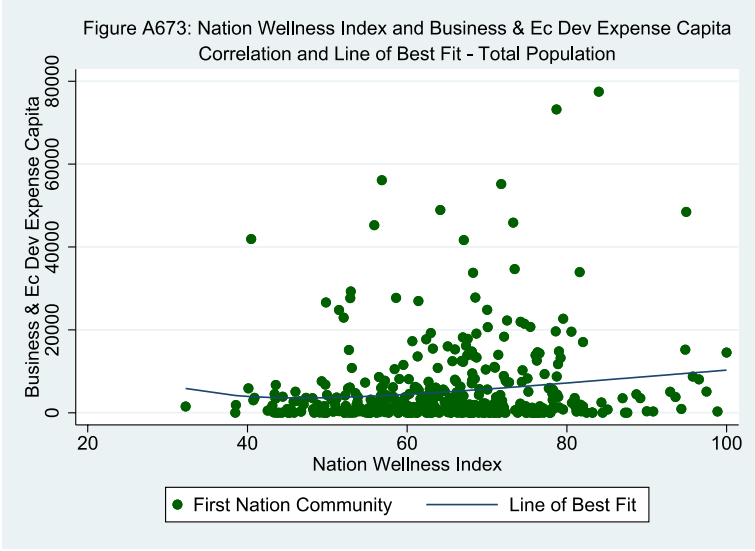


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

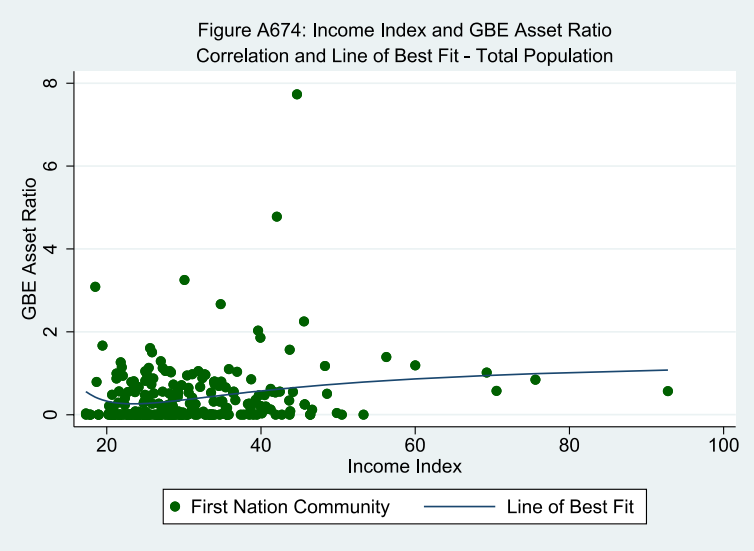


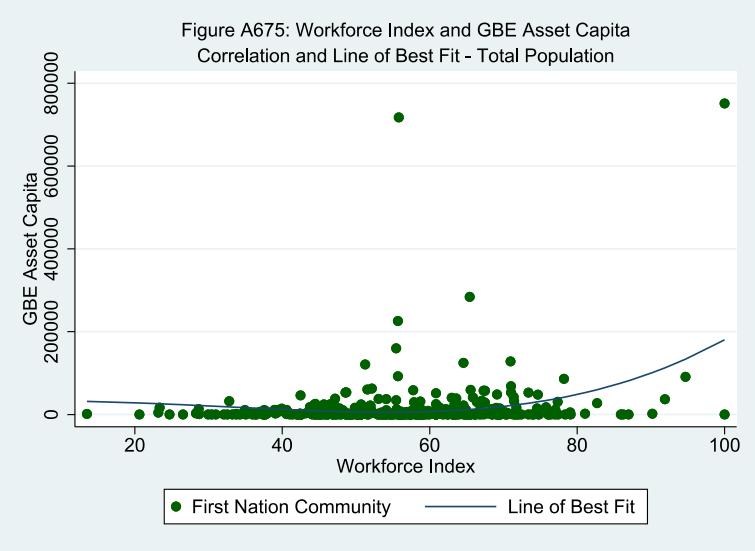


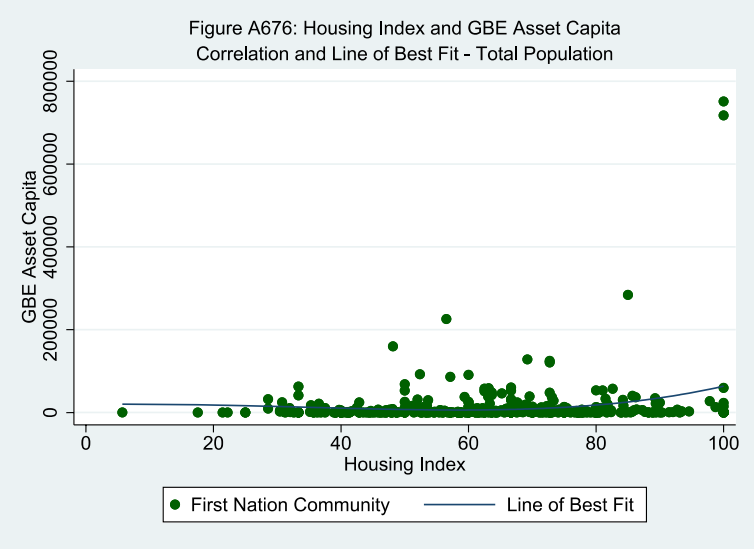


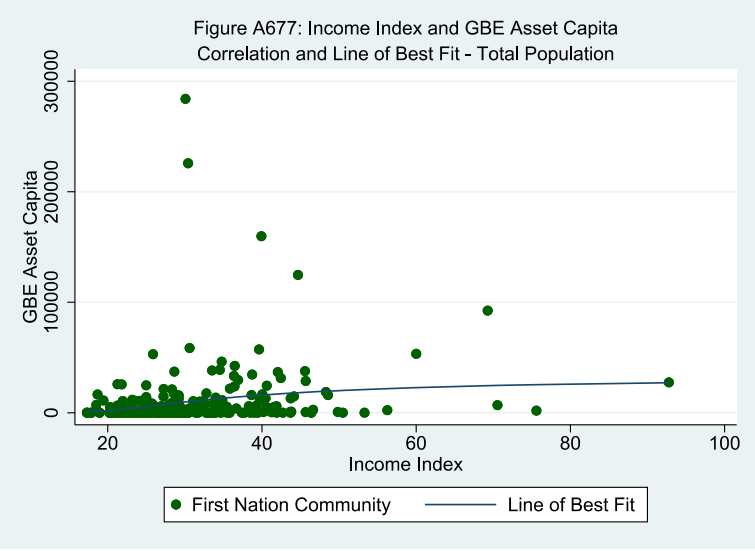


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A678: Nation Wellness Index and GBE Asset Capita
Correlation and Line of Best Fit - Total Population

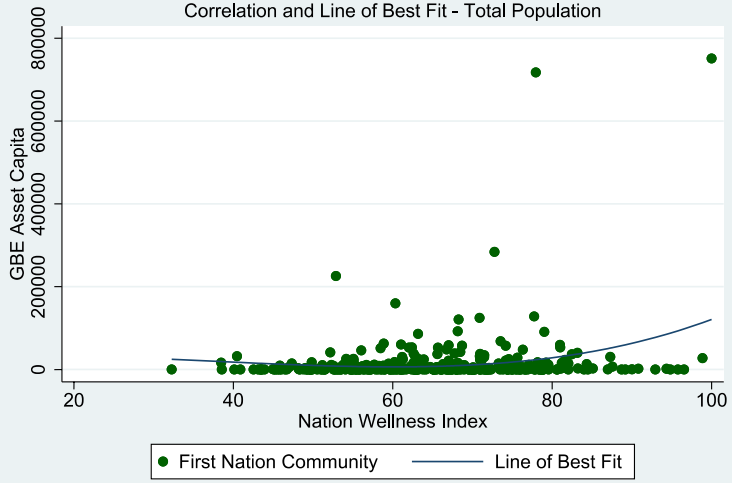


Figure A679: Housing Index and GBE Revenue Ratio
Correlation and Line of Best Fit - Total Population

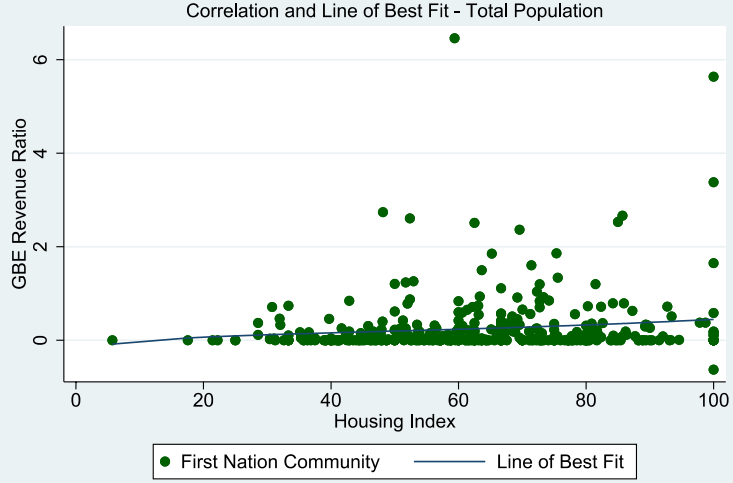


Figure A680: Income Index and GBE Revenue Ratio
Correlation and Line of Best Fit - Total Population

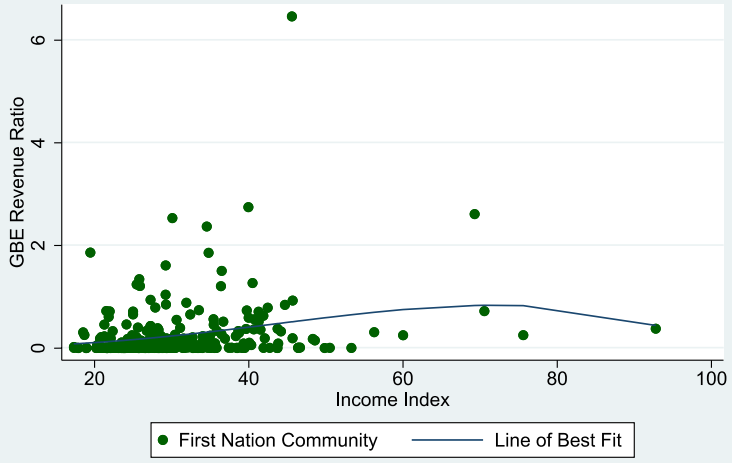
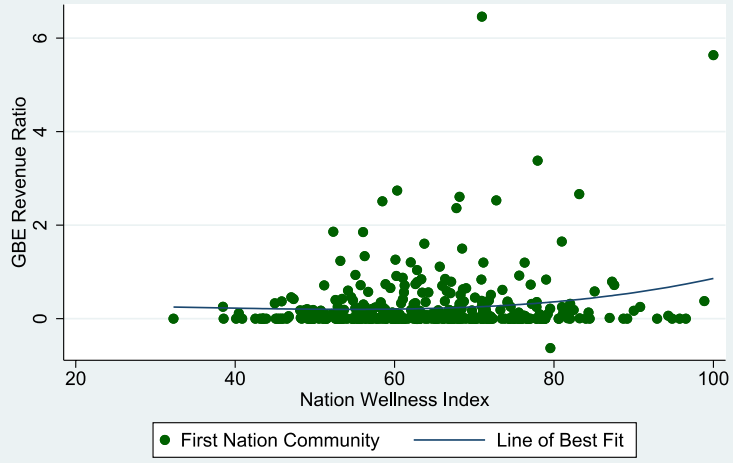


Figure A681: Nation Wellness Index and GBE Revenue Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A682: Workforce Index and GBE Revenue Capita
Correlation and Line of Best Fit - Total Population

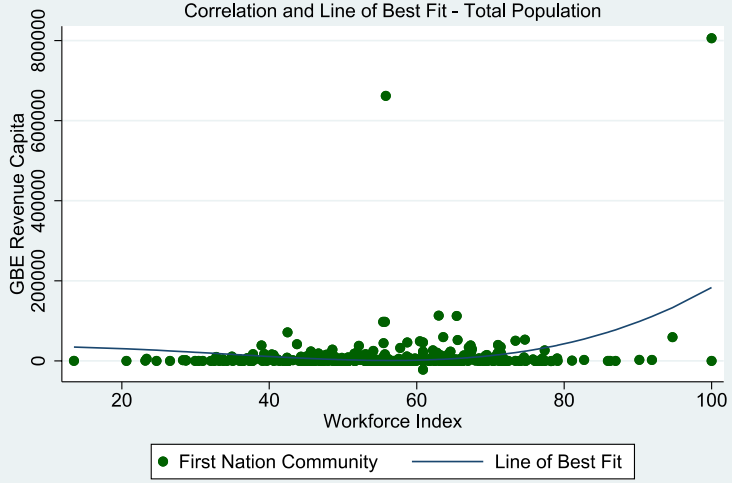


Figure A683: Housing Index and GBE Revenue Capita
Correlation and Line of Best Fit - Total Population

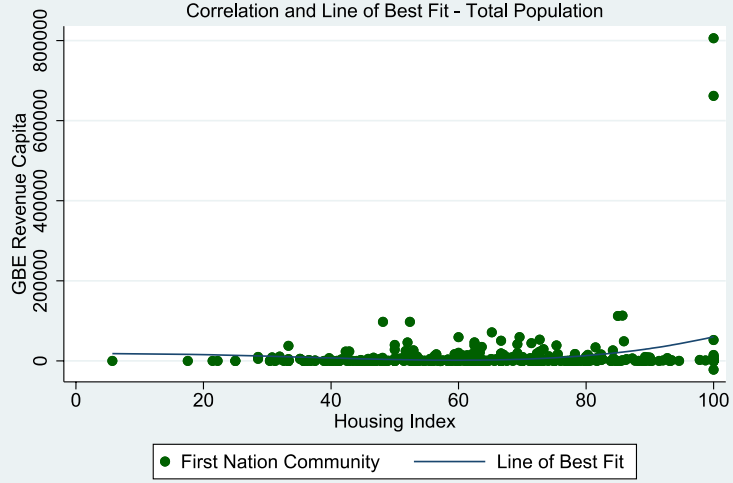


Figure A684: Income Index and GBE Revenue Capita
Correlation and Line of Best Fit - Total Population

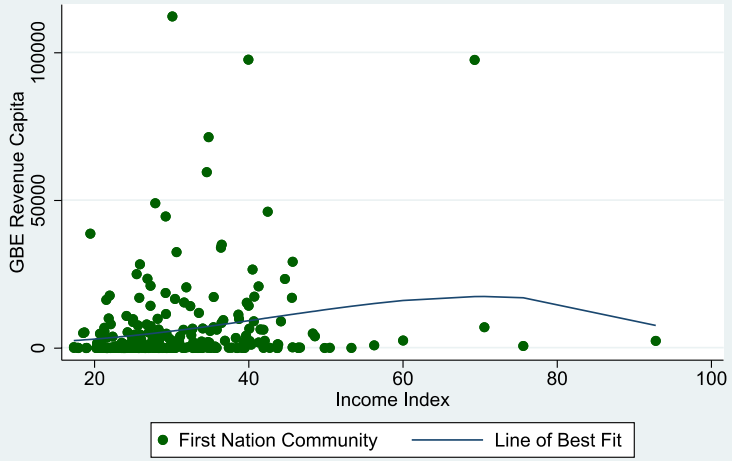
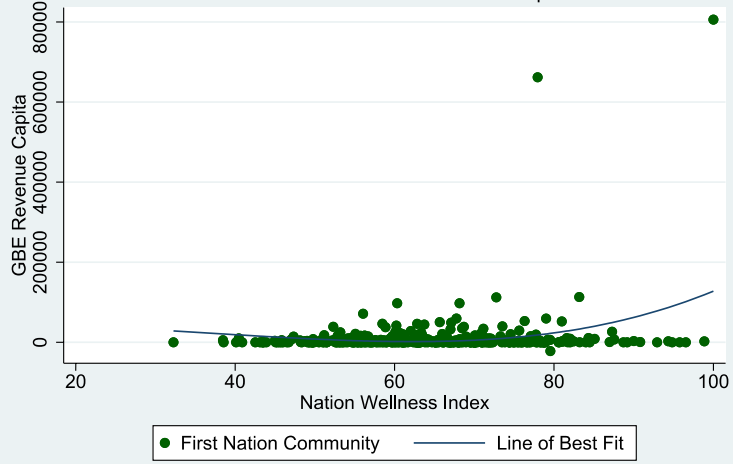


Figure A685: Nation Wellness Index and GBE Revenue Capita
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A686: Housing Index and GBE Expense Ratio
Correlation and Line of Best Fit - Total Population

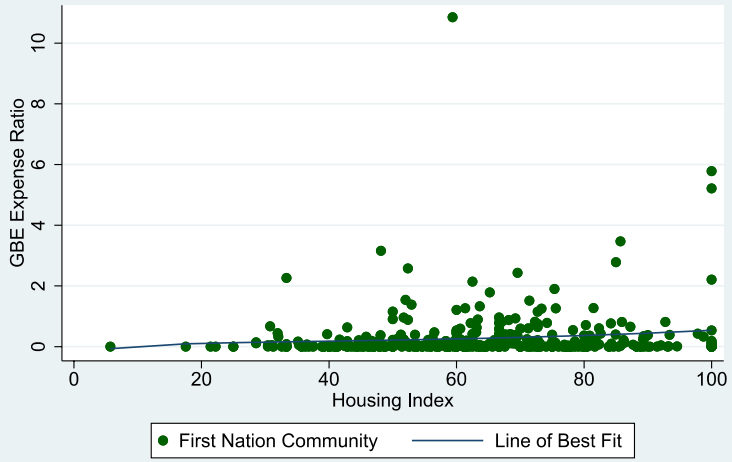
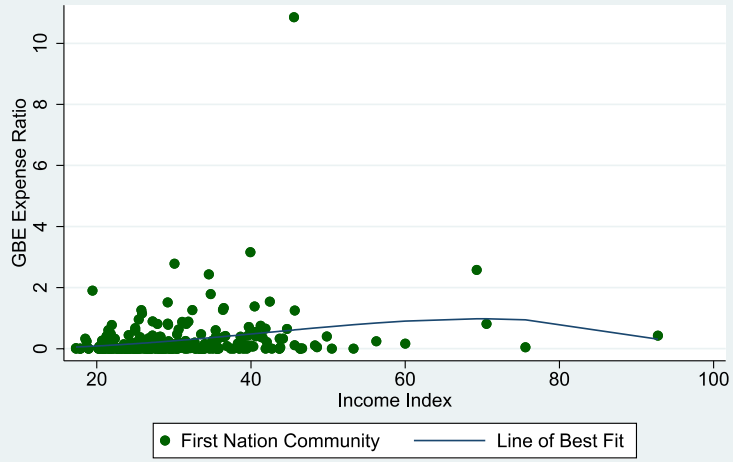


Figure A687: Income Index and GBE Expense Ratio
Correlation and Line of Best Fit - Total Population



A688: Nation Wellness Index and GBE Expense Ratio
Correlation and Line of Best Fit - Total Population

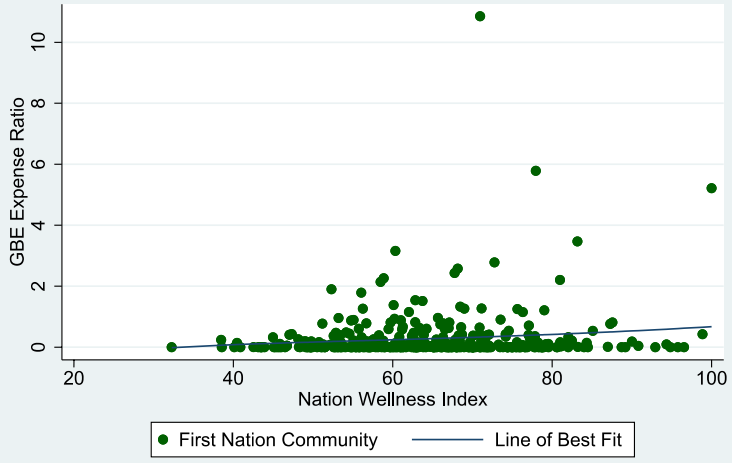
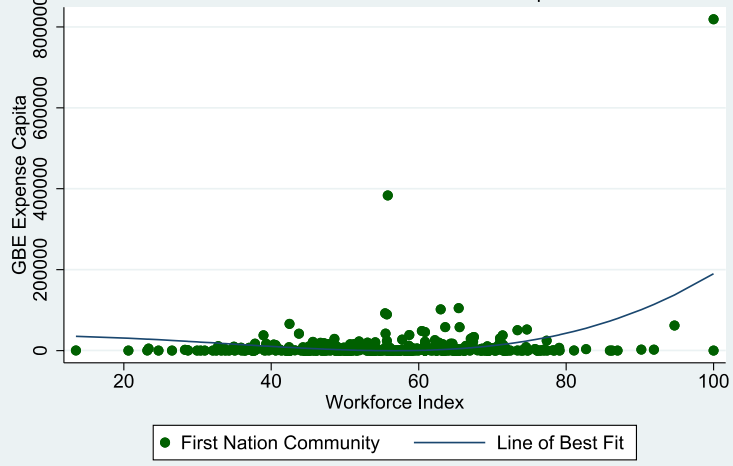


Figure A689: Workforce Index and GBE Expense Capita
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A690: Housing Index and GBE Expense Capita
Correlation and Line of Best Fit - Total Population

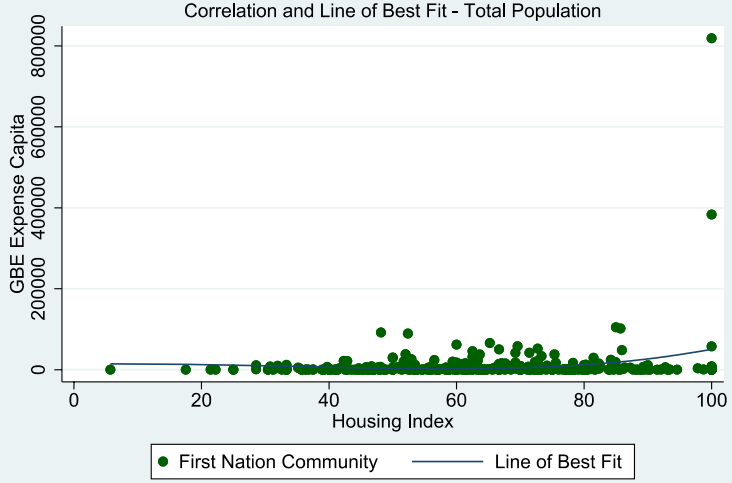


Figure A691: Income Index and GBE Expense Capita
Correlation and Line of Best Fit - Total Population

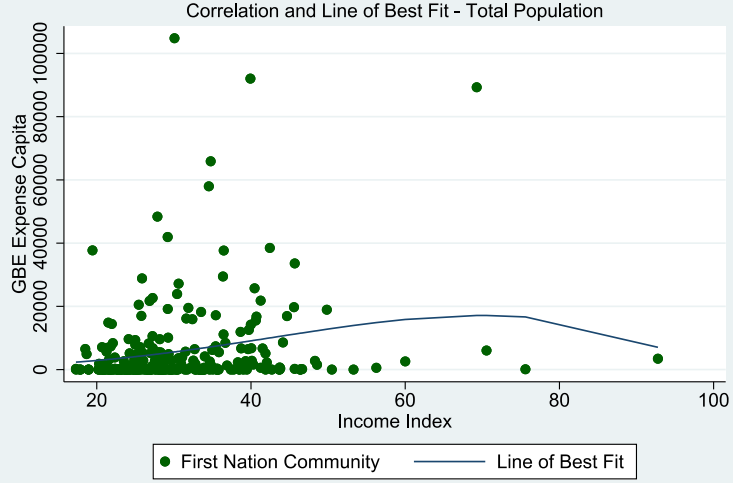


Figure A692: Nation Wellness Index and GBE Expense Capita
Correlation and Line of Best Fit - Total Population

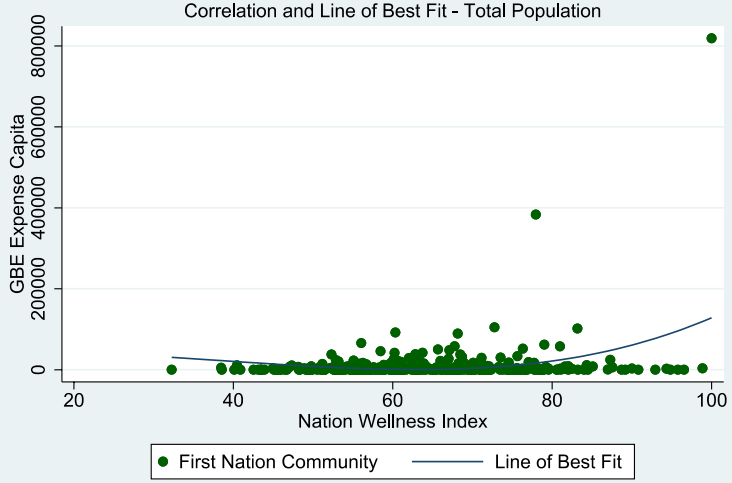
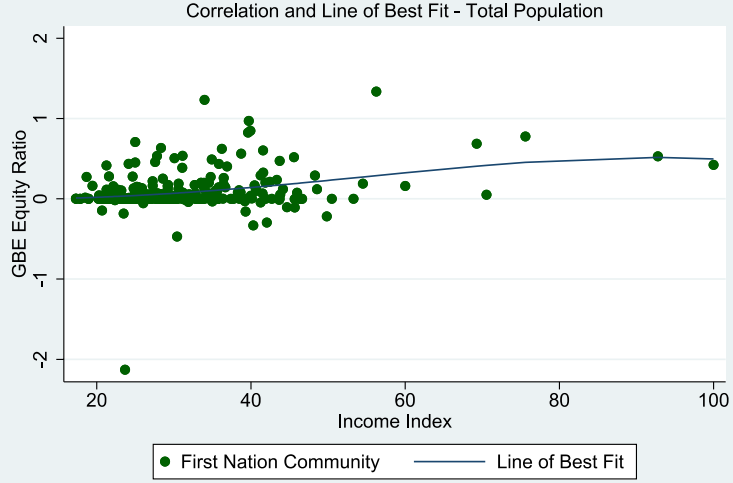
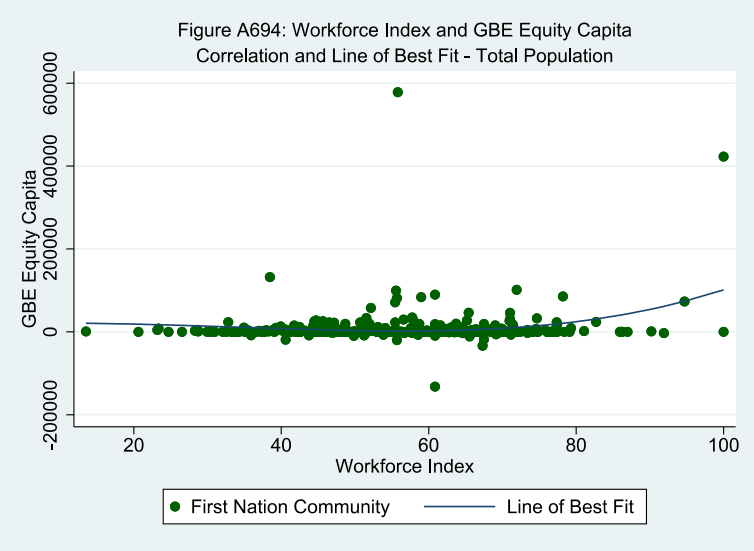
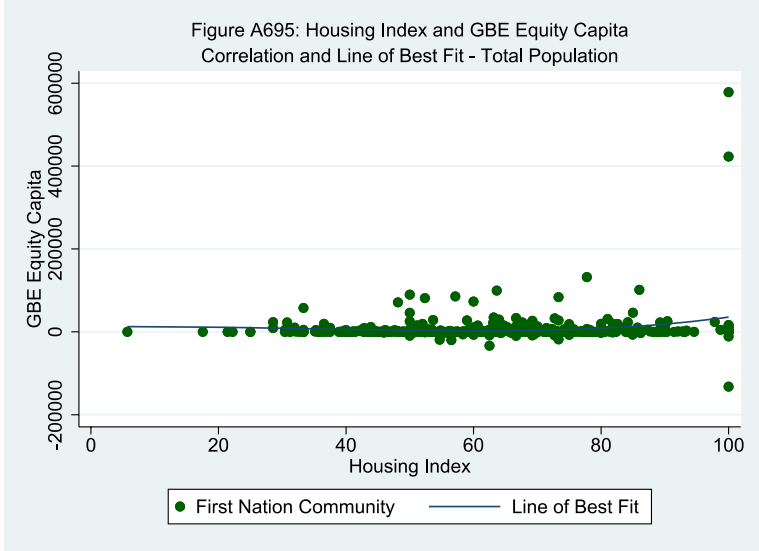


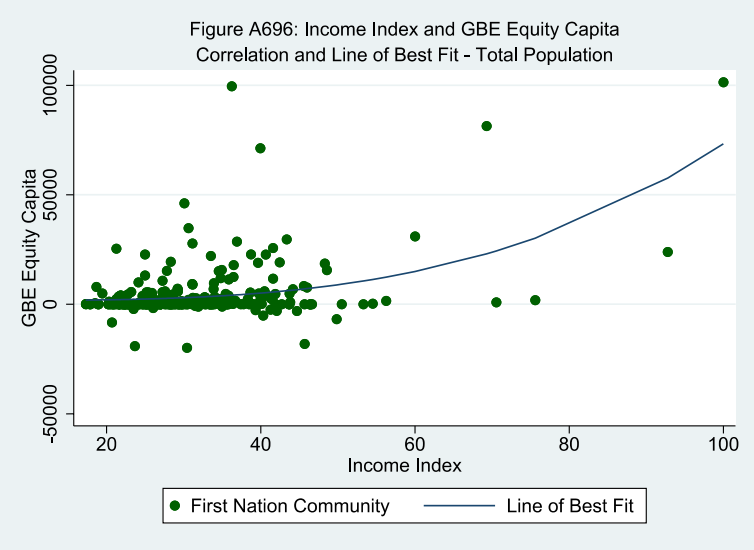
Figure A693: Income Index and GBE Equity Ratio
Correlation and Line of Best Fit - Total Population

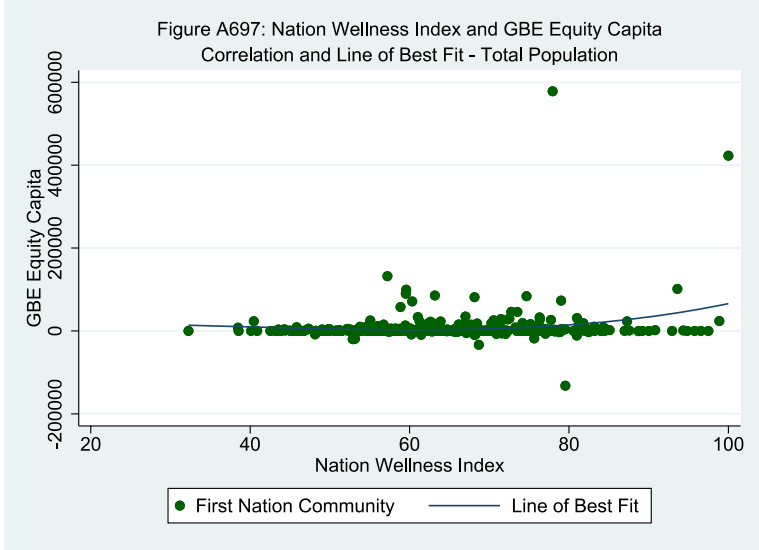


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

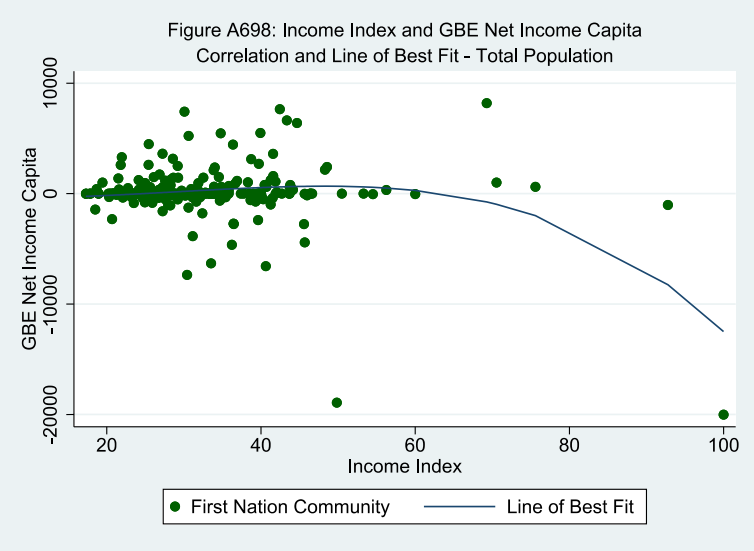


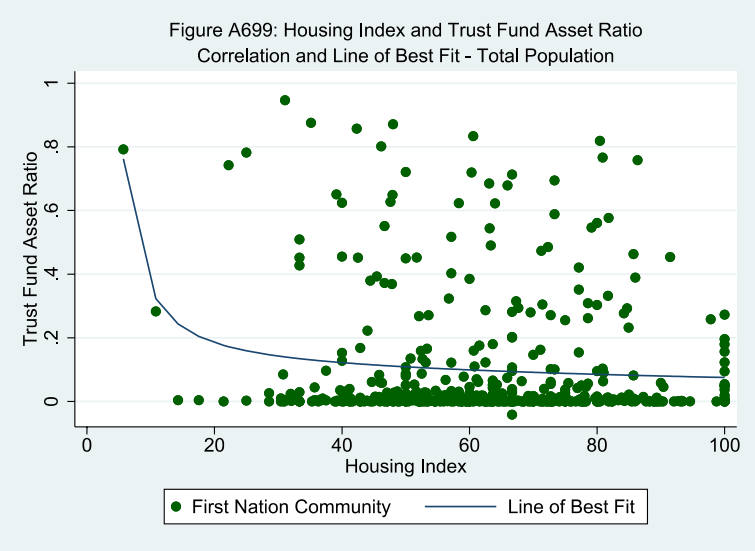


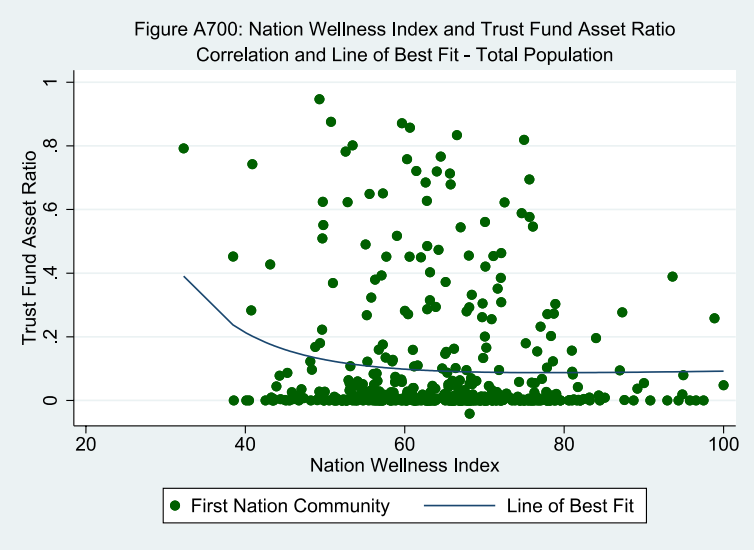


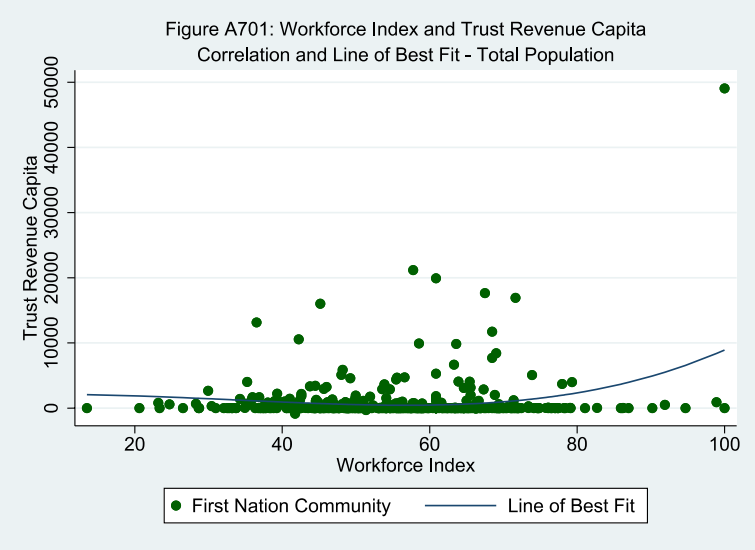


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A702: Nation Wellness Index and Trust Revenue Capita
Correlation and Line of Best Fit - Total Population

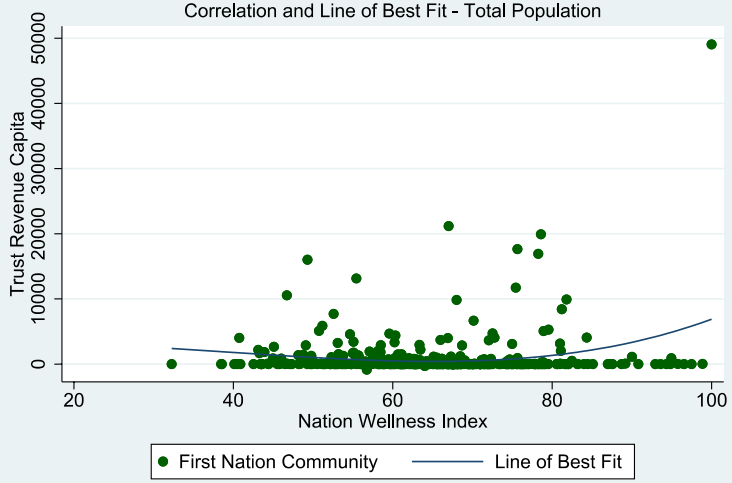


Figure A703: Education Index and TCA Ratio
Correlation and Line of Best Fit - Total Population

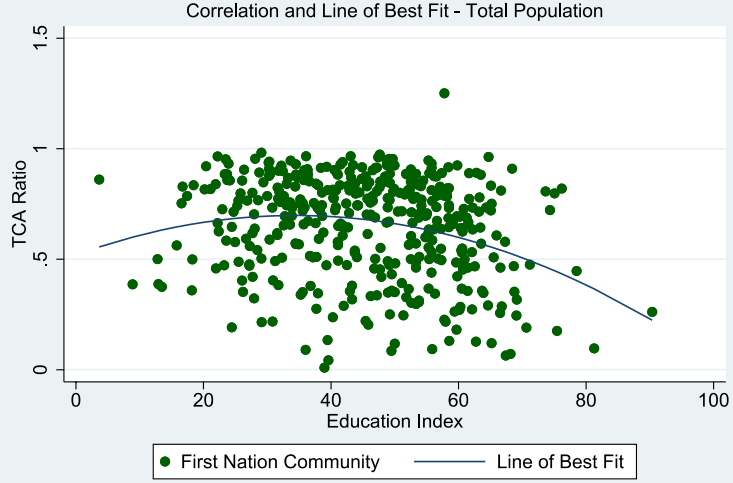


Figure A704: Workforce Index and TCA Ratio
Correlation and Line of Best Fit - Total Population

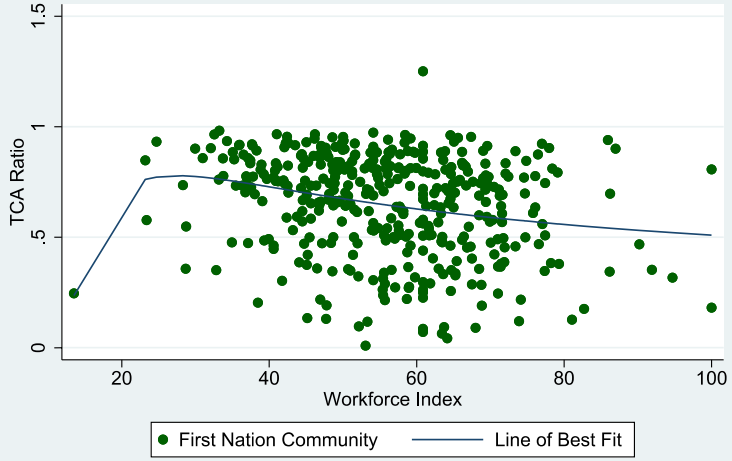
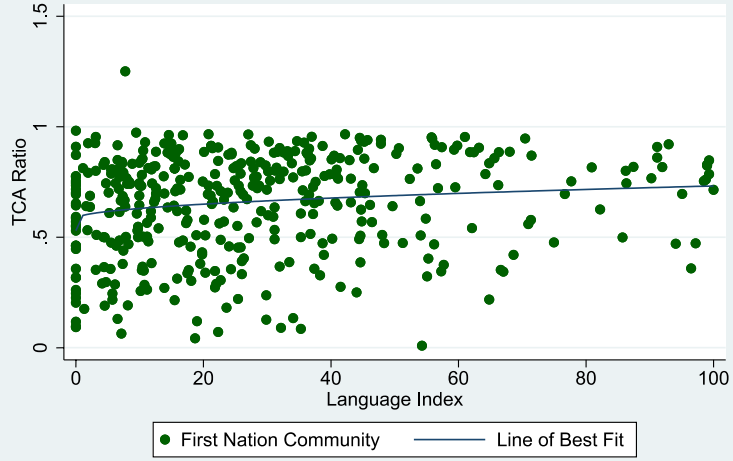
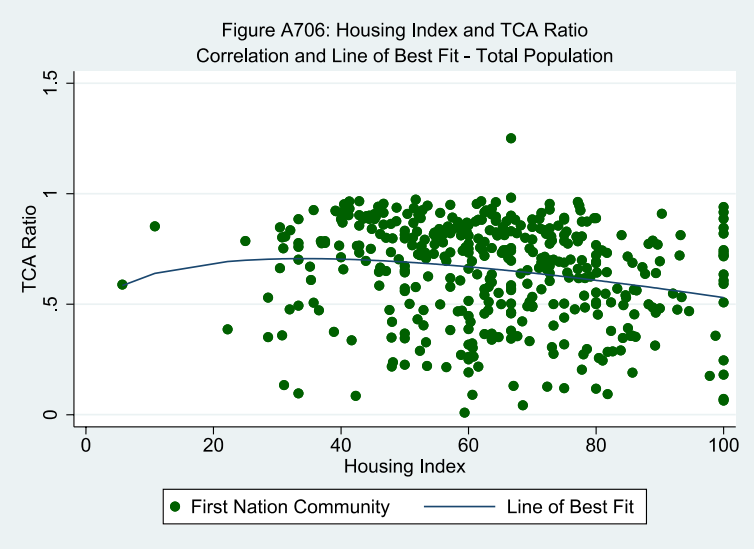
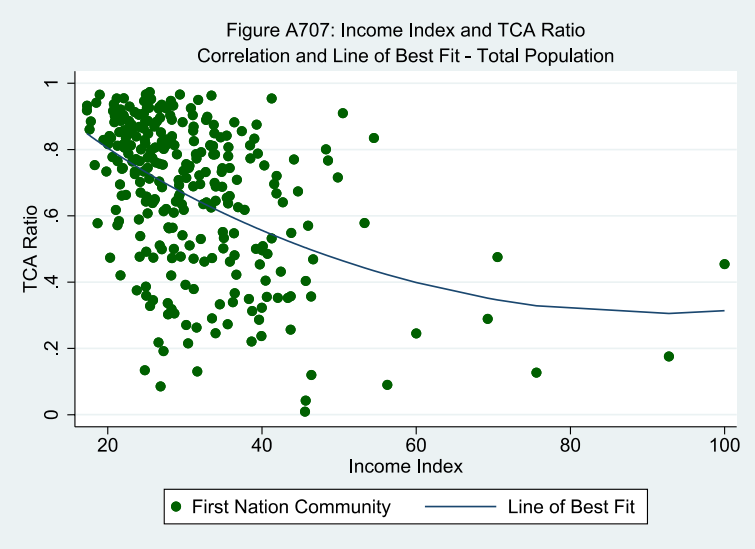


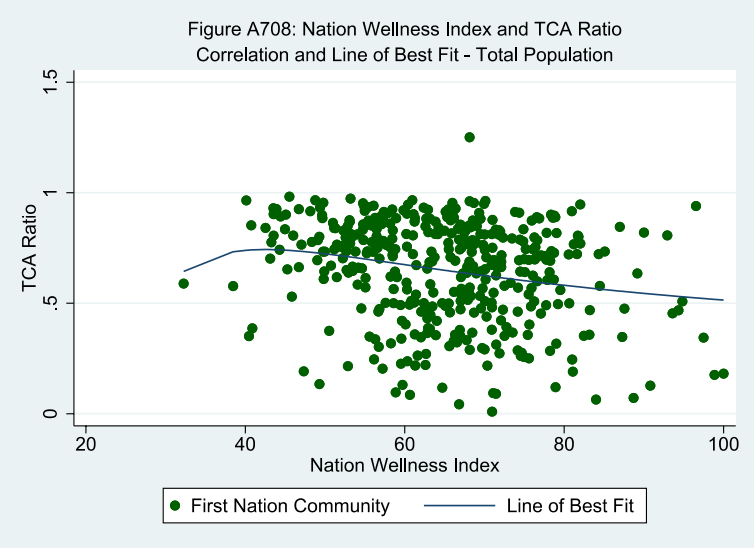
Figure A705: Language Index and TCA Ratio
Correlation and Line of Best Fit - Total Population

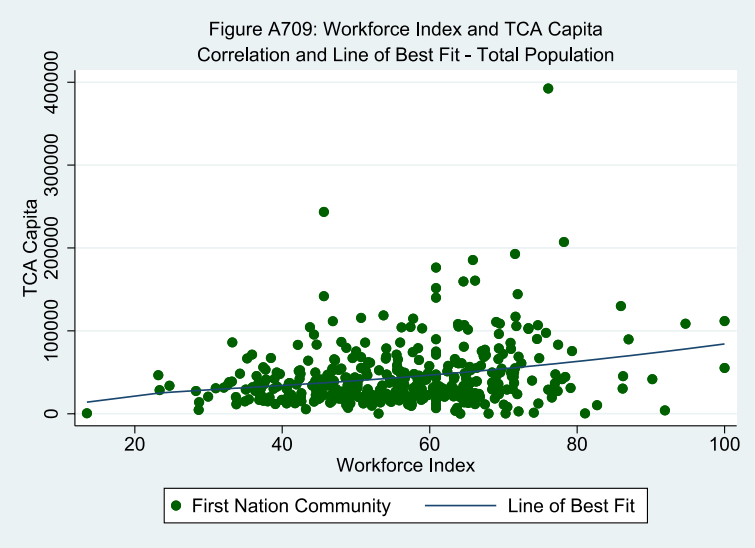


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

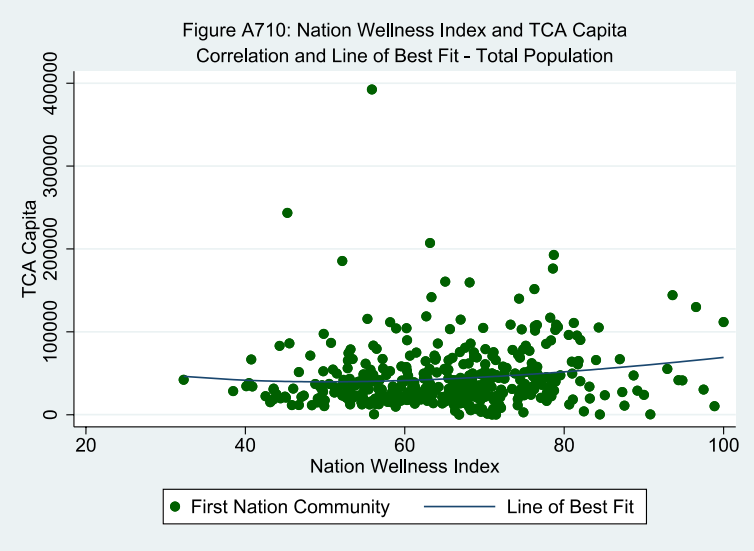


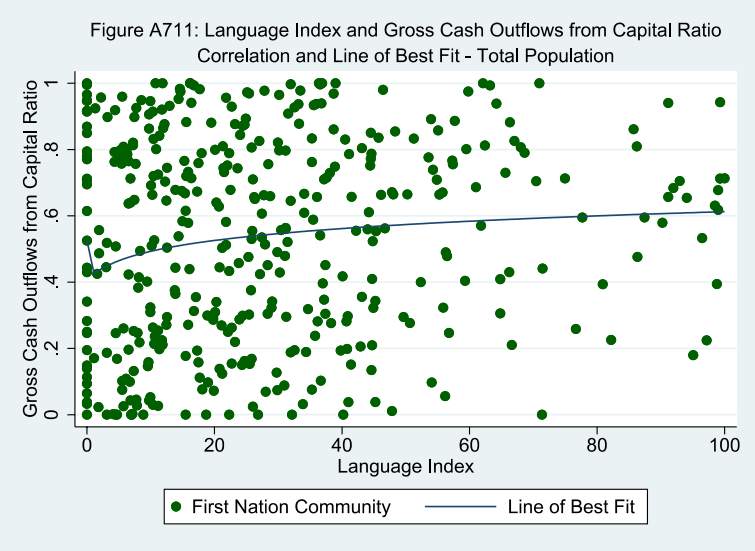


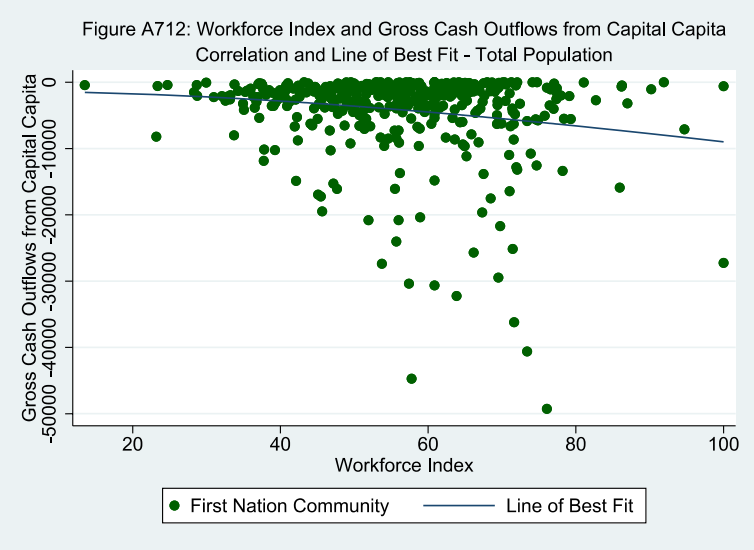


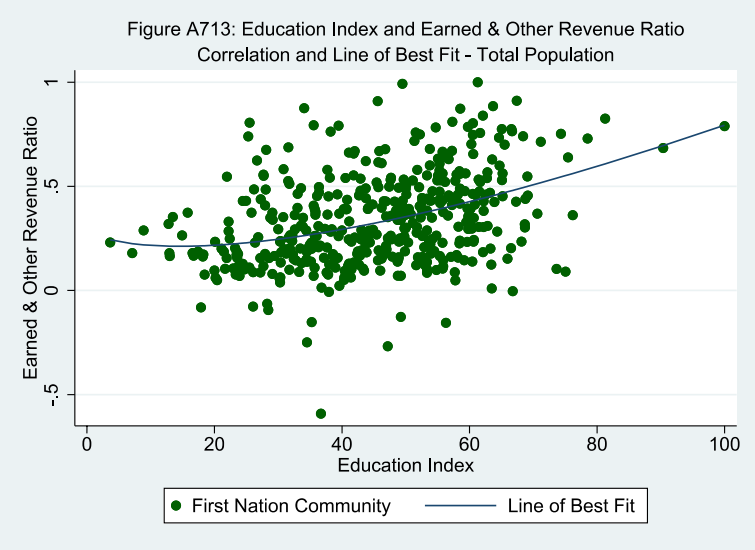


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs









Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A714: Workforce Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

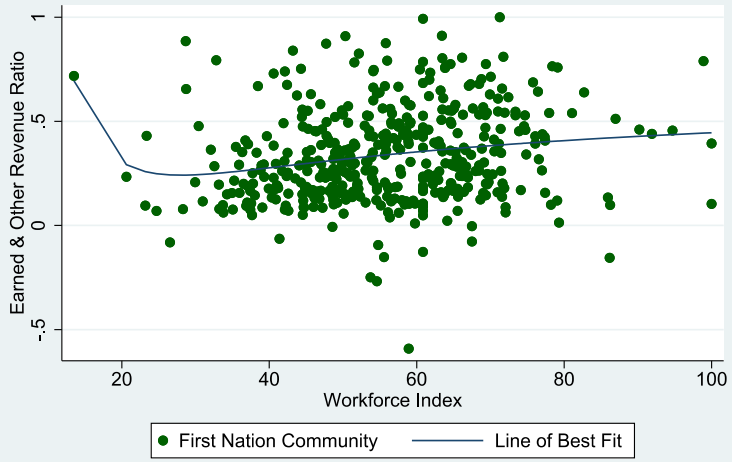


Figure A715: Language Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

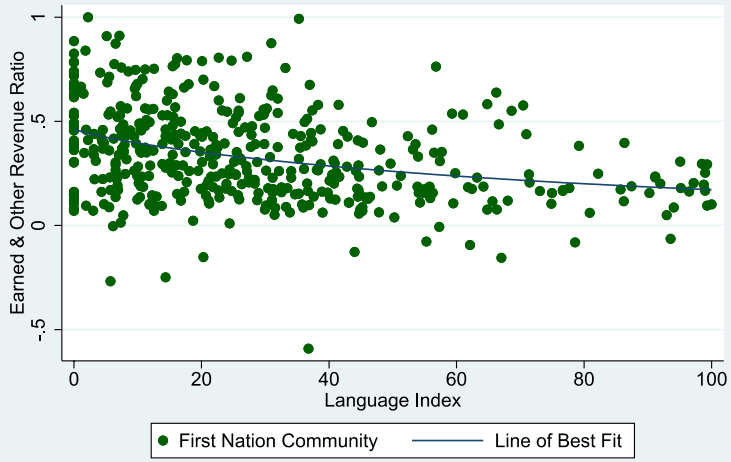


Figure A716: Housing Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

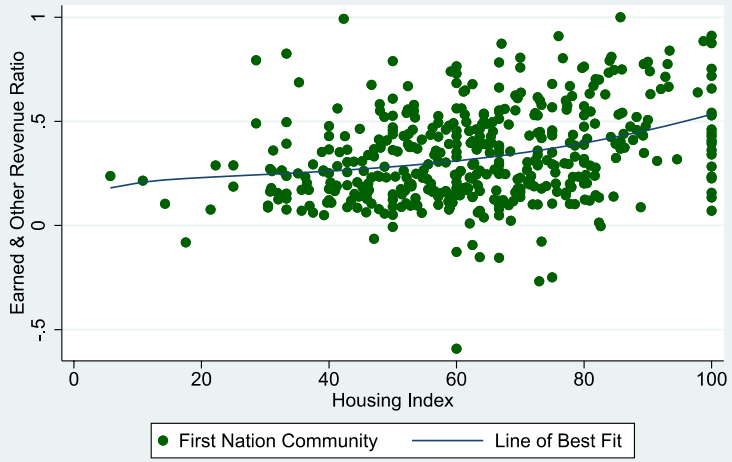
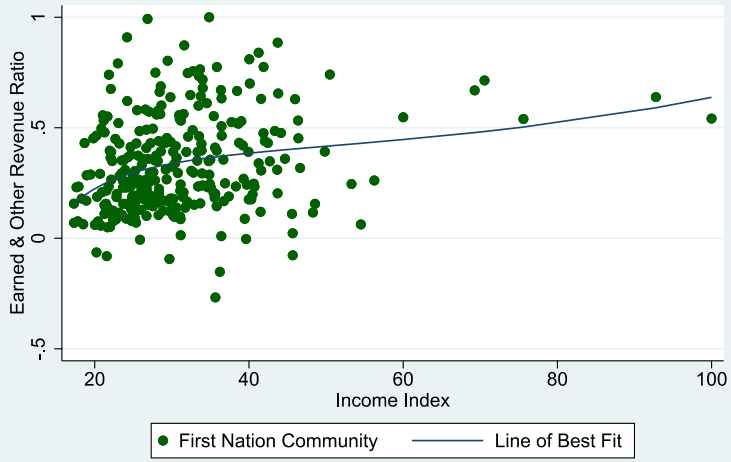


Figure A717: Income Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population



Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

Figure A718: Nation Wellness Index and Earned & Other Revenue Ratio
Correlation and Line of Best Fit - Total Population

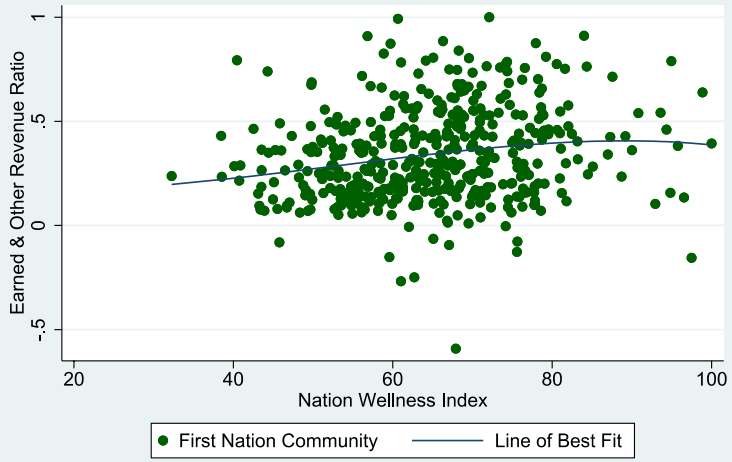


Figure A719: Education Index and Earned & Other Revenue Capita
Correlation and Line of Best Fit - Total Population

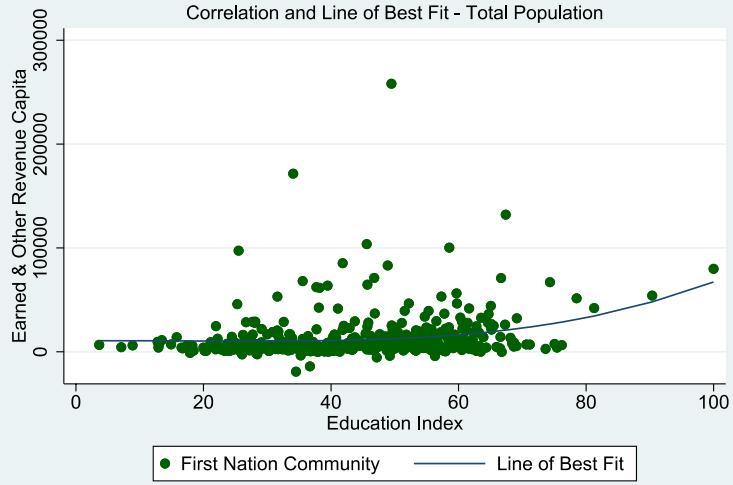


Figure A720: Workforce Index and Earned & Other Revenue Capita
Correlation and Line of Best Fit - Total Population

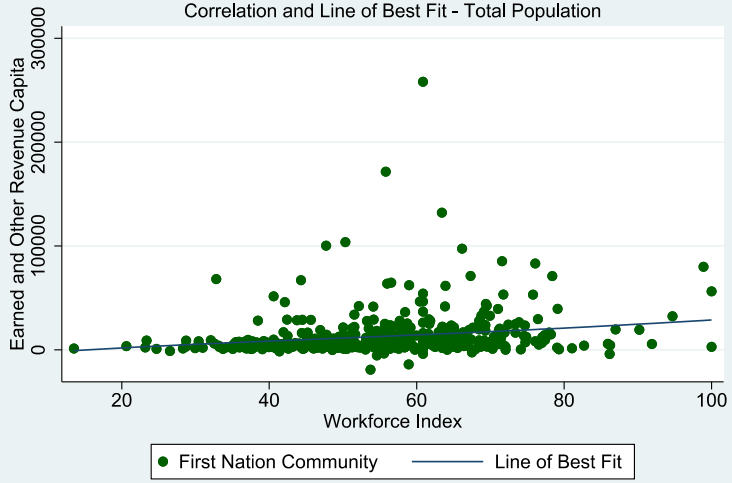
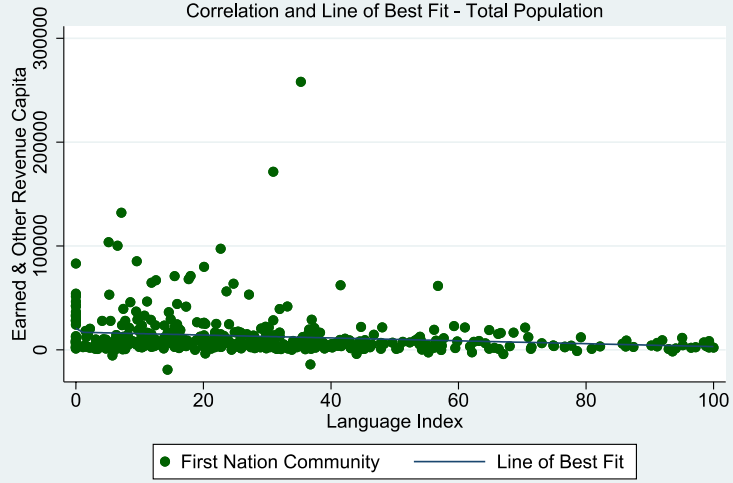
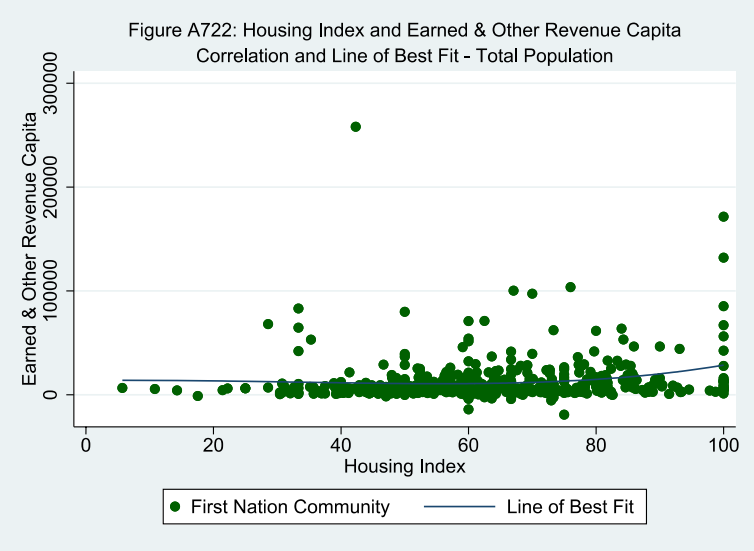
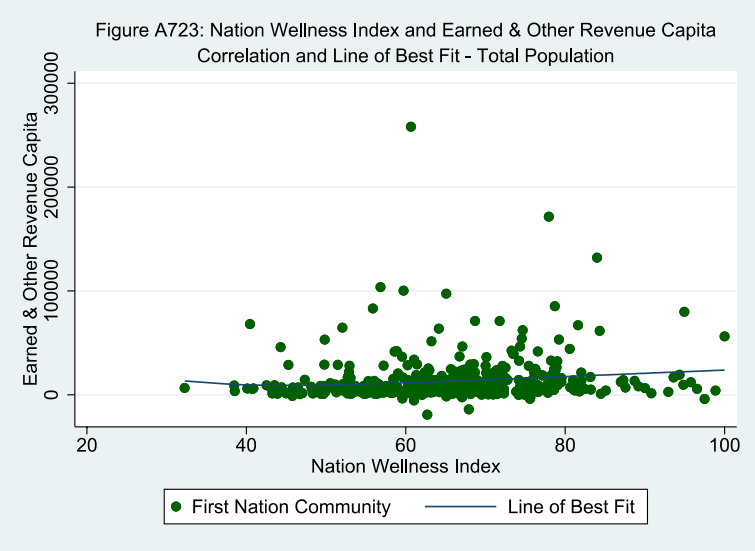


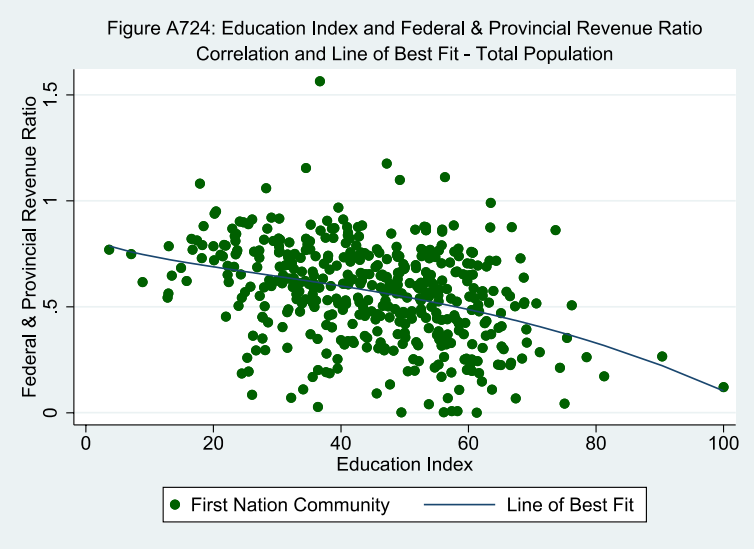
Figure A721: Language Index and Earned & Other Revenue Capita
Correlation and Line of Best Fit - Total Population

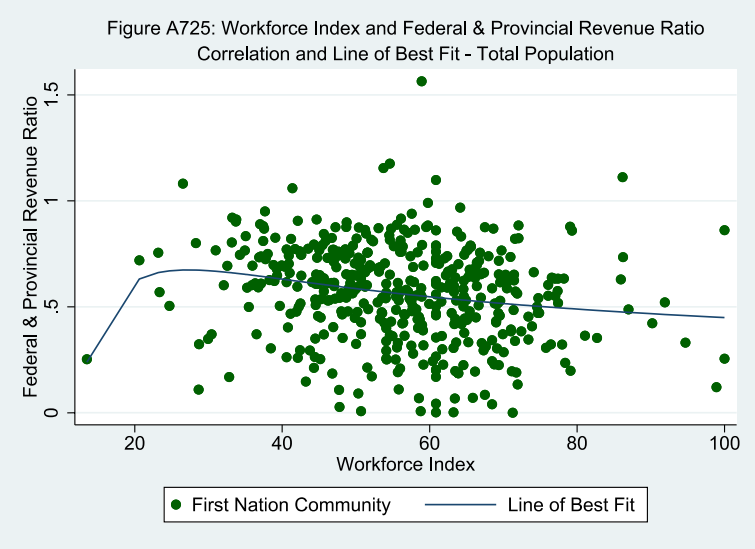


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

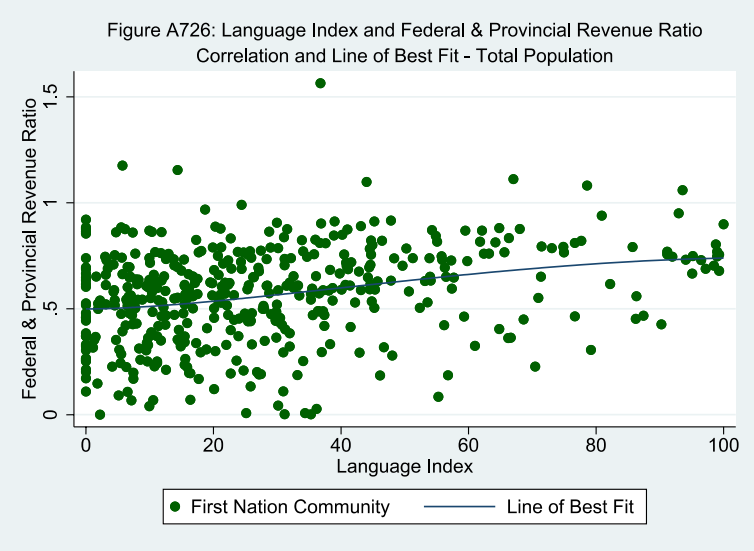


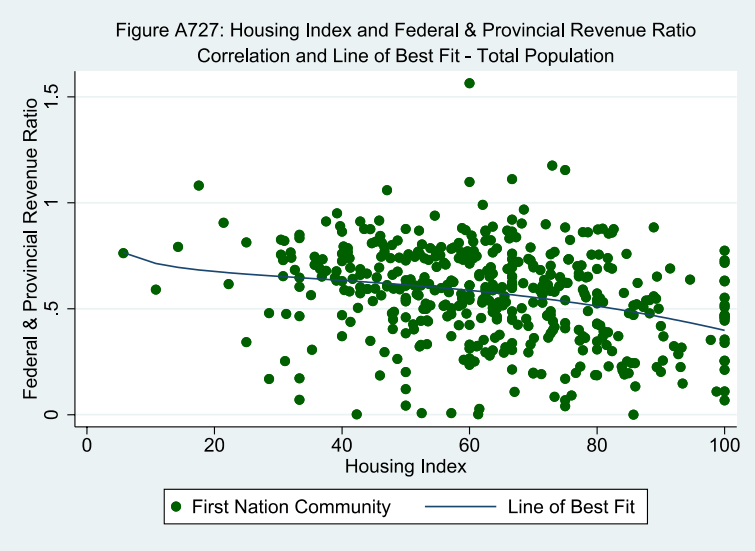


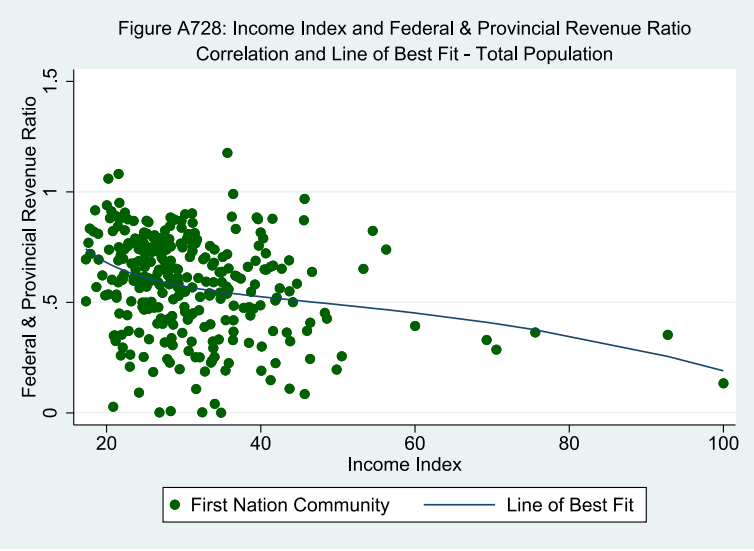


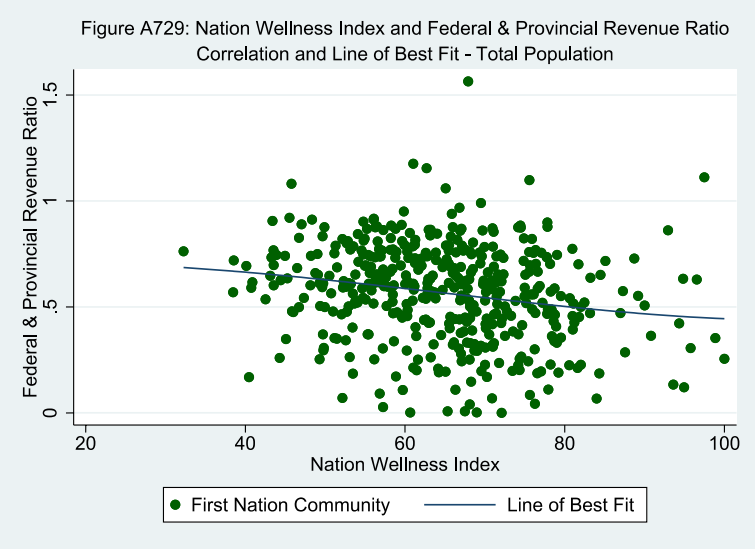


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

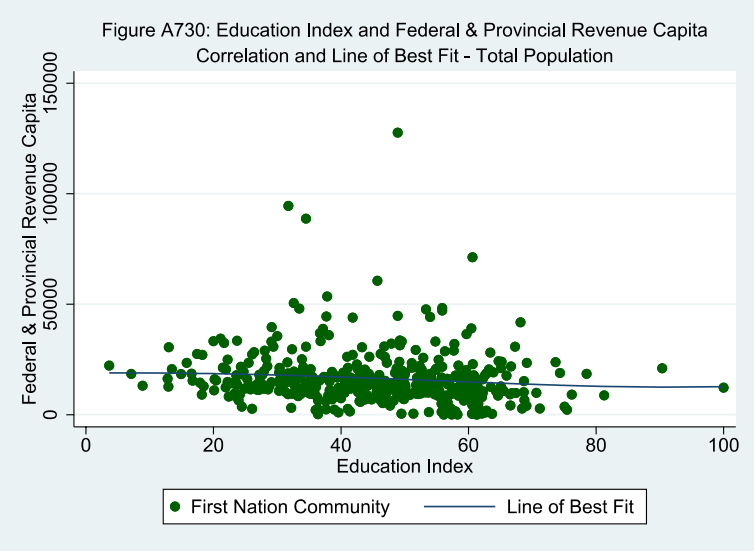


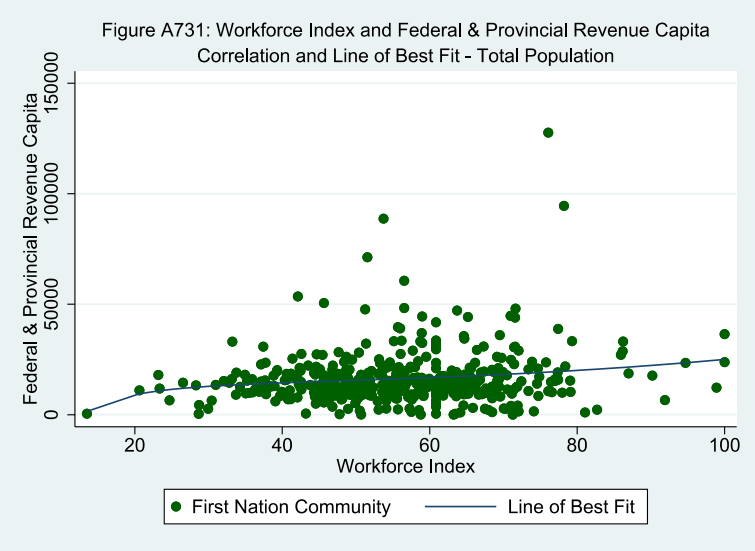


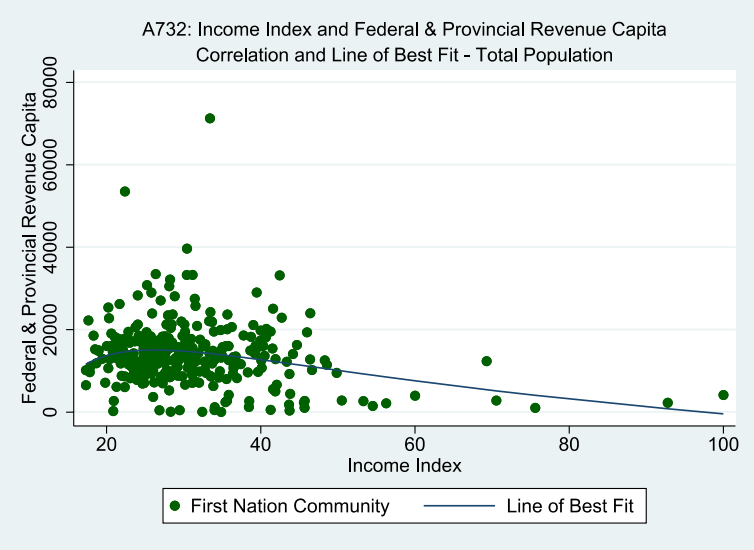


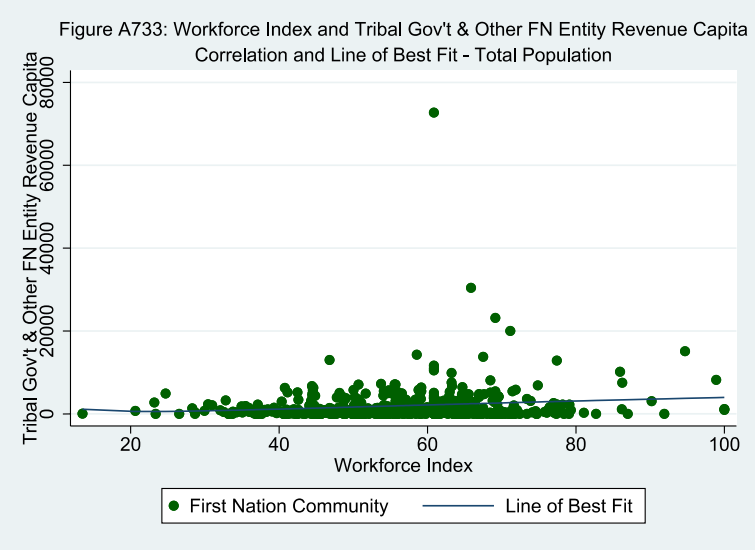


Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs

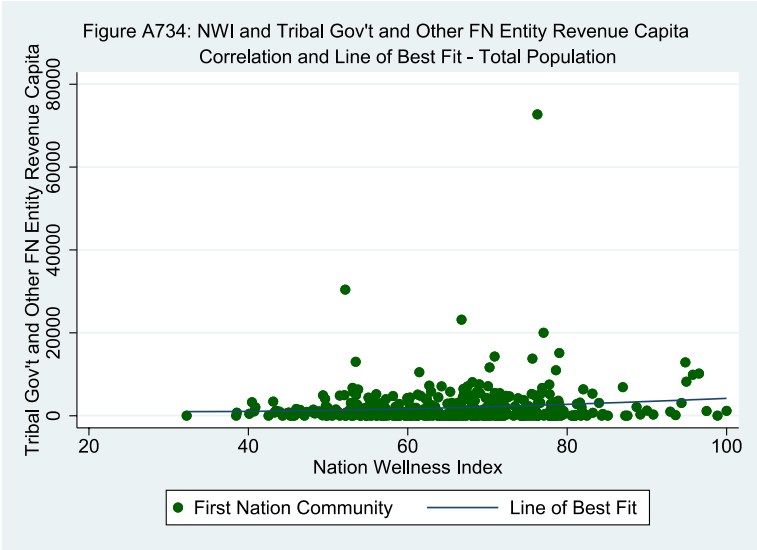








Appendix R: Correlational Instance Scatterplots and Line of Best Fit Graphs



Appendix S: Relationship of the Language Index with the Nation Wellness Index (NWI)

This appendix evaluates the relationship of the language index and the other subindices included in the Nation wellness index. Table 31 presents the Pearson correlation coefficients between the language index and the other subindices (education, workforce, housing, and income). The Pearson correlation coefficients demonstrate statistically significant negative correlations between the language index and all of the other subindices. This negative correlation is distinct to the language index, as most of the other subindices maintain positive correlations with each other. Tables 41 – 45 present the Pearson correlation coefficients between the financial indicators and the demographic subindices. A curious trend emerges in that the relationship of the language index to the financial indicators is often converse to the relationship between the other subindices and the financial indicators. This means that when the language index maintains a positive correlation with a given financial indicator, there is often a negative correlation for the other subindices and vice-versa. Based on the relationships found in Tables 31 and 41 – 45, there appears to be a statistically significant relationship between the language index, the other sub-indices, and the financial indicators. To better understand this relationship, two additional multiple linear regressions are performed.

Multiple Linear Regression – Nation Wellness Index without the Language Index

The first regression evaluates the Nation wellness index calculated without the language index (NwoL). For the sake of comparison, the original Nation wellness index (N) with the language index is also presented in the regression results. Refer to Figure A735 for the linear regression models, Table 8 for the description of the independent variables, and Figure A736 for the regression results.

Figure A735: Linear Regression Models of Nation Wellness Index with (N) and without (NwoL) the Language Index

Dependent Variable	Regression Model
Nation Wellness Index with Language Index, same as Table 7 (N)	$N= \beta_{0N} + \beta_{1N}X_1 + \beta_{2N}X_2 + \beta_{3N}X_3 + \beta_{4N}X_4 + \beta_{5N}X_5 + \beta_{6N}X_6 + \beta_{7N}X_7 + \beta_{8N}X_8 + \beta_{9N}X_9 + \varepsilon$
Nation Wellness Index without Language Index, same calculation as per Appendix B but excluding the Language Index (NwoL)	$NwoL= \beta_{0NwoL} + \beta_{1\ NwoL}X_1 + \beta_{2\ NwoL}X_2 + \beta_{3\ NwoL}X_3 + \beta_{4NwoL}X_4 + \beta_{5NwoL}X_5 + \beta_{6NwoL}X_6 + \beta_{7NwoL}X_7 + \beta_{8NwoL}X_8 + \beta_{9NwoL}X_9$

Appendix S: Relationship of the Language Index with the NWI (continued)

Figure A736: Multiple Linear Regression – Average Marginal Effects of Variables on the Nation Wellness Index with (N) and without (NwoL) the Language Index

Variable Category	Variable	Nation Wellness Index without Language Index, NwoL	Nation Wellness Index with Language Index (as per Table 46), N
Financial	Earned & other revenue ratio (per 0.1 change in ratio) (X_1)	1.63* (0.27)	0.77* (0.26)
	Federal & provincial revenue capita (per $1,000) ($X_2$)	0.10 (0.04)	0.05 (0.05)
	Tribal Gov't and other FN entity revenue capita (per $1,000) ($X_3$)	0.48* (0.10)	0.35* (0.13)
	GBE expense capita (per $1,000) ($X_4$)	0.03* (0.01)	0.03* (0.00)
	Trust fund asset ratio (per 0.1 change in ratio) (X_5)	-0.73* (0.26)	-0.68* (0.25)
	TCA assets ratio (per 0.1 change in ratio) (X_6)	-1.24* (0.27)	-0.84* (0.24)
Population	Community Population (per 100 people) (X_7)	-0.36* (0.07)	-0.07 (0.05)
Geographic	Geographically medium differential (from geographically close) (X_8)	-4.72* (1.23)	-1.69 (1.12)
	Geographically remote differential (from geographically close) (X_9)	-12.33* (1.63)	-1.16 (1.61)
	N	446	446
	R-squared	0.35	0.13

Notes:
1. Robust standard errors are reported in parentheses.
2. * indicates significance at the 5% level.

Multiple Linear Regression Results (N and NwoL) Discussion

The first regression compares the Nation wellness index without the language index (NwoL) and the Nation wellness index with the language index (N). The results of this regression are presented in Figure A736. The regression of NwoL maintains a much higher r-squared value of 0.35, compared to N at 0.13. Most of the financial indicators for NwoL maintain higher beta coefficients compared to N. This is consistent with Tables 41 – 45, which demonstrate that the language index often maintains a converse relationship with the financial indicators compared to the other sub-indices. A partial "cancelling out" effect is

present when the language index is included in the NWI.

A more pronounced difference between NwoL and N is present when comparing the population and geographic variables. The community population beta coefficient for NwoL is -0.36*, compared to N of -0.07. The geographically medium differential for NwoL is -4.72* compared to N of -1.69. Likewise, the geographically remote differential is -12.33*, compared to N of -1.16. These results demonstrate that the presence of the language index in the Nation wellness index significantly reduces the explanatory power of the regression model. A key reason for this is that many of the independent variables have a converse relationship with the language index compared to the other subindices. Knowledge of Indigenous language is an important aspect of cultural identity, so this theme is troubling. It would be valuable to try and understand what factors influence the level of Indigenous language knowledge. We have previously discussed that a statistically significant relationship exists between the language index and the other subindices. To better understand this relationship, a second regression is conducted in the following section. This regression maintains the language index as the dependent variable and includes additional independent variables.

Multiple Linear Regression – Language Index Including Additional Independent Variables

A second regression is performed with the language index as the dependent variable, and includes additional independent variables. All aspects of this regression are the same as the language index regression presented in Table 46, but include the additional independent variables of the education index, workforce index, housing index, income index, and % of population that are registered Indians (term as used by Indigenous Services Canada). As additional independent variables are used in the second regression, the adjusted r-squared values are reported. For the sake of comparison, the original language index regression from Table 46 is also presented. Refer to Figure A737 for the linear regression models, Table 8 for the description of the independent variables for the original language index (L), Figure A738 for the description of the independent variables for the recalculated language index (L2), and Figure A739 for the regression results.

Appendix S: Relationship of the Language Index with the NWI (continued)

Figure A737: Linear Regression Models of Language Index with (L2) and without (L) the Additional Independent Variables

Dependent Variable	Regression Model
Language Index as originally calculated, same as Table 7 (L)	$L= \beta_{0L} + \beta_{1L}X_1 + \beta_{2L}X_2 + \beta_{3L}X_3 + \beta_{4L}X_4 + \beta_{5L}X_5 + \beta_{6L}X_6 + \beta_{7L}X_7 + \beta_{8L}X_8 + \beta_{9L}X_9 + \varepsilon$
Language Index with additional independent variables (L2)	$L2= \beta_{0L2+} + \beta_{1L2}X_1 + \beta_{2L2}X_2 + \beta_{3L2}X_3 + \beta_{4L2}X_4 + \beta_{5L2}X_5 + \beta_{6L2}X_6 + \beta_{7L2}X_7 + \beta_{8L2}X_8 + \beta_{9L2}X_9 + \beta_{10L2}X_{10} + \beta_{11L2}X_{11} + \beta_{12L2}X_{12} + \beta_{13L2}X_{13} + \beta_{14L2}X_{14} + \varepsilon$

Appendix S: Relationship of the Language Index with the NWI (continued)

Figure A738: Description of Independent Variables for the Language Index (L2) with the Additional Independent Variables

Variable Category	Variable Name	Description of the Variable
Financial	Earned & other revenue ratio (X_1)	(Earned revenue + other revenue) / total revenue [1]
	Federal & provincial revenue capita (X_2)	(Federal revenue + provincial revenue) / community population [1, 2]
	Tribal Gov't and other First Nation entity revenue capita (X_3)	(Tribal government revenue + revenue from other FN entities) / community population [1, 2]
	GBE expense capita (X_4)	Expenses in government business entities / community population [2, 3]
	Trust fund asset ratio (X_5)	Trust funds assets / total financial assets [1]
	TCA assets ratio (X_6)	Tangible capital assets / total assets [1]
Population	Community population (X_7)	Population of people living on First Nation's reserve land or associated Crown land. Population figures are as per the 2016 Census.
	% of population who are registered Indians (X_{14})	Population of people living on First Nation's reserve land or associated Crown land that are registered Indians. Population figures are as per the 2016 Census. Calculated as: (Registered Indian) / (Total All Persons)
Geographic	Geographically medium differential (X_8)	If First Nation community is geographically medium then 1; otherwise 0 [4]
	Geographically remote differential (X_9)	If First Nation community is geographically remote then 1; otherwise 0 [4]
Demographic Subindices	Education Index (X_{10})	Refer to Appendix B
	Workforce Index (X_{11})	Refer to Appendix B
	Housing Index (X_{12})	Refer to Appendix B
	Income Index (X_{13})	Refer to Appendix B

Notes:
1. Financial information to calculate the financial figures are taken from the audited 2016 First Nation financial statements. Refer to Appendix A for further details about how each financial ratio and capita measure if calculated.
2. Community population is based off of the population of people living on the First Nation's reserve land or associated Crown land. These figures are taken from the 2016 Census, which are prepared by Statistics Canada.
3. Government business entity (GBE) figures are disclosed in the notes of the financial statements. The expense in GBEs conveys the total expenses incurred in the First Nation's GBEs for the year.
4. Indigenous Services Canada rates the level of geographic remoteness for each First Nation community from zones 1-4. Refer to Appendix C for detailed definitions of these zones, and the geographic definitions used in this study.

Appendix S: Relationship of the Language Index with the NWI (continued)

Figure A739: Multiple Linear Regression – Average Marginal Effects of Variables on the Language Index with (L2) and without (L) the Additional Independent Variables

Variable Category	Variable	Language Index (with additional independent variables), L2	Language Index (without additional independent variables, as per Table 46), L
Financial	Earned & other revenue ratio (per 0.1 change in ratio) (X_1)	-1.01* (0.41)	-2.29* (0.44)
	Federal & provincial revenue capita (per $1,000) ($X_2$)	-0.20* (0.07)	-0.13 (0.09)
	Tribal Gov't and other FN entity revenue capita (per $1,000) ($X_3$)	-0.14 (0.15)	-0.17 (0.17)
	GBE expense capita (per $1,000) ($X_4$)	0.00 (0.01)	0.01* (0.00)
	Trust fund asset ratio (per 0.1 change in ratio) (X_5)	-0.75 (0.39)	-0.08 (0.42)
	TCA assets ratio (per 0.1 change in ratio) (X_6)	0.70* (0.35)	1.07* (0.38)
Population	Community population (per 100 people) (X_7)	0.83* (0.13)	0.78* (0.15)
	% of population who are registered Indians (per 1%) (X_{14})	0.33* (0.05)	n/a
Geographic	Geographically medium differential (from geographically close) (X_8)	3.89* (1.91)	9.26* (1.93)
	Geographically remote differential (from geographically close) (X_9)	18.62* (3.54)	30.62* (3.43)
Demographic Subindices	Education Index (X_{10})	-0.46* (0.09)	n/a
	Workforce Index (X_{11})	-0.11 (0.09)	n/a
	Housing Index (X_{12})	-0.14* (0.06)	n/a
	Income Index (X_{13})	0.42* (0.09)	n/a
	N	446	446
	R-squared	0.48	0.37
	Adjusted r-squared	0.46	0.35

Notes:
1. Robust standard errors are reported in parentheses.
2. * indicates significance at the 5% level.

Appendix S: Relationship of the Language Index with the NWI (continued)

Multiple Linear Regression Results (L and L2) Discussion

The expanded multiple regression of the language index includes the additional independent variables of the education index, workforce index, housing index, income index, and % of population who are registered Indians. This expanded regression of the language index is labelled as L2, while the original language index is labelled as L. The results of this regression are presented in Figure A739.

There are several benefits of including the additional variables in the language index regression model. First, we can determine what relationship exists between the language index and the additional variables. Second, we can gain a more accurate understanding of the relationship between the language index and the variables from the original language index. Third, we can provide a regression model with a higher level of explanatory value regarding the dependent variable variation. As discussed in the literature review, Indigenous language is a key aspect of First Nations culture. Clearly understanding the relationships between knowledge of Indigenous language and the expanded list of independent variables provide greater insight into the role of Indigenous language knowledge and community wellbeing.

The adjusted r-squared for L2 is higher at 0.46, compared to L at 0.35. This demonstrates that L2 explains a higher amount of the dependent variable variation in the regression model. Of the additional variables, the education index has the largest coefficient and suggests that a 1 unit increase in the education index is associated with the language index decreasing by 0.46. The housing index coefficient indicates that a 1 unit increase in this index is associated with a 0.14 decrease in the language index. Also, a 1 unit increase in the income index is associated with a 0.42 increase in the language index. Interestingly, no statistically significant relationship exists between the workforce index and the language index. L2 also includes the variable of % of population who are registered as Indians, which demonstrates that a 1% increase in registered Indians is linked to a 0.33 increase in the language index.

Knowledge and use of Indigenous language are an important part of Indigenous culture. Given this, the finding that the language index substantially decreases when the education index increases is troubling. This may demonstrate that further efforts are required

to encourage the use and practice of Indigenous language within educational institutions. Gomashie (2019) discusses a successful bilingual elementary and secondary school that teaches classes in both English and Kanien'keha, which is actively increasing the number of fluent Kanien'keha speakers in this First Nation community. Integrating Indigenous language into formal educational institutions is possible, and has been successful. Emulating these successes amoung other Indigenous communities may be an important component of Indigenous language renewal. The positive relationship of income with knowledge of Indigenous language is an interesting observation. The presence of higher income levels may provide a greater ability to focus resources towards cultural activities, such as the passing on and preservation of Indigenous languages. Better understanding this relation would be an interesting area for future research. Finally, the positive association between the % of registered Indians and knowledge of Indigenous language is expected. This association is intuitive, as Indigenous people would be more likely to have knowledge of Indigenous language compared to non-Indigenous people.

Note that the beta coefficients of L2 compared to L for the financial indicator variables are mixed, with some variables increasing and others decreasing. The most notable change is the coefficient for the earned & other revenue ratio, which is -1.01* for L2, and is -2.29* for L. This demonstrates that the earned & other revenue ratio still maintains a negative association with the language index, but not to such an extensive degree once the additional independent variables are considered. The geographically medium coefficient for L2 is 3.89*, compared to 9.26* for L. The geographically remote coefficient for L2 is 18.62*, compared to 30.62* for L. This demonstrates that the underlying effect of geographic remoteness is lessened once the additional independent variables are considered. The total community population variable is nearly unchanged.

By adding the additional independent variables, we can gain a clearer understanding of the financial, population, and geographic variables effect on the language index. It is beneficial to know that the financial and geographic variables actually have less explanatory power, but that many of the other demographic subindex variables provide a high level of explanatory power. The reason for this increased accuracy is that the effect of each

independent variable is held constant for all other independent variables in the regression model. Effectively, this means that L2 provides a more accurate understanding of the explanatory power behind all of the independent variables presented in the L2 regression model.

Appendix T: Professional Experience of Author

The author obtained a Chartered Professional Accounting designation through the Chartered Professional Accountants of British Columbia in 2015, and has worked as an accounting and audit manager for several years. The author worked as a manager for the accounting public practice firms of MNP, LLP in Prince George, BC, and later at KPMG, LLP in Fort St. John, BC. The author has worked with clients in the areas of municipal government, First Nations government, government business entities, not-for-profit organizations, and private enterprise. This provided a strong background in Accounting Standards for Private Enterprise (e.g. private business) and Public Sector Accounting Standards (e.g. government).

The author has worked with several First Nation governments in northern and central British Columbia, and has conducted external financial statement audits for many of these clients. This has provided a strong background for understanding financial reporting standards for First Nation governments, common issues faced by First Nation governments, and on-the-ground knowledge of several First Nation communities in British Columbia. As part of the fiscal year-end audit process, the author would lead an audit team on-site at the local First Nation's office. This provided the opportunity to visit multiple First Nation communities, discuss issues with management and Chief and Council, and gain a direct understanding of the realities faced by many First Nation communities.

The work of this manuscript combines the above-mentioned professional experience with the academic knowledge obtained throughout the Masters of Business Administration (MBA) program at Thompson Rivers University. This thesis manuscript is being completed as a partial requirement for this MBA program.

Appendix U: Stratified Trust Activity Correlational Analysis

This appendix provides an analysis between of the stratified trust activity financial indicators and the demographic indices. There is a large spread in the level of trust fund assets held by First Nations. The majority of First Nations hold zero or a low level of trust fund assets, some hold a moderate level, and a small number of First Nations hold a high level of trust fund assets. The First Nations are stratified on the basis of trust fund assets per capita, which are defined as follows. First Nations are considered to have low trust assets if the trust asset capita measure is $0 – $4,999, moderate trust assets if the capita measure is $5,000 - $39,999, and high trust assets if the capita measure is $40,000 or higher.

After evaluating the correlational scatterplots in Appendix R, it appeared possible that a distinct correlation may exists based on the above defined stratifications. To determine if distinct correlations exist, a Pearson correlation coefficient will be calculated between trust financial indicators and the demographic indices by each stratification group. The correlational results can be found on the follow page in Figures A740 – A742. Note that statistical significance at the 5% level is indicated with an * in Figures A740 – A742. When statistically significant correlations are present, or when trends are identified, correlational scatterplot and line of best fit graphs are evaluated.

Recall that few statistically significant correlations were found between the trust activity financial indicators and the demographic indices for the total population, as per Table 43. Conducting this stratified correlational analysis will provide a better understanding of relationships based on the stratified groups of low trust assets, moderate trust assets, and high trust assets. This appendix conducts the correlational analysis in the following format. First are the R summary tables by stratification group that present the Pearson correlation coefficients. Second is the analysis of the results, which makes reference to both the R summary tables and the scatterplots/line of best fit graphs. Third are the scatterplot and line of best fit graphs that present the findings in graphical format. Note that a high-level discussion of these findings is summarized in Chapter 4 under the subheading R Results and Discussion Between Financial Indicators and Demographic Indices.

Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A740: R Summary Between Trust Activity Financial Indicators and Demographic Indices – Low Trust Assets (390 First Nation Communities)

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust Fund Assets Ratio	0.02	-0.06	-0.04	-0.06	-0.05	-0.07
Trust Fund Assets Capita	0.13*	0.13*	-0.14*	0.03	0.10	0.07
Trust Revenue Ratio	-0.07	-0.11*	0.02	-0.07	-0.06	-0.11*
Trust Revenue Capita	-0.03	0.01	-0.02	0.06	0.02	0.02

Figure A741: R Summary Between Trust Activity Financial Indicators and Demographic Indices – Moderate Trust Assets (38 First Nation Communities)

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust Fund Assets Ratio	-0.19	-0.38*	0.31	-0.60*	-0.39	-0.46
Trust Fund Assets Capita	-0.05	0.04	0.08	-0.07	-0.04	0.01
Trust Revenue Ratio	0.08	0.33*	-0.01	-0.09	-0.09	0.11
Trust Revenue Capita	0.16	0.50*	0.03	0.21	-0.12	0.38*

Figure A742: R Summary Between Trust Activity Financial Indicators and Demographic Indices – High Trust Assets (18 First Nation Communities)

Financial Indicators	Demographic Indices					
	Education	Workforce	Language	Housing	Income	Nation Wellness
Trust Fund Assets Ratio	-0.27	-0.55*	0.33	-0.56*	-0.73*	-0.63*
Trust Fund Assets Capita	0.30	0.16	-0.14	-0.17	-0.15	-0.03
Trust Revenue Ratio	-0.04	-0.03	0.25	-0.14	-0.05	-0.02
Trust Revenue Capita	-0.06	-0.05	0.30	-0.16	-0.10	-0.04

Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Very distinct correlations are present between the stratification categories. The low trust asset First Nations maintain the lowest correlation as presented in Figure A740. Note that 390 First Nations are included in this category, as most First Nations hold a low amount of trust fund assets. Positive and statistically significant correlations are present between trust fund assets capita and the education and workforce indices. A negative and statistically significant correlation exists between trust fund asset capita and the language index. Likewise, negative and statistically significant correlations exist between trust revenue ratio and the workforce and Nation wellness indices. While these correlations are statistically significant, all of the Pearson correlation coefficients are low (range from -0.14 to 0.13).

Stronger and statistically significant correlations are present for First Nations that maintain a moderate or high level of trust assets. Note that 38 First Nations are included in the moderate trust asset category, with 18 First Nations included in the high trust asset category. Even with the smaller number of Nations in each category, distinctive trends have been identified in the Pearson correlation coefficient results in Figures A741 – A742 and the relating scatterplot/line of best fit graphs in Figures A743 – A761. The key trends are discussed below.

The first trend for moderate and high trust assets Nations is a negative correlation between the workforce index and the trust fund assets ratio. Moderate trust assets Nations maintain a correlation of -0.38*. The relating graph can be found in Figure A744, which demonstrates a negative trend in the line of best fit. High trust assets Nations maintain a correlation of -0.55*. The relating graph can be found in Figure A745. In comparison, low trust assets Nations maintain a correlation of -0.06, which is not statistically significant. The key trend demonstrates that Nations with high or moderate levels of trust fund assets per capita maintain negative correlation with the workforce index.

The second trend for moderate and high trust assets Nations is a negative correlation between the housing index and the trust fund assets ratio. Moderate trust assets Nations have a correlation of -0.60*. The relating graph can be found in Figure A747, which indicates a negative trend in the line of best fit. High trust assets Nations maintain a correlation of -0.56*. The relating graph can be found in Figure A748. Note that low trust assets Nations

have a non-statistically significant correlation of -0.06. This trend indicates that Nations with high or moderate levels of trust fund assets per capita maintain negative correlations with the housing index.

A third trend is found for Nations with low trust assets when evaluating trust fund assets capita. This capita measure maintains statistically significant correlations with the education index (0.13*), workforce index (0.13*), and the language index (-0.14*). The relating graphs can be found in Figures A755 – A757. Note that these correlation coefficients have low values, but the lines of best fit indicate that a general trend is present. No statistically significant trends were found in the relating correlations for moderate or high trust assets Nations. Additional scatterplot and line of best fit graphs are presented in the following section. While some trends can be evaluated, the trends appear to be weaker and may be skewed by outliers. As such, the remaining correlational coefficients and relating graphs will not be discussed further.

This stratified sample analysis provides evidence that distinct relationships exist between First Nations with low, moderate, and high levels of trust assets per capita. This makes intuitive sense, as low levels of trust assets may not be sufficient to make a meaningful impact within a First Nation community. The limited number of statistically significant observations and the low value of correlation coefficients for the low trust assets sample supports this. A less intuitive finding is the negative correlation between the trust fund assets ratio and the workforce/housing indices for Nations with moderate and high trust assets per capita. Nations holding higher levels of trust assets would be expected to have greater resources to promote wellbeing within their communities. It is important to not draw causal conclusions based on this analysis, as it is possible that other variables could explain the correlation. For example, a higher trust fund assets ratio means that a greater percentage of the Nation’s assets are tied up in trust funds. A higher percentage of trust assets may mean that less assets are invested in tangible capital assets such as community housing. Likewise, a higher percentage of trust assets may mean that there is less investment in Nation owned businesses that could provide employment opportunities. Better understanding the trends uncovered in this analysis would be an interest area of future research.

Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A743: Workforce Index and Trust Fund Asset Ratio Correlation and Line of Best Fit - Low Trust Assets

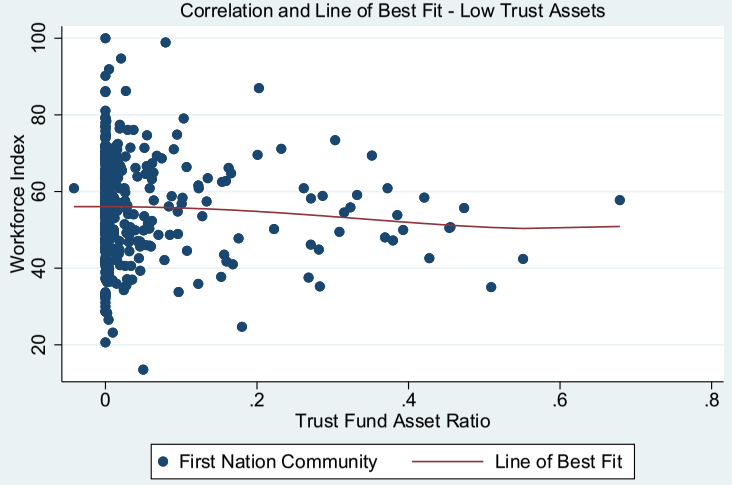


Figure A744: Workforce Index and Trust Fund Asset Ratio Correlation and Line of Best Fit - Moderate Trust Assets

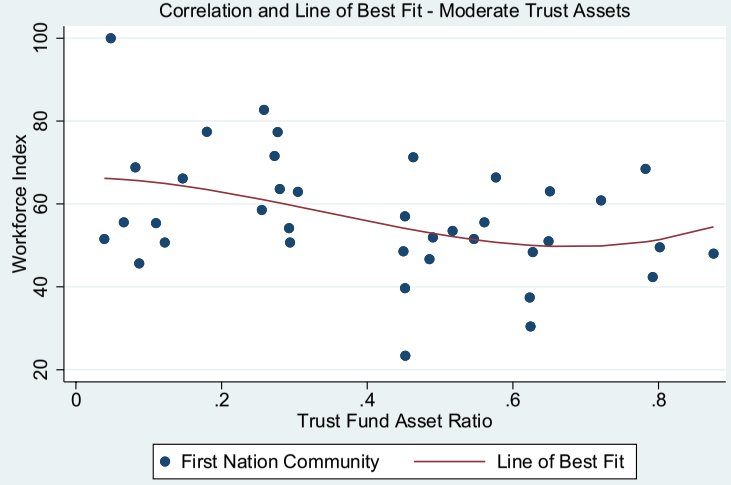


Figure A745: Workforce Index and Trust Fund Asset Ratio Correlation and Line of Best Fit - High Trust Assets

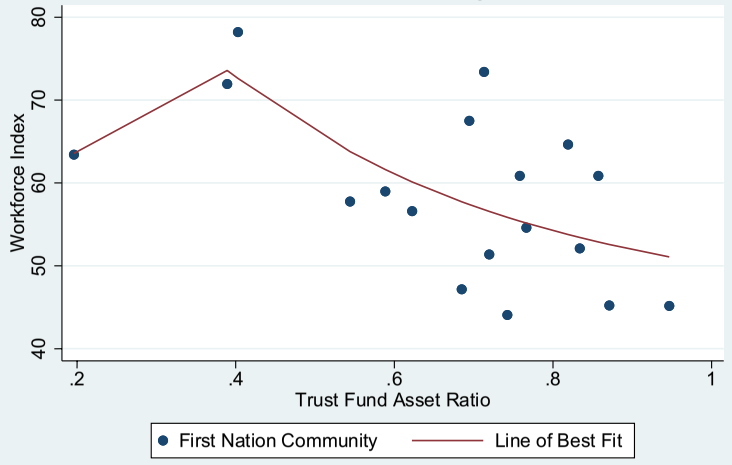
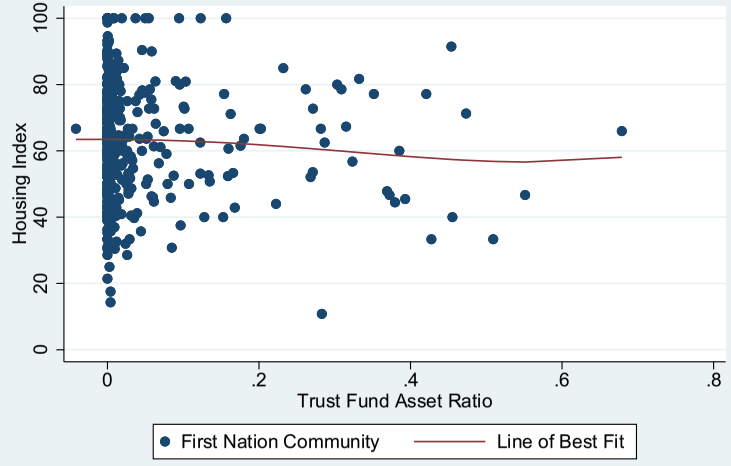


Figure A746: Housing Index and Trust Fund Asset Ratio Correlation and Line of Best Fit - Low Trust Assets



Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A747: Housing Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Moderate Trust Assets

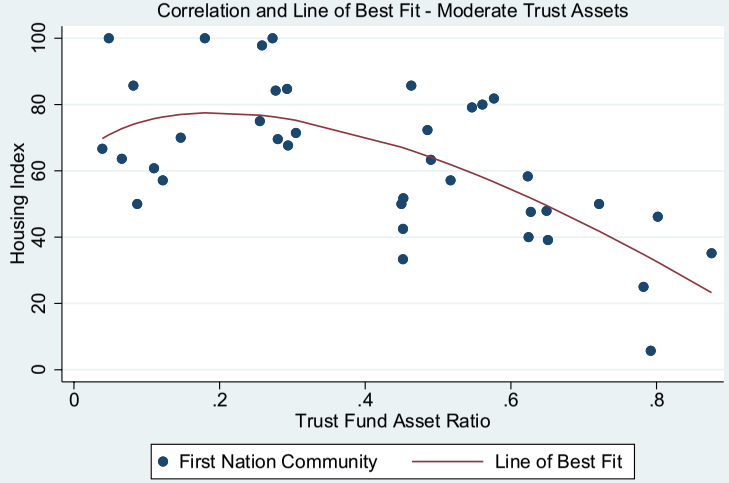


Figure A748: Housing Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - High Trust Assets

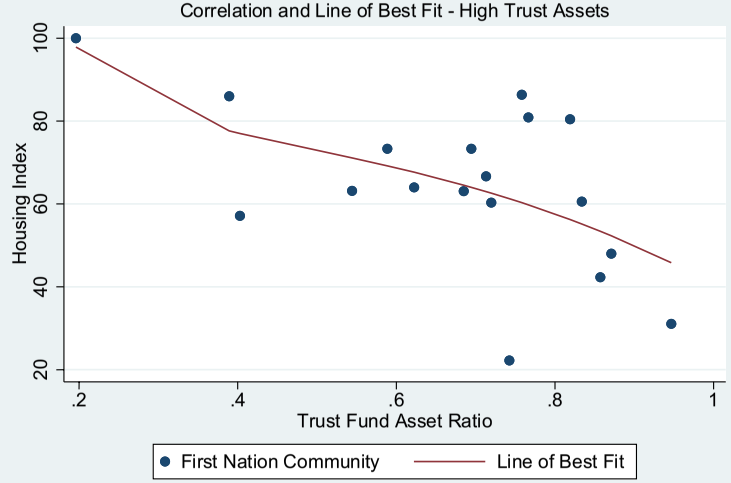


Figure A749: Income Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Low Trust Assets

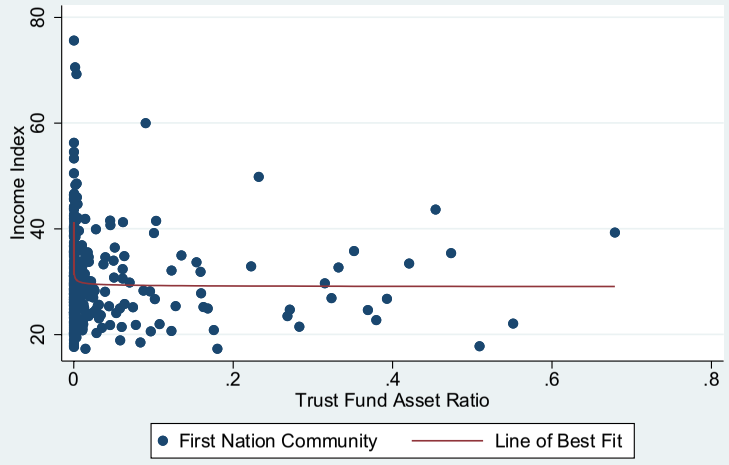
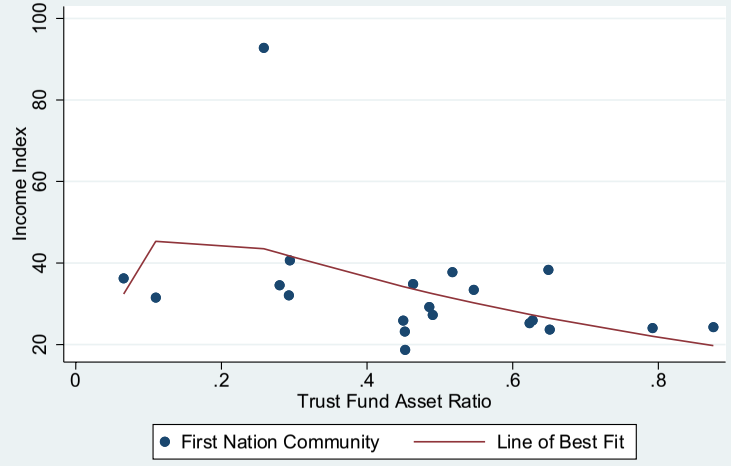


Figure A750: Income Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Moderate Trust Assets



Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A751: Income Index and Trust Fund Asset Ratio
Correlation and Line of Best Fit - High Trust Assets

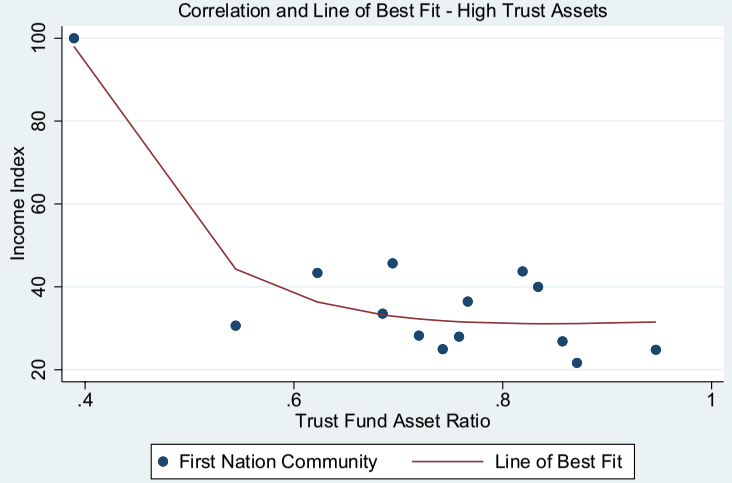


Figure A752: NWI and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Low Trust Assets

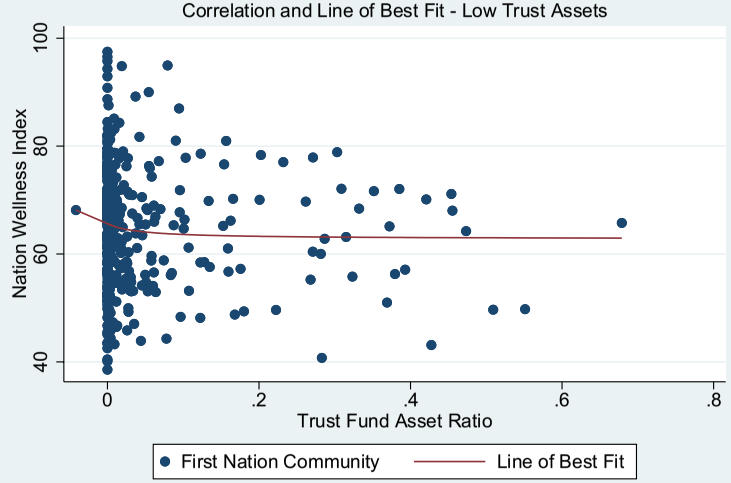


Figure A753: NWI and Trust Fund Asset Ratio
Correlation and Line of Best Fit - Moderate Trust Assets

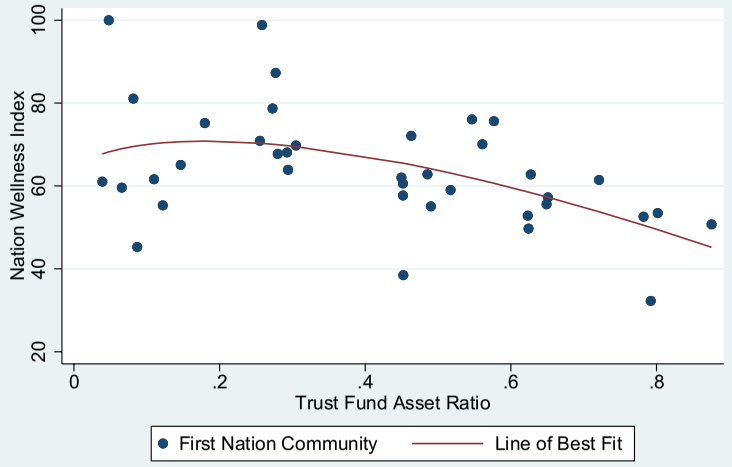
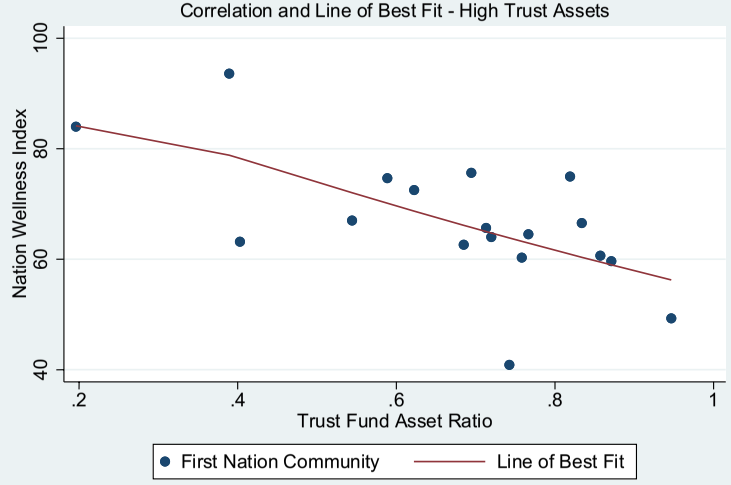


Figure A754: NWI and Trust Fund Asset Ratio
Correlation and Line of Best Fit - High Trust Assets



Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A755: Education Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Low Trust Assets

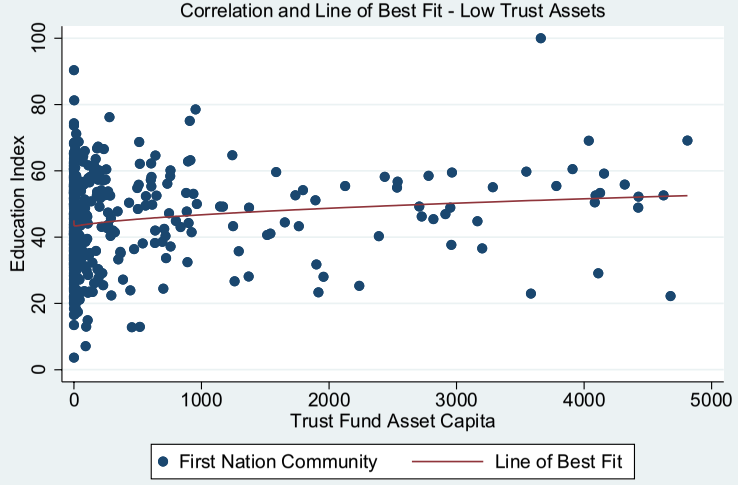


Figure A756: Workforce Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Low Trust Assets

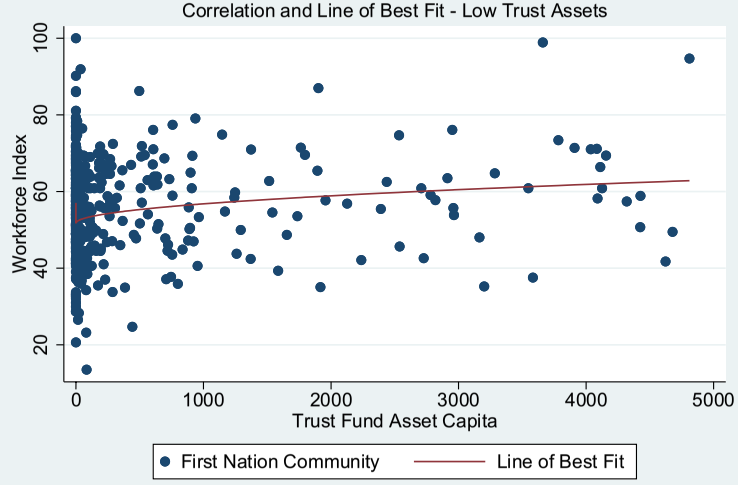


Figure A757: Language Index and Trust Fund Asset Capita
Correlation and Line of Best Fit - Low Trust Assets

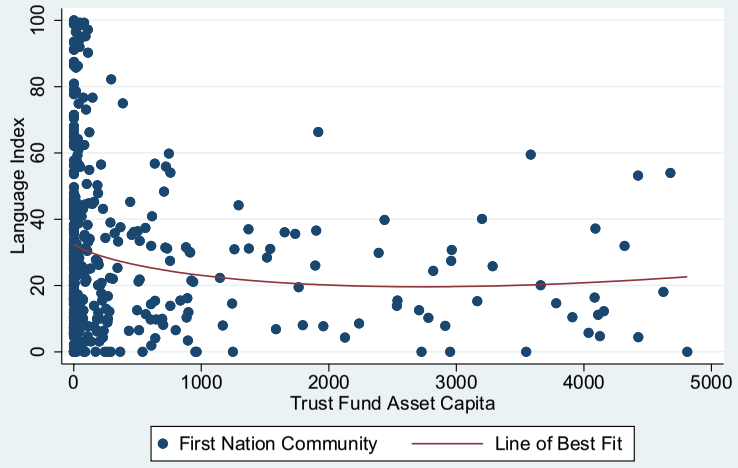
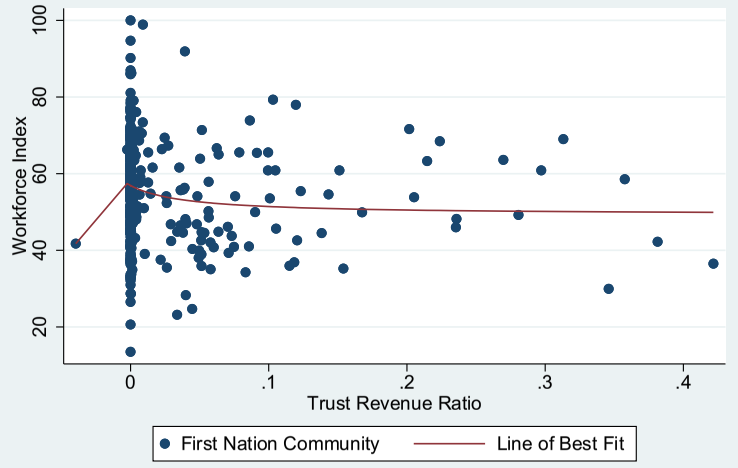


Figure A758: Workforce Index and Trust Revenue Ratio
Correlation and Line of Best Fit - Low Trust Assets



Appendix U: Stratified Trust Activity Correlational Analysis (continued)

Figure A759: Workforce Index and Trust Revenue Ratio
Correlation and Line of Best Fit - Moderate Trust Assets

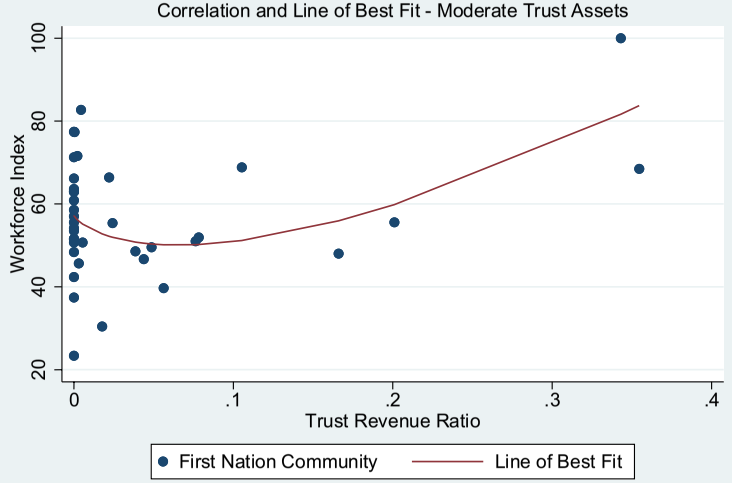


Figure A760: Workforce Index and Trust Revenue Capita
Correlation and Line of Best Fit - Moderate Trust Assets

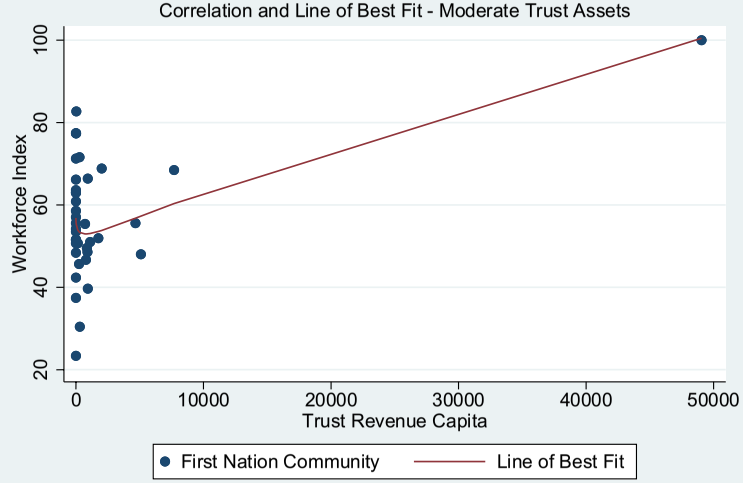


Figure A761: NWI and Trust Revenue Capita
Correlation and Line of Best Fit - Moderate Trust Assets