**Wealth Accounts**

Govardhan Arempula

@00611546

Contents

[Dashboard Design 3](#_Toc101264232)

[1. Introduction 3](#_Toc101264233)

[2. Background Research 3](#_Toc101264234)

[3. Exploration of Data Set 8](#_Toc101264235)

[4. Investigation of Data Workflows & Proposal for Design of Dashboard 10](#_Toc101264236)

[5. Discussion 15](#_Toc101264237)

[6. Conclusions 15](#_Toc101264238)

[Statistical Analysis 16](#_Toc101264239)

[1. Introduction 16](#_Toc101264240)

[2. Background Research 16](#_Toc101264241)

[3. Exploration of Data Set 19](#_Toc101264242)

[4. Analysis 24](#_Toc101264243)

[5. Discussion 33](#_Toc101264244)

[6. Conclusions 33](#_Toc101264245)

[7. References 34](#_Toc101264246)

# Dashboard Design

# Introduction

Wealth Accounts is a methodology for measuring income assets that generates by the country including all sources of income produced in different sectors like Forests, Land, Fisheries, timber, fossils, labour, Human capital, Minerals and Enegry, Net foreign assests and it includes produced income like machineries used in industries, buildings, infrastructures like highways and ports.

Countries depends on GDP (Gross Domestric Product) as a measure of economic growth of the country over a time period only measures current income and production,

that only tells us about income for the long term or the assests that produce income.For example when a country exploits its minerals it is actually depleting wealth but its not measured by GDP. Sometimes GDP is not answer to the growth sustainability.

Comprehensive wealth accounting can provide an estimation of the total wealth of the countries that produced by different components of wealth. Changes in wealth is an indicator to asses if a country growing its income without depleting its stocks.

We measure changes in wealth by adjusted net savins(ANS) which captures the real difference between production and consumption by including depreciation of fixed capital, depletion of natural resources,investment in human capital.

# Background Research

Dashboard design are analytical tools that gives user a unified view of a most important data in the dataset.They consolidate a real time information in a simple and easy to understand and dynamic format.Dashboards are especially useful when we are considering and comparing multiple datasets at a time.

Graphical user interface, application

Description automatically generated

Fig:1

There are four fundamentals of dashboard design:content,layout,color and fonts.By manipulating each of these layers we can understand the generalised information and stastistics of the data.

In dashboard design data visualisations should organize and present data in a coherent manner, as organisations collect more and more data, visualisations are increasingly vital to communicate real-time and actionable insights.

Raw data presented as rows and columns of numbers is a little business use because it is difficult to underlying patterns in the data, effective visualisations transcend the limits of spreadsheets by enabling us to easily understood more data in less time.

**Tabular format:**

is best used when exact quantities of numbers must be shown.numbers presented in rows and columns may contain summary information.This format is not enough to finding trends and comparing datasets because its hard to analyze sets of numbers and presentation becomes unwieldy with large datsets.

Graphical user interface, application, table, Excel

Description automatically generated

Fig:2

**Line charts:**

When trying to visualise continuous data over time, line charts are the best option. Line charts are good for displaying data trends since they are set against a common scale.Chart

Description automatically generated

Fig:3

**Bar Charts:**

When comparing two categories, **bar charts** are employed. The bars are proportional to the values they represent and are plotted horizontally and vertically. One axis of the chart depicts the precise categories being compared, while the other depicts discrete values through time.

Chart, bar chart

Description automatically generated

Fig:4

**Pie charts:**

are used to compare parts to wholes, pie charts make data on relative importance of values easy to understand, but it is difficult to compare the results when there are more than five values. It seems to be too limited to be usefully interpreted. The burst pie chart, which emphasises key data, and the donut pie chart, which supports by putting a design element in the middle of the pie, are two more graphic forms.Chart, pie chart

Description automatically generated

Fig:5

**Heat maps** are best used to represent geographical of data, individual values shown as colors.

Map

Description automatically generated

Fig:6

**Slicer**  is used to filter the important values in dataset for easy access, they narrow the portion of dataset. This is used to select the rquired values of particular countries, years and etc..,

Diagram

Description automatically generated with medium confidence

Fig:7

# Exploration of Data Set

Wealth Accounts of different countries dataset is downloaded as .xlsx file from <https://databank.worldbank.org/source/wealth-accounts> by selecting ten top most economically developed countries like United states of America, Australia, India,Canada,United Arab Emirates,Singapore, France, Great Britan,South Africa, Germany of their Total wealth from 2009 to 2018.

This dataset consists of Year, Country code,country name, Human capital (Male and Female), Natural capital of different natural resources as columns of the dataset of these selected countries. This dataset is cleaned with removing all null values in the datset by filling with mean values of the corresponding values to get the desired output results when designing dashboard, for that Auto sum(ALT=) , mean(Mean = (Sum of Observations) ÷ (Total Numbers of Observations), meadian({(n+1)/2}), and some sort of data filterations performed. And formatting Date and Time columns as Year to get easy access to dataset visualisation. **Normalisation** is used in the datset to avoid redundant data and making dataset more flexible by eliminating inconsistent dependency.Duplicates are removed, making data navigation simpler and transformed Human capital to Male and female capital and added to dataset.

Graphical user interface, application, table, Excel

Description automatically generated

Fig:8

The relational nature between the attributes in the dataset are Human capital and Natural capital are differentiated as the Total wealth of the particular countries. Where the Human resources are the workers and natural resources are came from the nature which cannot change by the human.Examples of the natural resources are fossils,fisheries,timber,agriculture,minerals etc.., capital resources made by human to produce products. These capitals are stated as the main sources of wealth indicators of a country. This helps in sustainability growth of the countries.

When compared between Human capital and natural capital of the different countries Natural capital is less than Human capital in number.

Graphical user interface

Description automatically generated with medium confidence

Fig:9

In the human capital Male capital is more than female capital of each country over the time period.

Chart, bar chart

Description automatically generated

Fig:10

# Investigation of Data Workflows & Proposal for Design of Dashboard

1. Importing data set into Power BI

Wealth accounts of different countries loaded as table into powerbi.

Graphical user interface, text, application

Description automatically generated

Fig:11

1. As country code as the common column, modelling with one to one relationship.

Graphical user interface

Description automatically generated with low confidence

Fig:12

Graphical user interface, application, table

Description automatically generated

Fig:13

Here it shows the coal and minerals assets of natural capitals of different countries.

Graphical user interface, application

Description automatically generated

Fig:14

**Maps** are divided into Regional maps, point maps, flow maps, here maps are showing natural capital and human capital of different countries with regional maps.

**Donut charts**  are similar to pie charts showing Male and female human capital.

Chart, sunburst chart

Description automatically generated

Fig:15

**Key influencer charts**  are used to find the individual factors that drive outcome. An outcome can be numerical and categorical. It uses Regressive analysis, it is a statistical method, this method calculates how the dependent variable changes based on the independent variables.Regression is trying to find the corelation between variables.

Chart

Description automatically generated with low confidence

Fig:16

Here Female capital and male capital are related factor of Human capital(fig:14).

Chart

Description automatically generated

Fig:17

Graphical user interface

Description automatically generated

Fig:18

Here the Human capital and natural capital are the factors of total wealth of the countries from 2009 to 2018.

**Line graphs:**

When trying to visualise continuous data over time, line graphs are the best option. Line charts are good for displaying data trends since they are set against a common scale. These can also be used to determine how long Total capital will last.Here it representing total wealth future trend.

Chart

Description automatically generated

Fig:19

Here it shows the camparision between male and female capital growth of different countries over the specified time period.

Chart, line chart

Description automatically generated

Fig:20

# Discussion

The results indicates that how to measure the national wealth depending on the different income resources and this includes adding measure for blue natural capital like fisheries,mangroves as well as forest timber and this report tracks the wealth of 10 countries between 2009 to 2018, by measuring the economic values of natural renewable resources like forest timber,agriculture crops, ocean resources, non renewable natural capital of fossil fuels,minerals and human capital of Male and Female earnings. And net foreign assests and produced capital like buildings and infrastructure.By looking at all these assests that underpin the total wealth of the countries.Wealth accounts means to track the economic progress into future.

In line with the hypothesis the calculations of Human capital and the Natural capital are resulting the Total wealth of the countries, where as the GDP cannot calculate all these factors, that only calculates current income and production.

A change in wealth is an indicator to asses a countries potential to grow in future.It is useful to think of GDP as a return of wealth.

With the help of power BI visualization created dashboard and compared various factors of all countries.

# Conclusions

This report shows how comprehensive wealth accounts provides a valuable tool to calculate economic analysis.Considering a wide range of future scenarios provides an opportunity to identify policies and investment choices as well as endogenous choices

that may be made by future decision makers.

The goal is not to predict future asset values but to inform decision making under uncertainty. The wealth accounting approaches a better appreciation of components of the wealth. There are limited estimations to human capital and produced capital, the implications of the transfer of human capital through temporary or permanent migration is another area of great concern and not directly measured by wealth accounts.Including the asset values of natural capital effecting carbon sinks or substracting from the wealth accounts, cost of emissions challenges the impact of countries economic growth and critical natural capital not amenable to wealth accounts. A global push for greater inclusivity to extreme inequality in distribution of wealth and income is a major issue.Much more work has to be done to meat the goal of comprehensive wealth accounts of the nations.

# Statistical Analysis

# Introduction

Statistical Analysis is the science of collecting data and uncovering patterns and trends.This collects and analyze large amounts of data to identify common patterns and trends to convert them into meaningful information, it involves in working with numbers. There are different types of statistical analysis: Descriptive, Inferential,Predictive,Prescriptive,Exploratory and casual analysis.

Statistical Analysis helps to make informed and decision makings, it helps in identifying the cause or failure of market strategies.

The research objective of this data set to verify the factors related to Total Wealth of different countries statistics, comparing between Human and Natural capital assets of their countries.

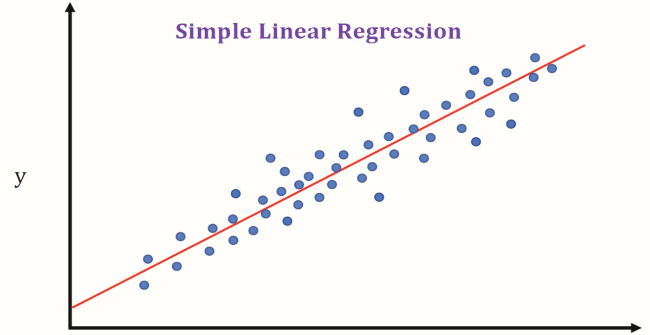
# Background Research

Wealth Accounts are the important factor for the nations other than GDP to understanding whether the nation is developing sustainably requires understanding how the comprehensive wealth is evolving.Simply measuring GDP growth is not enough, it is essential to know whether the asset growing along side of GDP.The trends in Natural Capital and Human Capital is between 2009 to 2018 is observed using similar analysis studies like Descriptive Statistics and corelation between the attributes to produce wealth of countries.Natural capital is the largest component of the wealth in low-income countries(47%)in 2014. Human Capital and its share increased over the decade from 2009 to 2018 with approximately 59% of the countries.Produced capital is growing in global is observed using Exploratory analysis.

**Descriptive statistics:**

Descriptive statistics summarise and organise a dataset's features. The average, mean, median, and frequency distribution of variables in a dataset are the first steps in descriptive statistics. Identify the dataset's continuos and categorical properties. We can assess data distribution and central tendency using descriptive statistics on the dataset, such as Range and Standard deviation, skewness, Kurtosis, Percentile, and so on.

**Regression Analysis:**

Regression analysis is the study of the relationship between dependent and independent variables, or how one variable affects another. The line in regression analysis graphs and charts indicates whether there is a weak or strong association between variables. The regression formula is **Y=a+b(x).** Because regression isn't unique, outliers on scatter plots are crucial.

**Hypothesis Testing:**

Hypothesis testing, commonly known as T-testing in statistical analysis, is a crucial test of the two sets of random variables in the dataset. It allows you to compare data from different hypotheses and assumptions. The test's outcome determines whether the assumption is correct or whether it has been violated; these assumptions are known as null hypotheses. H0:P=0.5, H1:P!=0.5 is the formula for hypothesis testing.

Hypothesis tests include the Z-test, t-test, ANNOVA, and chi-square tests.

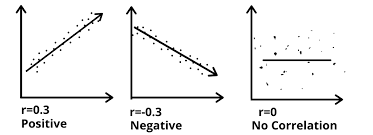
**Standard deviation:**

The standard deviation is a statistical tool for calculating the spread of data around the mean. A low standard deviation implies that the values are close to the mean, whereas a high standard deviation suggests that the values are dispersed across a large range. The standard deviation is calculated using the formula.



**Correlation:**

Correlation analysis is used to examine how closely two variables move in lockstep with one another. Positive corelation occurs when two variables move in the same direction. Negative correlation occurs when they move in opposite directions. The formula for corelation is.



Correlation coefficients are used to assess the strength and direction of the linear relationship between two continuos variables. When both variables are normally distributed we use Pearson correlation coefficient ‘r’. Otherwise we use Spearmans correlation coefficient (), which is non-paramatic in nature.



# Exploration of Data Set

The important part of statistical analysis is data exploration part, by analyzing dataset of formatting date and time, filling null values in datset to avoid to get desired output results using SAS tool. The following Wealth\_Accounts file having the different attributes in dataset.



1. Launch SAS Enterprise Guide 7.1
2. Import dataset into SAS by selecting File : Import Data

A picture containing diagram

Description automatically generated

3.Clean Data set

(i). find any missing values in the dataset and identifying outliers in the dataset using boxplot.

Graphical user interface, text, email

Description automatically generated

Output:

Table

Description automatically generatedGraphical user interface, chart, box and whisker chart

Description automatically generated

4.Identifying length of the dataset and different types of attributes using PROC contents.



Graphical user interface, application, table, Excel

Description automatically generated

5.Verifying top ten rows of dataset.

Graphical user interface, text, application

Description automatically generated

A picture containing table

Description automatically generated

6.Using SGPLOT, plotting simple line graph of Total wealth of the countries.

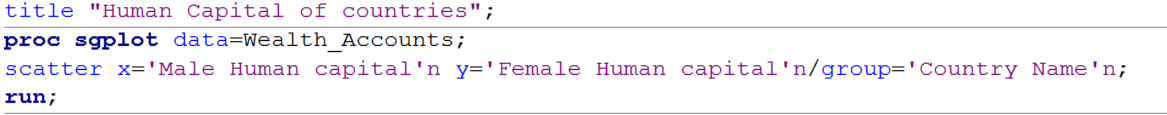
Graphical user interface, text, application

Description automatically generated

Graphical user interface, application

Description automatically generated

7.Plotting scatter plot of Human capital of countries using SGPLOT



Chart, scatter chart

Description automatically generated

8.Plotting Total wealth of Countries using SGPLOT bar graphs with repesctive to countries.

Graphical user interface, text, application

Description automatically generated

Chart, histogram

Description automatically generated

9.identifying correlation between the variables of datset

Text

Description automatically generated with medium confidence

The correlation coefficients between the variables values range from -1 to +1 , coefficient of -1 indicates negative correlation and +1 indicates positive correlation.From the Wealth\_Accounts dataset, the relation between all the variables.Among these variables Human Capital has highest correlation compared to other variables in dataset with number 0.9917 positive correlation.

Table

Description automatically generated

# Analysis

**1.Comprehensive Descriptive Statistics Analysis:**

Descriptive statistics analysis is used to identify the continuous and categorical attributes from the dataset through various mathematical techniques using average,mean,mode,meadian,min,max,standard deviation of all variable with respect to total wealth using PROC MEANS.

Text

Description automatically generated

Graphical user interface, application

Description automatically generated

Mean: it represents sum of no of values / total no of values. Total wealth has mean value of 4.6658.

Median: it shows the median value of the total wealth having 2.707

Standard deviation: variation of data in dataset among the variables, Total wealth having sd value of 7.4269

From the summary of descriptive statistics analysis Skewness is 2.52718 and Kurtosis is 4.199.

Graphical user interface, text, application

Description automatically generated

Table

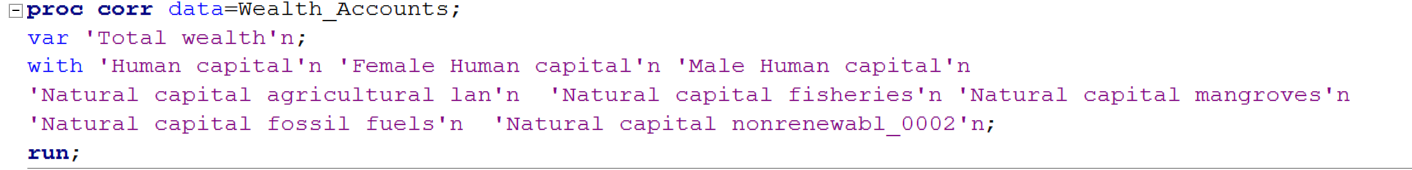
Description automatically generated

The distribution of data Total wealth is Right skewed as Mean>Median

Chart, histogram

Description automatically generated

**2.Correlation Analysis**



Table

Description automatically generated

From the above table Human capital has highest corelation with Total wealth of 95%.

**3.Regression Analysis**

It is the process of identifying relationship between dependant variable and independent variables. The most common analysis of regression is the Linear Regression model is type of model used in most applications, these are simple and easy to handle mathematically, they provide estimate relationship between x and y.

Graphical user interface, text, application

Description automatically generated

Text, table

Description automatically generated

Table

Description automatically generated

Graphical user interface, diagram, engineering drawing

Description automatically generated

Chart, line chart, scatter chart

Description automatically generated

**4.Hypothesis Testing**

Hypothesis testing is a technique for determining if statements or assumptions about a group of people are likely to be correct.

Hypothesis testing is used to determine the probability that a population parameter, such as the mean, is correct. In a null hypothesis, the value in a population mean, which we assume is true. We can presume that this is accurate because the total wealth of the country is based on human capital and natural capital. The null hypothesis (H0) is a statement concerning the population parameter. A statement that explicitly contradicts a null hypothesis by declaring that the value is lessthan, not equal to, equal to, or greaterthan the value indicated in the null hypothesis is known as an alternative hypothesis (H1).Text

Description automatically generated

Table

Description automatically generated Chart, line chart, histogram

Description automatically generated

Graphical user interface, application

Description automatically generated Chart, line chart

Description automatically generated

Conclude results:

As the p value <0.0001 with respect to alpha=0.05 rejecting the null Hypothesis H0. That means Total wealth is increasing with Human capital

The correlation of fishers Z test correlation p value is>0.05 for null hypothess but hypothesis1 contradicting with corelation.

Text

Description automatically generated

Table

Description automatically generated

Hypothesis Using ANOVA:

Anova test can be compared means between one or more independent groups and determines whether any one of these statistically different from each other,specifically it tests null hypothesis H0:µ1=µ2=µ3…=µk, where µ=mean, and k is number of groups.Here Human capital is depend on Country code (H0), Human capital is not depending on Country code (H1).

Graphical user interface, text, application

Description automatically generated

Graphical user interface, application

Description automatically generated

Chart, scatter chart

Description automatically generated

Chart

Description automatically generated

Hypothesis using Paired T Test:

Paired TTest is used to test whether the mean difference between the pairs of variables measurements zero or not.

Paired TTest has two competeting null hypothesis and alternative hypothesis, where the null hypothesis tests the mean of paired samples is zero.Here the mean difference between Total wealth and Human capital sample is p is zero(H0).

Graphical user interface, text, application, email

Description automatically generated

A picture containing table

Description automatically generatedChart, line chart, histogram

Description automatically generatedChart, scatter chart

Description automatically generated

Validating alternative hypothesis with Fishers Z and P values for the dataset.

Text

Description automatically generated

Table

Description automatically generated

# Discussion

Statistical analysis of Wealth\_Accounts is described with similar statistical analysis methods of Linear Regression, Correlation, Descriptive statistical Analysis, Hypothesis Testing methods.To find the significant mean difference between the different paired variables in the dataset used t-test, compared the mean difference between Total wealth and Human capital, Natural Capital is normal in distributed datset (Wealth\_Accounts). The results of the t-test shows Total wealth significant p value is 0.005 lessthan 0.05.The mean value of Human capital is more than Natural capital, The null hypothesis is rejected, The importance of the natural capital is described as that is also a major factor in countries economic development other than GDP. The natural capital from naturally occurred forest timber, mangroves, fisheries, fossil fuels , non renewable natural capitals all these assets of a country to calculate its wealth accounts . GDP is not enough to justify the economic development it only measures the income produce by total population of the country. Linear regression models are discussed how the one variable effects the other variable as Human capital capital and natural capital effects the Total wealth of the countries.Discussed positive and negative correlation between the variable in the datset is defined where the Human capital is having more correlation with the Total wealth of countries is about 0.99% than other variables. United States of America having the highest Human Capital and natural capital among the other countries.

# Conclusions

Using Statistical Analysis examined the mean differences between the variables with each other in Wealth accounts dataset of different countries.Where the Human Capital and Natural capital having the highest correlation with the Total wealth of the countries using Correlation Analysis on the data set, which the Human capital having highest correlation with Total wealth of the countries compared to others.Including the natural capital assets to the wealth accounts of a country effects the countries economic growth. These statistical analysis are more mathematically precisioned to observe the relation between the groups of the data. From the above data observed that the Human capital is the major part in the Countries Wealth account development index as its having highest correlation. Total wealth of the countries is increasing with the increase in Human and natural capital.

# References

[1]. W.J. and Massey, F.J. (1983) Introduction to Statistical Analysis, McGrawHill, New York.

[2]. R.D. and Weisberg, S. (1982) Residuals and Influence in Regression, CRC/Chapman & Hall, London.

[3]. , J.A. (1977) A reformulation of linear models. Journal of the Royal Statistical Society A, 140, 48–63.

[4]. Scheffé, H. (1959) The Analysis of Variance, Wiley, New York.

# Appendix

\*\*\*\*clean dataset\*\*\*\*\*;

title " Identifying missing values";

**proc** **format**;

value $mis ''='Missing' other = 'Not Missing';

value mis **.** = 'Missing' other = 'Not Missing';

**run**;

**proc** **freq** data= Wealth\_Accounts;

format \_CHAR\_$mis.;

format \_NUMERIC\_ mis.;

tables \_CHAR\_ / missing nocum nopercent;

tables \_NUMERIC\_ / missing nocum nopercent;

**run**;

title "identifying outliers using box plot";

**proc** **SGPANEL** data= Wealth\_Accounts;

panelby Year;

vbox 'Total wealth'n;

title 'Total Wealth of countries';

**run**;

**proc** **contents** data=Wealth\_Accounts;

**run**;

\*\*\*\*\*Exploring dataset\*\*\*\*;

title "Display top ten rows";

**proc** **print** data=Wealth\_Accounts(obs=**10**);

**run**;

title "line plot of Total wealth of countries";

**proc** **sgplot** data=Wealth\_Accounts;

series x=Year y='Total wealth'n/group='Country Code'n;

**run**;

title "Human Capital of countries";

**proc** **sgplot** data=Wealth\_Accounts;

scatter x='Male Human capital'n y='Female Human capital'n/group='Country Name'n;

**run**;

title "Natural Capital of Countries";

**proc** **sgplot** data=Wealth\_Accounts;

scatter x='Natural capital agricultura\_0001'n y='Natural capital forests ecosyste'n/group='Country Name'n;

**run**;

title " Total Wealth of countries";

ods graphics;

**proc** **sgplot** data=Wealth\_Accounts;

vbar 'Country Code'n / response='Total wealth'n;

yaxis grid;

**run**;

title "correlation Analysis";

ods graphics;

**proc** **corr** data=Wealth\_Accounts plots=matrix;

**run**;

title "descriptive analysis of dataset";

ods graphics;

**proc** **means** data=Wealth\_Accounts mean median max std min;

var 'Female Human capital'n 'Human capital'n 'Male Human capital'n 'Natural capital agricultura\_0001'n 'Natural capital agricultural lan'n 'Natural capital fisheries'n

'Natural capital forests ecosyste'n 'Natural capital forests timber'n 'Natural capital fossil fuels'n 'Natural capital mangroves'n

'Natural capital nonrenewabl\_0001'n 'Natural capital nonrenewabl\_0002'n 'Natural capital nonrenewabl\_0003'n 'Natural capital nonrenewabl\_0004'n 'Natural capital nonrenewable ass'n 'Natural capital renewable'n 'Total wealth'n;

**run**;

title "Total wealth distribution analysis";

**proc** **univariate** data=Wealth\_Accounts;

var 'Total wealth'n;

histogram 'Total wealth'n/normal;

**run**;

**proc** **corr** data=Wealth\_Accounts;

var 'Total wealth'n;

with 'Human capital'n 'Female Human capital'n 'Male Human capital'n

'Natural capital agricultural lan'n 'Natural capital fisheries'n 'Natural capital mangroves'n

'Natural capital fossil fuels'n 'Natural capital nonrenewabl\_0002'n;

**run**;

title "Regression Analysis";

**proc** **glm** data=Wealth\_Accounts plots=diagnostics;

class 'Country Code'n;

model 'Total Wealth'n = 'Human Capital'n;

manova h=\_all\_/ printe printh;

**run**;

title "HYPOTHESIS TESTING";

**proc** **ttest** data=Wealth\_Accounts plots=qq alpha=**0.05**;

paired 'Human Capital'n \* 'Total Wealth'n;

**run**;

title "HYPOTHESIS TESTING";

**proc** **ttest** data=Wealth\_Accounts plots=qq alpha=**0.05**;

paired 'Natural capital nonrenewabl\_0001'n \* 'Total Wealth'n;

**run**;

ods graphics;

**proc** **corr** data=Wealth\_Accounts fisher(alpha=**0.05**);

var 'Total wealth'n;

with 'Human capital'n 'Natural capital fisheries'n 'Natural capital forests ecosyste'n

'Natural capital agricultural lan'n 'Natural capital mangroves'n

'Natural capital nonrenewabl\_0003'n 'Natural capital nonrenewable ass'n 'Natural capital fossil fuels'n;

**run**;

title "Hypothesis Test ANNOVA";

**proc** **glm** data=Wealth\_Accounts;

class 'Country Code'n;

model 'Human Capital'n = 'Country Code'n;

means 'Country Code'n/ hovtest=levene welch plots=none;

lsmeans 'Country Code'n/ adjust=tukey pdiff alpha=**.05**;

**run**;

title "Hypothesis test using Paired T test";

**data** work.\_Paired\_diffs\_;

set Wealth\_Accounts;

\_Difference\_='Total Wealth'n - 'Human Capital'n;

label \_Difference\_="Difference: 'Total Wealth'n - 'Human Capital'n";

**run**;

**proc** **univariate** data=Work.\_paired\_diffs\_ normal mu0=**0**;

ods select TestsForNormality;

var \_Difference\_;

**run**;

**proc** **ttest** data=Wealth\_Accounts sides=**2** h0=**0** plots(showh0);

paired 'Total wealth'n\*'Human Capital'n;

**run**;

ods graphics;

**proc** **corr** data=Wealth\_Accounts fisher(alpha=**0.05**);

var 'Total wealth'n;

with 'Female Human capital'n 'Human capital'n 'Male Human capital'n

'Natural capital agricultura\_0001'n 'Natural capital agricultural lan'n 'Natural capital fisheries'n

'Natural capital forests ecosyste'n 'Natural capital mangroves'n 'Natural capital forests timber'n

'Natural capital nonrenewabl\_0004'n 'Natural capital nonrenewable ass'n 'Natural capital renewable'n;

**run**;