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## INSTITUTIONS AS THE MAIN DETERMINANT OF ECONOMIC DEVELOPMENT: WITH A FOCUS ON ECONOMIC FREEDOM INDEX AS PROXIES

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INSTITUTIONS AS THE MAIN DETERMINANT OF ECONOMIC DEVELOPMENT: WITH  
A FOCUS ON ECONOMIC FREEDOM INDEX AS PROXIES

by

Aizat Yasmin

B.Sc., University of Warwick, 2011

A Thesis

Submitted in Partial Fulfillment of the Requirements for the  
Master of Science Degree

Department of Agribusiness Economics  
in the Graduate School  
Southern Illinois University Carbondale  
May 2020

THESIS APPROVAL

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for the Degree of

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in the field of Agribusiness Economics

Approved by:

Dr. Wanki Moon, Chair

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March 20, 2020

## AN ABSTRACT OF THE THESIS OF

Aizat Yasmin, for the Master of Science degree in Agribusiness Economics, presented on March 20, 2020, at Southern Illinois University Carbondale.

TITLE: INSTITUTIONS AS THE MAIN DETERMINANT OF ECONOMIC DEVELOPMENT:  
WITH A FOCUS ON ECONOMIC FREEDOM INDEX AS PROXIES

MAJOR PROFESSOR: Dr. Wanki Moon

This paper hopes to serve as a primer, firstly for this Author, regarding the concept of Institutional Economics; a foundation and an enabling environment, which allows economics to function and to be free. Firstly, we focus on the topic of institutions within the scope of economic development, and ask the simple question, “Why some countries are poor, and why some countries are rich?” In terms of set up, this paper is guided by Dani Rodrik & Arvind Subramanian’s 2003 article, “The Primacy of Institutions (and what this does and does not mean).” I looked at how institutions, market openness and geography effect economic development. Both an OLS and pooled OLS model are employed with the results showing that, institutions account for the largest variation in income. The data is sourced from the Heritage Foundation, 2019 Index of Economic Freedom. Secondly, a discussion of Brunei Darussalam, my home country is presented, trying to link ideas of institutional economics, economic freedom, entrepreneurship and economic development.

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I would like to express my gratitude to all my teachers, every single one of them, for teaching me the knowledge I know, both the worldly and the sacred. They are too numerous to name here, though I owe them all a debt of gratitude. I am blessed to have been able to receive a balanced education, both of eastern and western tradition: in my home, my home country, the United Kingdom and now in the United States. Truly, God, is the best of planners.

A special word of thanks to my advisor, Dr. Wanki Moon, for introducing me to the field of Institutional Economics, something I always thought about, but never formally known. His wealth of knowledge and generosity helped me to write a paper that I can be content with. I must also thank the Department of Agribusiness Economics, Southern Illinois University Carbondale and the also the city itself, for being the ideal place for me to study and live in these two wonderful years. All praises are due to Allah, the Everlasting, the Eternal Refuge.

## DEDICATION

In the Name of Allah, the Most Gracious, the Most Merciful, whom all praises are due. Blessings and salutations to Prophet Muhammad (Peace be upon Him), his family members and companions (May Allah bless them all). This study is dedicated to my wife, my true love, Hafiyah Yusof, for her endearing patience and support. I also dedicate this study to my beautiful family; my father, Pengiran Haji Yasmin bin Pengiran Haji Mohamad, my mother, Hajah Munah binti Haji Bakar, my brothers Yazid and Najib, and my dearest sister Atiqah. Lastly, this study is dedicated to my home country, Brunei Darussalam, a place I hope, can provide a gentle, fulfilling life of peace and contentment, to our children and future generations, just as it has myself and the generations before me. All that is good and beneficial from this endeavor, is from God, the Protecting Friend, Patron and Supporter, and any weaknesses and mistakes are from myself.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 PAPER OVERVIEW

The paper can be divided into two sides: Side A & B. Side A, which comprises of the first four (4) chapters, is the main part of this Thesis and focuses on the subject of institutional economics, by using economic freedom data. Side B, Chapter 5, looks at Brunei Darussalam, my home country and discusses institutions within an entrepreneurial context. The final chapter 6, are my parting thoughts to end the paper.

Chapter one provides an introduction with a paper overview, presents the theory of institutional economics within the context economic development.

Chapter two presents the main research question and model. The starting point shall be a simple cross-sectional, 1-year snapshot (Year 2019), OLS regression model from 180 countries. An overview, description, specification, hypothesis, source and caveats of the model is provided before reporting the results in chapter 3, alongside some testing and modifications to the model. Chapter 4 uses a panel data approach alongside a pooled OLS regression is employed, to supplement chapter 4. A period of 3 years from 2017 to 2019, over sample of 173 country is sourced. Similar to the construction of chapter 3, the overview, specification, hypothesis source of data, caveats and also the advantages of panel data are presented. The results are shown and some additional testing, in terms of interactions is explored.

Whereby, Chapter 2 through Chapter 4, builds a case for institutional economics. Chapter 5 proceeds to link entrepreneurship with institutions, whilst thinking about my home country, Brunei Darussalam. The objective is trying to bridge the idea that an entrepreneurial environment is not at all different from an inclusive institution, as they share the same fundamental and

underlying principles. Section 5.3 and 5.4 are basically literature review of entrepreneurship and the relationship of entrepreneurship and institutions, respectively. Section 5.5, centers around a framework, in which can use to develop an understanding and build an entrepreneurial profile and Section 5.6 provides some policy implications. Chapter 6 provides this Author's parting thoughts to end the paper.

Key concepts operating throughout this paper as are ideas of economic freedom and institutional economics as an enabling environment for sustainable economic development, with an all-encompassing desire for perpetuity and permanence.

To start, in this first chapter, I will cover the topic of economic development with the three main strands of thought to explain why some countries are rich and why some are poor, which are: 1) Geography, 2) Integration and 3) Institutions. Theoretical context and definitions will be provided and primary principles of economics used to reason how these three factors leads to economic development and prosperity. As institutions is the primary focus of this paper, I will articulate on Institutions to understand its essence and nature, benefits, comprehension, things it applies to, and provide some context to define its reality.

With the paper outlined and layout prefaced, the paper shall be as follows.

## 1.2 ECONOMIC DEVELOPMENT

There are three main strands of thought to explain the vast gap between the richest and poorest countries (Rodrik & Subramanian, 2003). The first factor is geography, which can be defined as the key determinants of climate, natural resources endowment, disease and transport cost which influences agriculture and human resources. The preposition is that nations with a geographical advantage will be more prosperous than others. Proponents of this view will cite some broad examples such as, strategic locations which allowed trading and ports, natural

resources such as coal, diamond and gold allowed for profitable trade, fertile soil allowed for productive agriculture and so forth. Good geography allows for trade, creates markets and increases a nation's prosperity and standard of living from superior ability to produce more goods and services.

The second factor is integration, which can be defined as, participating in international trade and in the global economy. The preposition of the integrative view is a paradigm based on the confidence of trade within the movement of the modern phenomena of globalization, of which, that in order for countries to develop, ones participation in the world markets, is crucial to economic development and growth (Robert, 2018). One of the main proponents of this view is called the, "Washington Consensus" or the "Western Consensus". Firstly, the basic idea is that governments must play a limited role and provide public goods which will not be provided in the private markets, such as infrastructure, free markets, macroeconomic stability and an institutional framework for the rule of law. By extension, the idea of economic freedom and the entrepreneurial spirit is introduced. Free markets allow and provides incentives for the private economic agent and fosters competition and creates entrepreneurship. An integrated, liberalized markets will benefit from being able to compete and participate in a global scale. Integration allows gains from trade, creates markets and increases a nation's prosperity and standard of living from increased production of goods and services.

The third factor is institutions, which can be thought as the "rules of the game", with ideas such as property rights, rule of law and ultimately thinking about pathways formed by incentives & punishment. As institutions is the primary focus of this paper, the next section will be dedicated to understanding, judgment and rationale of institutions.

### 1.3 INSTITUTIONS

We start by understanding Institutions. Essentially, economics is a behavioral science. One of the most famous all-encompassing definition of economics is as follows, “Economics is the science which studies human behavior as a relationship between given ends and scarce means which have alternative uses.” (Robbins, 1932).

Next, the definition of institutions is as follows: “Institutions are the rules of the game in society or, more formally, are the humanly devised constraints that shape human interaction.” (Acemoglu & Robinson, 2010). Three apparent features of this definition are: 1) Institutions are “humanly devised,”; 2) Institutions are “the rules of the game” setting “constraints” on human behavior; 3) The major effect of Institutions is through incentives.

We can understand the nature of institutions by way of analogy. Institutions determine the way the game is played over time and is analogous to sports games and how changes in the rules of the games alters the behaviors of the players and the outcomes of the games.

Articulating further, institutions consists of formal and informal institutions, which are enforced differently. Formal Institutions are enforced by constitutions, statute, common law and regulations. On the other hand, informal institutions are enforced by conventions, moral rules and social norms. Formal institutions apply to political economics, and formal institutions are relatively more conceivable to change than informal institutions such as cultures, which are deeply rooted and entrenched in people.

Generally, we can understand the nature of institutions within the context of economics, on how broad notions of institutions impact economic outcomes. This broader notion of institutions, incorporates many aspects and operates on many levels. For this paper and to remain succinct, this Author shall only focus on two main spheres which is, firstly, the economic sphere

and secondly, a more general view of the political sphere, and in turn how it effects the social organization of society.

Politically, institutions may differ between societies because of their formal methods of collective decision-making (for example, a democracy versus autocracy). Economically, institutions will also vary due to the levels of security of property rights, entry barriers and also availability of contracts. Lastly, institutions may also have different function in different context and societies. Therefore, the main judgement and rationale of institutions, presented in the next section, will be a fairly simplistic one.

Whereby, mainstream economics deals with the operation of markets, institutional economics questions how markets arise in the first place. Thus, ask the question, what are needed for the emergence of markets? On the other hand, while thinking about institutions, it is also important to question what prevents the emergence of markets? By understanding and framing the problem within these limits, we can avoid the pitfalls that may come with institutional reform, identifying problem areas of institutions, the subsequent reforms required and to which extent they are to be carried out, and most importantly must be compatible and subjected to embedded unique characteristics of a country, i.e. the prevailing informal institutions. Therefore, an understanding of a country's "institutional profile" is useful knowledge and a good starting point for countries striving towards prosperity.

#### a. JUDGEMENTS AND ASSERTIONS OF INSTITUTIONAL ECONOMICS

According to Acemoglu and Robinson's *Why Nations Fail* (Acemoglu & Robinson, 2012), an essential book in field of institutional economics, the main reason why some nation's fail and others succeed is because of institutions. Specifically, the causality stems and begins from the political institutions which, then in turns, determines the resulting economic institutions

and the socio-economic outcomes. The theory divides both political and economic institutions further into two, either inclusive political or economic institutions which is favorable for economic development, or exclusive political or economic institutions, which, on the contrary, stunts economic growth.

The general characteristics of extractive economic institutions are economies that, and not limited to, the following traits: a lack of law and order, insecure property rights, high entry barriers and regulations that prevents the well-functioning and nonlevel playing field of markets. On the other hand, the general characteristics of inclusive economic institutions are economic institutions with, and not limited to, the following traits: security in terms of law and order as well as secure property rights, established markets with state support (public services and regulation), that are relatively open for free entry of new businesses, businesses and trade that uphold contracts, easy access to education and wide opportunities, for the great majority of citizens.

Exclusive political institutions are generally, political institutions where there is a concentration of power in the hands of a few, without much constraints, checks and balances, accountability and transparency. In other words, they are above the law or that the “rule of law” does not apply. Everyone especially leaders must be held accountable by the law and must act accordingly in a responsible office, towards its constituency. This brings us towards, inclusive institutions. Inclusive political institutions are political institutions allowing broad participation, a kind of pluralism, whereby the rule of law applies to everyone, all the classes of society, ruling, military and working. For the ruling classes this includes placing constraints and checks on politicians, leaders and members of workers in public offices.

## b. RATIONALE (ARGUMENT)

The basic rationale posited by institutionalist is quite simply that, economic growth is much more likely under inclusive economic and political institutions (“Inclusive Institutions”) (Acemoglu & Robinson, 2012). Inclusive Institutions create powerful forces towards economic growth by: i. Encouraging investment (because of well-enforced property rights), ii) Harnessing the power of markets (better allocation of resources, entry of more efficient firms, ability to finance for starting businesses etc.) and iii) Generating broad-based participation (education, free entry and broad-based property rights)

The key aspect and channel of growth, under inclusive institutions, are the investments in new technology and by an entrepreneurial process called, “Creative Destruction”. Creative destruction is an entrepreneurial theory by Joseph Schumpeter, which view capitalism by nature, as a form of economic change and can never be stationary. The essence of capitalism is characterized by continual technological change driven by innovation and creative entrepreneurs. The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers, goods, new methods of production or transportation, new markets and new forms of industrial organization that capitalist enterprise creates. One of the central ideas, is that the Schumpeterian entrepreneur, “revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one”. This process of creative destruction is presented as an essential fact on capitalism (Schumpeter, 1975). Therefore, an inclusive set of institutions creates a conducive environment for productive entrepreneurship and innovation, expanding the production possibility frontier<sup>1</sup> (“PPF”) or technological frontier.

Growth is still possible under exclusive economic and political institutions (“Exclusive

---

<sup>1</sup> All other factors remaining the same, the total amount of output produced increases given the same amount of resources.



Institutions). Resources and output can still be extracted and produced, to deliver growth, but only when the economy is distant from the PPF or technological frontier. Two types of growth under extractive institutions are: 1) Extractive institutions can allocate resources to high productivity activities controlled by the governing elite<sup>2</sup>, 2) When relatively secure in their position, the elites may wish to allow the emergence of relatively inclusive economic institutions under their control.

The major difference from growth under inclusive institution is that there are no creative destruction and the dynamics are very different. Consequently, even though growth is possible under extractive institutions, this will not be sustained growth. Therefore, although economic development success is possible under extractive institutions, sustained economic development is only possible through inclusive institutions. Inclusive institutions promote wealth creation i.e. to grow the proverbial “pie” and everyone can get a share. Exclusive institutions, on the other end of the spectrum, may encourage a desperate scramble for a piece of the existing pie, causing casualties in a zero-sum game, creating an environment where’s someone’s gain is someone’s loss.

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<sup>2</sup> Defined here as those who control and own the largest amount of resources and wealth

## CHAPTER 2

### RESEARCH QUESTION & MODEL

My research question shall be as follows, “What is the single most significant factor that explains the large variations in income between countries?”

#### 2.1 OVERVIEW OF MULTI REGRESSION MODEL

For the dependent variable, GDP per Capita (PPP) shall be used to measure Income (y). Next, the independent variable shall be comprised of: i) Rule of Law, ii) Market Openness and iii) Geography. A cross sectional data of 180 countries<sup>3</sup>, from the year 2019, comparing the dependent variable and the independent variables. The OLS method shall be employed.

#### 2.2 DESCRIPTION OF MULTI REGRESSION MODEL

For dependent variable, Income (y), GDP per Capita (PPP) shall be used as a measure of economic development. Purchasing Power Parity (“PPP”), specifically is used to standardize price.

Rule of Law shall be used as a proxy for Institutions specifically, to capture the institutional and quality of governance. Rule of Law is a composite score graded from 0 – 100. It consists of information from three further individual sub-factors scores, which are also graded from 0 – 100, all weighted equally, comprised of: i) Property Rights, ii) Judicial Effectiveness and iii) Government Integrity. Specific details and breakdown of the data shall be explained in the section 2.5 Source of Data.

Market openness shall be used as a proxy for Integration. Market Openness is a composite score graded from 0 – 100. It consists of information from three further composite scores, also a score graded from 0 – 100, weighted equally, which are: i) Trade Freedom, ii)

---

<sup>3</sup> Iraq, Libya, Liechtenstein, Somalia, Syria and Yemen are excluded due to insufficient data)

Investment Freedom, and iii) Financial Freedom. Specific details and breakdown of the data shall be explained in section 2.5 Source of Data.

Geography shall be a qualitative variable, and dummy variables will be employed. There will be 5 geographic regions which are as follows: i) Europe, ii) Middle East/North Africa (MENA), iii) The Americas, iv) Sub-Saharan Africa and v) Asia-Pacific. Asia-Pacific shall be used as the base. This decision to use Asia-Pacific as base is merely arbitrary. I have chosen to categorize countries into five (5) geographic regions to limit the interaction effects and multicollinearity issues. For example, dividing the countries by using developed and developing countries could lead to some issues.

### 2.3 MODEL SPECIFICATION

Income ( $y$ ) =  $\beta_0 + \beta_1 \times \text{Rule of Law} + \beta_2 \times \text{Market Openness} + \beta_3 \times D_1 + \beta_4 \times D_2 + \beta_5 \times D_3 + \beta_6 \times D_4 + \varepsilon$  (Error Term) (1)

Where  $D_1 = \text{Europe}$ ,  $D_2 = \text{Middle East/North Africa}$ ,  $D_3 = \text{The Americas}$  and  $D_4 = \text{Sub-Saharan Africa}$ .

### 2.4 HYPOTHESIS

My primary hypothesis is as follows:

$H_0: \beta_1 = 0$  (Rule of Law has no significant effects on Income)

$H_1: \beta_1 \neq 0$  (Rule of Law has significant effect on Income)

I expect to reject the null hypothesis based on the rationale provided in Section 1.3, b. To link the rationale to our proxy data, I will re-phrase the argument. Countries with higher scores in Rule of Law suggests they have better institutional and governmental qualities, therefore in broad institutional context, suggest inclusive institutions. Higher scores in Rule of Law will spur economic growth driven by positive effects investments, markets and

participations such as education. Therefore, I expect Rule of Law to be statistically significant, and to explain and account for the largest variability in income throughout the 180 countries.

The secondary hypothesis are as follows: Firstly, for market openness:

H<sub>0</sub>:  $\beta_2 = 0$  (Market Openness has no significant effects on Income)

H<sub>1</sub>:  $\beta_2 \neq 0$  (Market Openness has significant effect on Income)

I expect to reject the null hypothesis based on the rationale provided in Section 1.2.

Next, the hypothesis for testing the Geography dummy variables is as follow:

H<sub>0</sub>:  $\beta_3 = 0, \beta_4 = 0, \beta_5 = 0$  and  $\beta_6 = 0$

H<sub>1</sub>:  $\beta_3 \neq 0, \beta_4 \neq 0, \beta_5 \neq 0$  and  $\beta_6 \neq 0$

I do not expect to reject the null hypothesis, due to the rudimentary categorization of countries into five, purely geographical regions. This means that the countries are not homogeneous. Therefore, the rationale of geography stated in Section 1.2), is not fully captured. The objective is simply to get some indication of geographical effects upon the incomes of the countries.

## 2.5 SOURCE OF DATA

All data is sourced from the Heritage Foundation 2019 Index of Economic Freedom for two main merits. The data has high coverage across countries and its highly use in published studies. In this section I will explain the specific details for all the independent variables.

The first of our independent variable, and most important, as it is the proxy for institutions, is the variable rule of law. It is made up of 3 sub-factors which are property rights, judicial effectiveness and government integrity. The property rights component assesses the extent to which a country's legal framework allows individuals to acquire, hold and utilize private property, which is secured by clear laws that the government enforces effectively. The

score for this component is derived by averaging scores for the following five further sub-factors, all of which are weighted equally: i) Physical property rights, ii) Intellectual property rights, iii) Strength of investor protection, iv) Risk of expropriation, and v) Quality of land administration.

The second component of rule of law is judicial effectiveness. Well-functioning legal frameworks are essential for protecting the rights of all citizens against unlawful acts by others, including government and powerful private parties. Judicial effectiveness requires efficient and fair judicial systems to ensure that laws are fully respected and appropriate legal actions are taken against violators. The score for the judicial effectiveness component is derived by averaging scores for the following three sub-factors, all of which are weighted equally: i) Judicial independence, ii) Quality of the judicial process, and iii) Favoritism in decisions of government officials

The last component of rule of law is government integrity. Corruption erodes economic freedom by introducing insecurity and coercion into economic relations. One of greatest concern in rule of law, is the systemic corruption of government institutions and decisions-making by such practices such as bribery, extortion, nepotism, cronyism, patronage, embezzlement, and graft. The lack of government integrity caused by such practices reduced public trust and economic vitality, by increasing the cost of economic activity with high transactional costs which manifest itself, in terms difficulty of doing business, sourced from the added risk, uncertainty and low confidence in the market. The score for this component is derived by averaging scores for the following six-sub-factors, all of which are weighted equally: i) Public trust in politicians, ii) Irregular payments and bribes, iii) Transparency of government policymaking, iv) Absence of corruption, v) Perceptions of corruption, and vi) Governmental and civil service transparency.

The proxy for integration, Market Openness, has 3 sub-factors. Firstly, it is made up of trade freedom. Trade freedom is a composite measurement, for the extent of tariff and nontariff barriers, that affect imports and exports, of goods and services. The trade freedom score is based on two inputs: i) The trade-weighted average tariff rate and ii) Nontariff barriers (“NTBs”).

The second component of integration is Investment Freedom. In an ideal, economically free country, there would be no constraints on the flow of investment capital. Individual and firms would be allowed to move their resources into and out of specific activities, both internally and across the country’s borders, without restriction. However, most countries have restrictions on investments, such as different rules for foreign and domestic investments, restriction to foreign exchanges, restrictions on payments, transfers, capital transactions and also certain industries are closed to foreign investments. The scores for investment freedom evaluate these restrictions, and countries with fewer restrictions have higher scores, as restrictions will be deducted from an ideal 100 score. Investment restrictions are evaluated as follows: i) National treatment of foreign investment, ii) Foreign investment code, iii) Restrictions on land ownership, iv) Sectoral investment restrictions, v) Expropriations of investments without fair compensation, vi) Foreign exchange controls and vii) Capital controls.

The third component of integration is financial freedom. Financial freedom is an indicator of banking efficiency, as well as a measure of independence from government control and interferences in the financial sector. State ownership of banks and other financial institutions such as insurers and capital markets reduce competition and generally lowers the level of access to credit. In an ideal banking and financing environment, characterized by a minimum level of government interference, independent central bank supervision and regulation of financial institutions are limited to enforcing contractual obligations and preventing fraud. Credit is

allocated on market terms, and the government does not own financial institutions. Banks are free to extend credit, accept deposits, and conduct operations in foreign currencies. Foreign financial institutions operate and are treated the same as domestic institutions. Financial Freedom scores are based on 5 broad categories: i) Extent of government regulation of financial services, ii) Degree of state intervention in banks and other financial firms through direct and indirect ownership, iii) Government influence on the allocation of credit, iv) Extent of financial and capital market development, and v) Openness to foreign competition.

See the Methodology for the Heritage Foundation's Economic Freedom Index for more information.

## 2.6 CAVEATS

There are two main caveats to mention. Firstly, on the issue of specificity. Specificity may be reduced due to the aggregation of the data. The sub-factors may not be similar to each other in the aspects of institutions, governance or market openness that they appear to evaluate. Secondly, with regards to the method of data collection, Heritage Freedom House's method of data collection is subjective and is collected by few experts.

The issue of subjectivity is one of the main of the Economic Freedom Index. Due to the qualitative nature of the data, it relies on the perspective-based method of the research in order to quantify it. The neoliberal policies or outlook that informs the data is clearly bias and we must take the index with a grain of salt. The sub-factors of the indicators chosen and its respective weights, for example are subject to bias and depends on the assumptions that inform the experts who collect these data.

## CHAPTER 3

### RESULTS

#### 3.1 DESCRIPTIVE STATISTICS

In this section I will provide some descriptive statistics comparing GDP per Capita with each of the independent variables, in order to get some immediate impression from the data. The treatment of Rule of Law and Market Openness will be similar in Method. I will use a simple average of the sub-categories. For the independent variable Geography, nominal dummy variable categories shall be employed.

##### a. RULE OF LAW

Table 3.1, show the means and standard deviation for GDP per Capita and Rule of Law. The main highlight, is the fact that the standard variation, of GDP per Capita is very high. This is in line with the general notion that there is a huge disparity in wealth between countries.

Table 3. 1 Mean and Standard Deviation for GDP per Capita and Rule of Law

	GDP per Capita (PPP)	Property Rights	Judicial Effectiveness	Government Integrity	Overall Rule of Law Score
Mean	20,840.56	53.03	45.54	42.15	46.91
Standard Deviation	501,846,033.37	370.94	319.36	382.62	321.47

Figure 3.1 above, shows a general pattern, whereby countries with higher Rule of Law scores will also have higher GDP per Capita and vice versa.



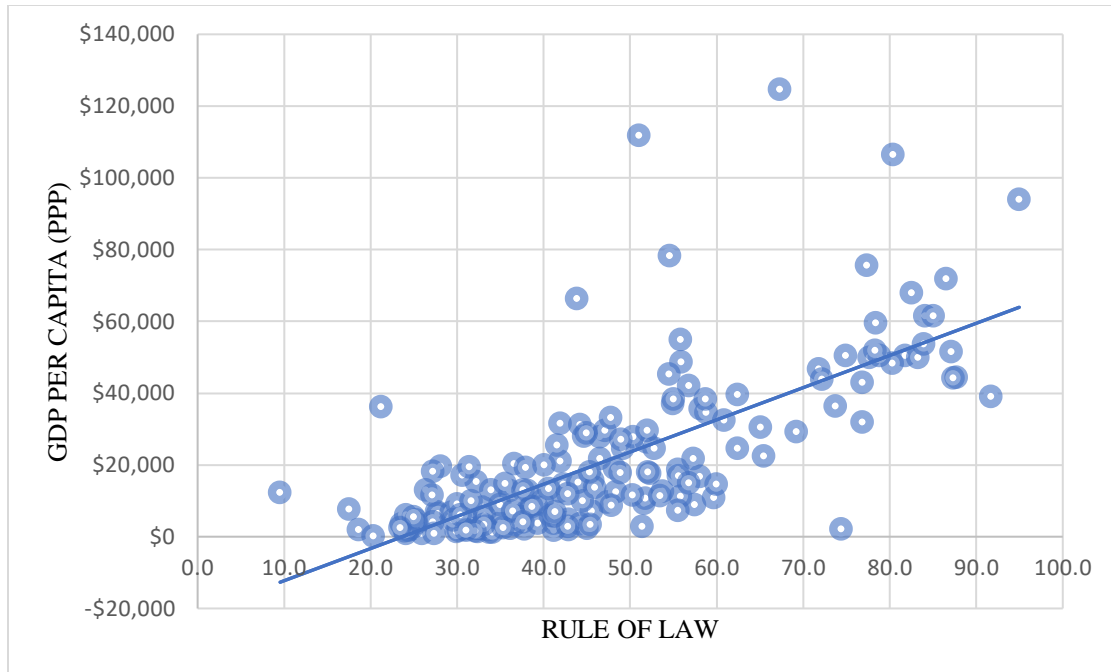


Figure 3. 1 Scatter graph for GDP per Capita (PPP) against Rule of Law

b. MARKET OPENNESS

Table 3.2. displays the means and standard deviation for GDP per capita and market openness. Similarly, to Table 3.1, The main highlight of Table 3.2, is the fact that standard deviation, of GDP per Capita is very high. Again, this is in line with the general notion that there is a huge disparity in wealth between countries.

Table 3. 2 Mean and Standard Variation for GDP per Capita and Market Openness

	GDP per Capita (PPP)	Trade Freedom	Investment Freedom	Financial Freedom	Overall Market Openness Score
Mean	20,840.55794	4.43	7.75	8.61	0.26
Standard Deviation	501,846,033.4	146.98	479.80	374.18	256.00

Table 3.2. shows a general pattern, whereby countries with higher Market Openness scores will also have higher GDP per Capita and vice versa.

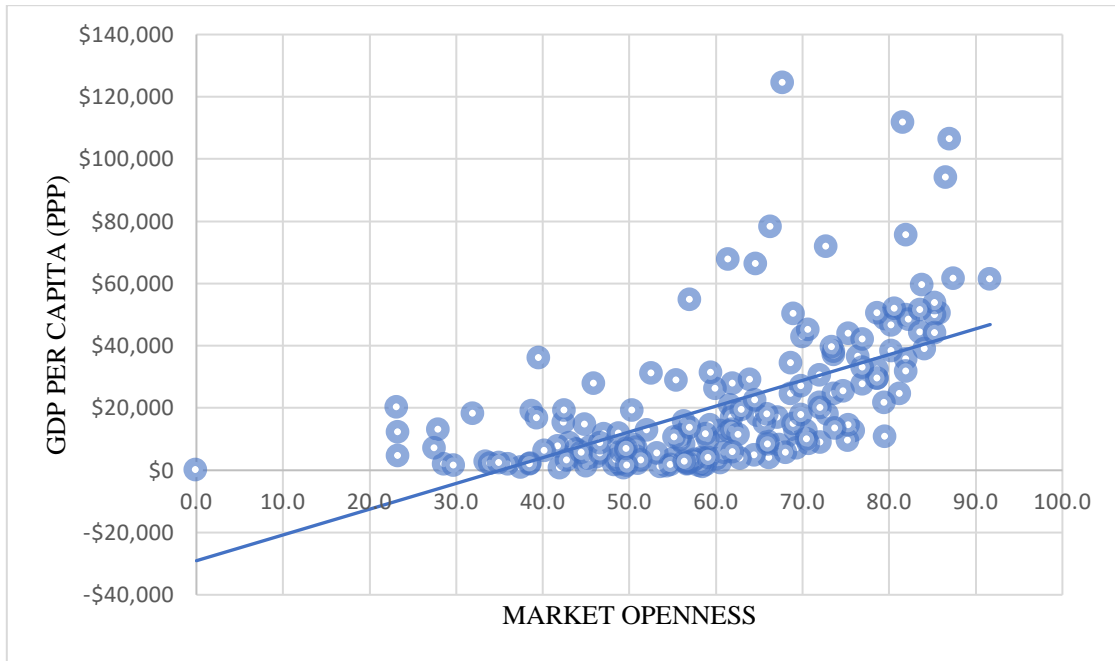


Figure 3. 2 Scatter graph for GDP per Capita (PPP) against Market Openness

c. GEOGRAPHY

We plotted a box-plot to show the geographic regions against GDP per capita. In Figure 3.3, we can see a general overview, the MENA region has the highest GDP per capita, followed by Europe, Asia-Pacific, The Americas and finally Sub-Saharan Africa. MENA region, although reporting the highest GDP per capita, also shows the largest variations.

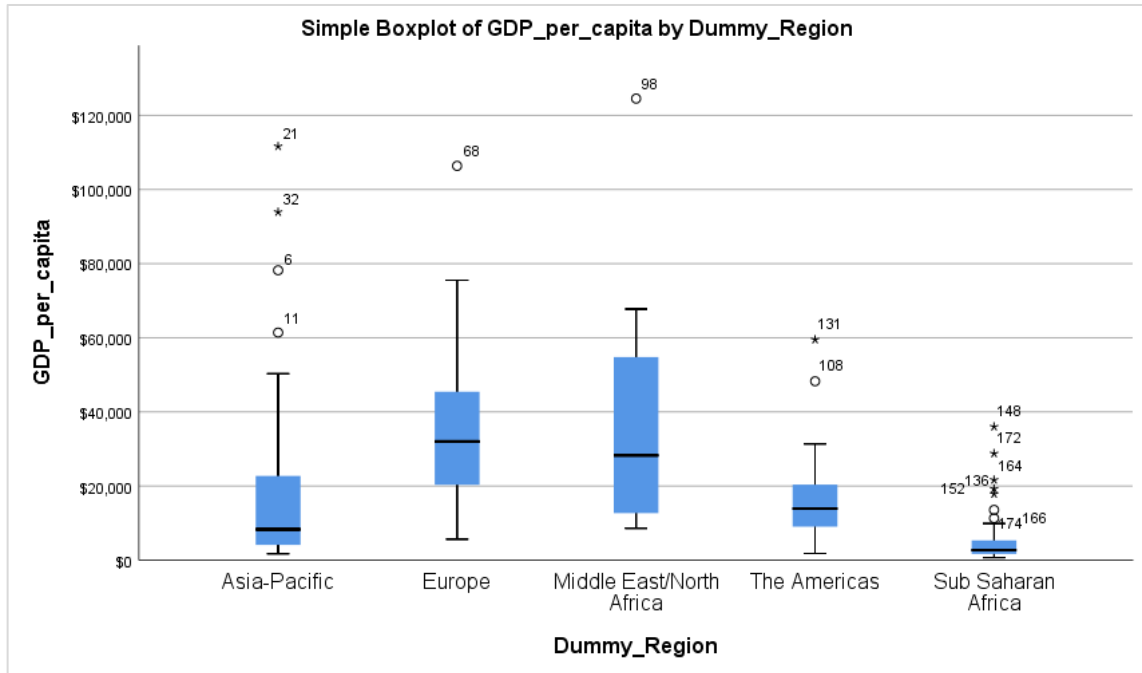


Figure 3. 3 Box plot with GDP per Capita in y-axis and Geographic Region in x-axis

The summary of the descriptive statistics is shown in Table 6 below. Some highlights are as follows. In terms mean GDP per Capita (PPP), the MENA region reports the highest with \$38,826.80, followed by Europe with \$34,783.74, then Asia Pacific with \$20,202.22, followed by The Americas with \$16,897.55 and lastly Sub-Saharan Africa with \$5,698.38. In terms of standard deviation, to assess dispersion and to a certain extent, the relative wealth gap, the order of ranking is the equal to the mean GDP per Capita. The MENA region reports the highest with \$32,377.44, followed by Europe with \$20,062.33, then Asia Pacific with \$25,780.62, then the Americas with \$12,083.345 and lastly Sub-Saharan Africa with \$7,490.872.

Table 3. 3 Summary of Descriptive statistics with GDP per Capita as Dependent Variable and Regions as Independent Variable.

Region	Asia Pacific	Europe	Middle East/North Africa (MENA)	The Americas	Sub-Saharan Africa
Mean	\$20,202.22	\$34,783.74	\$38,826.80	\$16,897.55	\$5,698.38
Std. Error	\$3,931.509	\$3,024.511	\$8,653.236	\$2,136.054	\$1,092.656
Median	\$8,314.65	\$32,024.19	\$28,269.83	\$13,891.82	\$2,726.60
Standard Deviation	\$25,780.629	\$20,062.337	\$32,377.444	\$12,083.345	\$7,490.872
Minimum	\$1,700	\$5,661	\$8,567	\$1,815	\$677
Maximum	\$111,629	\$106,374	\$124,529	\$59,501	\$36,017

### 3.2 OVERALL REGRESSION MODEL

The estimated regression model is conducted using the least square method. This section reports the model outcome. Re-iterating, the equation is as follows:

$$\text{Income (y)} = \beta_0 + \beta_1 \times \text{Rule of Law} + \beta_2 \times \text{Market Openness} + \beta_3 \times D_1 + \beta_4 \times D_2 + \beta_5 \times D_3 + \beta_6 \times D_4 + \varepsilon \text{ (Error Term)} \quad (1)$$

Where:  $D_1$  = Europe,  $D_2$  = Middle East/North Africa,  $D_3$  = The Americas and  $D_4$  = Sub-Saharan Africa

Table 3. 4 Regression Results for GDP per capita PPP (standard deviations from the mean)

Constant	-23150.84*** (4987.50)
Rule of Law	664.18*** (96.68)
Market Openness	220.73** (108.60)
Europe Dummy	1254.60 (3580.63)
MENA Dummy	14628.26*** (4622.83)
Americas Dummy	-1417.06 (3664.04)
Sub-Saharan Africa Dummy	-6348.49* (3314.68)
R-Squared	0.58
No. of observations	180
Standard errors are reported in parenthesis.	
*, **, *** indices significance at the 90%, 95%, and 99% level, respectively.	

a. INTERPRETATION

The coefficient for Rule of Law,  $\beta_1$  is statistically significant at 99% significant level. As the Rule of Law score increases by 1 unit, the predicted GDP per capita (PPP) of a country will increase by an average of \$664.1847.

The coefficient for Market Openness,  $\beta_2$  is statistically significant at 95% significant level. As the Market Openness score increases by 1 unit, the predicted GDP per capita (PPP) of a country will increase by an average of \$220.7295

The results for the regional dummies are mixed. The coefficient for dummy variable Europe,  $\beta_3$  is statistically insignificant. There is insufficient evidence to show that there is statistical relationship between a European country and GDP per capita (PPP). European

countries have a GDP per capita (PPP) of \$1,254.506 more than Asia-Pacific countries. For, dummy variable Middle East and North Africa (MENA),  $\beta_4$  is statistically significant at 99% significant level. MENA countries have a GDP per capita (PPP) of \$14,628.26 more than Asia-Pacific countries. The coefficient for the dummy variable Americas,  $\beta_5$  is statistically insignificant. There is insufficient evidence to show that there is statistical relationship between a country in the Americas and GDP per capita (PPP). Countries in the Americas have a GDP per capita (PPP) of 1,417.055 less than Asia-Pacific countries. Lastly, the coefficient for dummy variable Africa,  $\beta_6$  is statistically significant at 90% significant level. Sub-Saharan African countries have a GDP per capita (PPP) of 6,348.493 less than Asia-Pacific countries.

b. R-SQUARE

The R-squared of the model is 0.58. Therefore, 58% of the population variance in GDP per capita (PPP) is accounted for by the Independent Variables.

c. REMOVING GEOGRAPHY AS INDEPENDENT VARIABLE

Due to the ambiguity presented by the dummy variables Geography, due to reasons stated in Section 2.4 Hypothesis, Table 3.5 below show the estimation regression without the geography dummy variables. Model is as follows, equation (2):

$$\text{Income (y)} = \beta_0 + \beta_1 \times \text{Rule of Law} + \beta_2 \times \text{Market Openness} + \varepsilon \text{ (Error Term)}, (2)$$

Table 3. 5 Regression Results for GDP per capita PPP without Geography Dummy variables  
(standard deviations from the mean)

Constant	-27627.42*** (4522.82)
Rule of Law	758.79*** (93.16)
Market Openness	213.66** (104.40)
R-Squared	0.53
No. of observations	180
Standard errors are reported in parenthesis. *, **, *** indices significance at the 90%, 95%, and 99% level, respectively.	

Observing briefly, we can see that the R-square, was not severely affected, with a slight reduction from 0.58 to 0.53. Therefore, we can interpret that, 53% of the population variance in GDP per capita (PPP) is accounted for by the Independent Variables. Next, there is a slight improvement in the t-statistic (increased) and standard errors (decreased) of variables Rule of Law and Market Openness. This indicates that the categorization of geography did not reflect all the rationale presented in Section 1.2 Economic Development). A more elaborate categorization of countries such as dividing countries by resource rich and non-resource rich, or coastal and landlocked would have been more appropriate. However, this is beyond the scope of this paper.

#### d. REGRESSION OF SUB-FACTORS OF RULE OF LAW AND MARKET OPENNESS

As explained in 2.5. Source of Data, Rule of Law and Market Openness is an average composite component made up of 3 sub-factors. To recap, table 3.6 provides a summary.

Table 3. 6 Sub-factors of Rule of Law and Market Openness

Independent Variable	Definition
Rule of Law	Rule of Law averages the following 3 sub-factors
	Property Rights      A weighted normalized index comprised of: Physical property rights, intellectual property rights, strength of investor protection, risk of expropriation and quality of land administration
	Judicial Effectiveness      A weighted normalized index comprised of: Judicial independence, quality of the judicial process and favoritism in decisions of government officials
	Government Integrity      A weighted normalized index comprised of: Public trust in politicians, irregular payments and bribes, transparency of government policy making, absence of corruption, perception of corruption and governmental and civil service transparency
Market Freedom	Market Freedom averages the following 3 sub-factors
	Trade Freedom      Trade freedom is a composite measure of the extent of tariff and nontariff barriers that affect imports and exports of goods and services. It is based upon two inputs: Trade-weighted average tariff rate and Nontariff barriers.
	Investment Freedom      An evaluation of trade restrictions in a country which comprised of: National treatment of foreign investment, foreign investment code, restrictions on land ownership, sectoral investment restrictions, expropriations of investments without fair compensation, foreign exchange controls and capital controls
	Financial Freedom      Based on the extent of government regulation of financial services, degree of state intervention in banks and other financial firms through direct and indirect ownership, government influence on the allocation of credit, extent of financial and capital market development and openness to foreign competition



As the independent variables, Rule of Law and Market Openness are composite variables made up of sub-factors, I shall run regressions of the sub-components listed in table 3.6 individually. The objective, is simply to provide some indication of how these factors effect GDP per capita (or not). Although rudimentary, it shall provide some useful indication, towards the economic pursuit of increasing these individual economic freedom index. The model shall be as stated in equation (3) and results are reported in Table 3.7.

$$\text{Income (y)} = \beta_0 + \beta_i \times \text{Individual Sub-Factor, } i + \varepsilon \text{ (Error Term),} \quad (3)$$

Table 3. 7 Regression Results for GDP per capita with Sub-Factors Individually

Variable	Coefficient (Standard Error)	Constant	R-Square	Elasticity
Government Integrity	807.98*** (60.84)	-13217.43	0.50	0.06
Judicial Effectiveness	803.01*** (72.15)	-15725.48	0.41	0.05
Property Rights	804.73*** (62.95)	-21835.80	0.48	0.04
Investment Freedom	490.09*** (67.28)	-7462.06	0.23	0.06
Financial Freedom	683.08*** (70.10)	-12364.82	0.35	0.05
Trade Freedom	974.75*** (117.66)	-51708.78	0.28	0.02

Standard errors are reported in parenthesis.  
\*, \*\*, \*\*\* indices significance at the 90%,  
95%, and 99% level, respectively.

With regards to elasticities, all sub-factors report positive elastic relationship with GDP per capita PPP, albeit a small range, from 2% to 6%. Reporting top down from table 3.7, as Government Integrity increase by 1%, the predicted GDP per capita (PPP) of a country will increase by an average of 6%. Similarly, as Judicial Effectiveness increase by 1%, the predicted

GDP per capita (PPP) of a country will increase by an average of 5%. The joint highest elasticity coefficient are Government Integrity and Investment Freedom (0.06). This is followed secondly by Judicial Effectiveness and Financial Freedom (0.05). Property Rights and Trade Freedom follows with 0.04 and 0.02 respectively. Taking note of the R-squares figures, the sub-factors of Rule of Law: Government integrity, Judicial integrity and Property rights, all have substantial values with values of 0.50, 0.41 and 0.48 respectively. Interpreting, government integrity accounts for 50% of the population variance in GDP per capita (PPP). The same line of interpretation can be applied to the other sub-factors.

### 3.3 CONCLUSIONS

I have found out that Institutions is the single most significant factor that explains the large variations in income between countries.

Here, I will provide some final thoughts to wrap up chapter 2. Research Question & Model and chapter 3. Results. The goal to reject the null in the primary hypothesis was met, but faced some expected ambiguities in our secondary hypothesis. Certainly, a more thoughtful handling of the categorization of Geography is required. Secondly, some key variables, such of education could be added such as literacy rates or even the Barro Lee Education data. Macroeconomic variables, also play an important role in the explanation of a wide-ranging economic aggregate variable such as GDP. This may have improved the explanatory effects of the model.

As a supplement, a panel data approach is used in the next chapter to improve the empirical work of the paper.

## CHAPTER 4

### A PANEL DATA APPROACH

A panel data approach is used in this chapter. This serves to be an addendum in order to build upon and improve on the previous cross-sectional regression model.

#### 4.1 OVERVIEW OF POOLED REGRESSION MODEL

Similarly, the dependent variable shall be GDP per Capita (PPP) to measure income (y). The independent variable shall be only i) Rule of Law and ii) Market Openness. I will use a panel data of 173 countries, over 3 years, from 2017 to 2019, comparing the dependent variable and the independent variables. A pooled OLS regression method shall be employed.

#### 4.2 MODEL SPECIFICATION

Income ( $y_{i,t}$ ) =  $\beta_0 + \beta_1 \times \text{Rule of Law}_{i,t} + \beta_2 \times \text{Market Openness}_{i,t} + \varepsilon$  (Error Term), (3)

Where i stands for the country cross-sectional unit and t for the  $t^{\text{th}}$  time period.

There are 173 countries, and a period of 3 years shall be used, 2017, 2018 and 2019.

#### 4.3 HYPOTHESIS

The hypothesis shall be unchanged as the previous chapter in section 2.4. Hypothesis.

The primary hypothesis is as follows:

$H_0: \beta_1 = 0$  (Rule of Law has no significant effects on Income)

$H_1: \beta_1 \neq 0$  (Rule of Law has significant effect on Income),

The secondary hypothesis is as follows:

$H_0: \beta_2 = 0$  (Market Openness has no significant effects on Income)

$H_1: \beta_2 \neq 0$  (Market Openness has significant effect on Income)

#### 4.4 SOURCE OF DATA

Rule of Law and Market Openness is sourced from the Heritage Foundation 2019 Index

of Economic Freedom. As we are comparing the GDP per capita PPP over a period of time, we are using constant U.S. dollars for October 2019. The data for GDP per capita PPP, is sourced from the International Monetary Fund who sourced their data from the World Economic Outlook October 2019.

#### 4.5 CAVEATS

As this paper serves to be an introductory paper, with a focus and general compass towards a study of the institutions of my home country, Brunei Darussalam (“Brunei”), I shall limit the data point only when Brunei economic scores are available. Scores for rule of law (proxy for institutions) and market openness (proxy for integration) are only fully available (when data for Brunei) from 2017. Therefore, the decision is to only use 3 years: 2017, 2018 and 2019. There is a reduction of countries from 180 in the previous section, to 173. I dropped countries which has either missing economic freedom data, or GDP per capita data. This is because I wanted to have a balanced panel data. In addition to the originally excluded countries; Iraq, Libya, Liechtenstein, Somalia, Syria and Yemen, the following countries shall be excluded: Burma, Cuba, Gambia, Grenada, North Korea, Macedonia, Marshall Island, Myanmar, Nauru, North Macedonia, Palau, Puerto Rico, Saint Kitts and Nevis, São Tomé and Príncipe, San Marino, Republic of South Sudan, The Bahamas, The Gambia and Tuvalu.

#### 4.6 ADVANTAGES OF PANEL DATA

There are some advantages of panel data. Firstly, since panel data unit relate to individuals, firms, states, countries, etc., over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables, as we shall express shortly. We use the term ‘individual’, in a generic sense to include microunits such as individuals, firms, states, and

countries. Secondly, by combining time series of cross-section observations, panel data give “more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency.” (Gujarati, 2003). Another advantage is that the number of observations has increased from 180 in previous model to 519 (173 countries x 3 years).

#### 4.7 DESCRIPTIVE STATISTICS

Table 4.1, show the means, standard deviation, minimum and maximum values for GDP per capita, rule of law and market openness. The mean for GDP per capita (PPP), rule of law and market openness are 14,720.77 USD, 47.61, 61.16 respectively. The standard deviation is expectedly high for GDP per capita, and secondly, standard deviation is slightly higher for rule of law with 18.31 compared to market openness with 15.36.

Table 4. 1 Mean, Standard Deviation and Min./Max. for GDP per Capita, Rule of Law and Market Openness

	GDP per Capita (PPP)	Rule of Law	Market Openness
	USD	(0-100)	(0-100)
Mean	14,720.77	47.61	61.16
Standard Deviation	20,211	18.31	15.36
Minimum	306.966	8.8	21.5
Maximum	115536.2	95	91.7

Plotting, the dependent and independent variables, there is positive correlation between GDP per capita with Rule of Law and Market Openness. Figure 4.1 below/next page, shows a general positive pattern, whereby countries with higher Rule of Law scores will also have higher GDP per Capita and vice versa.

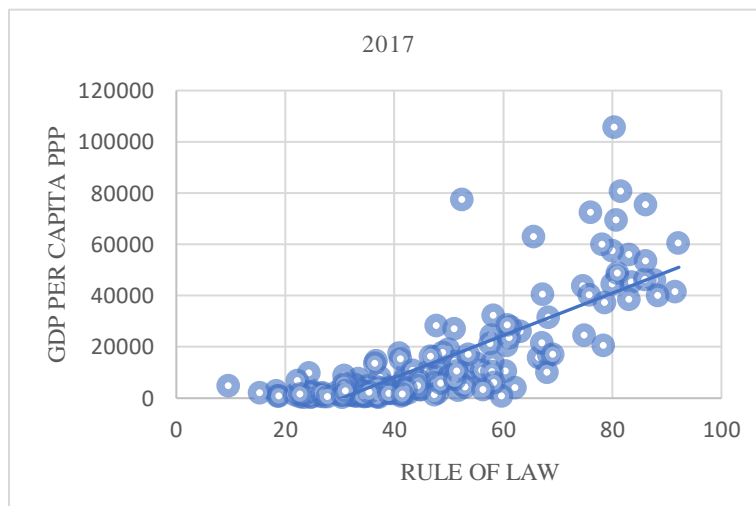
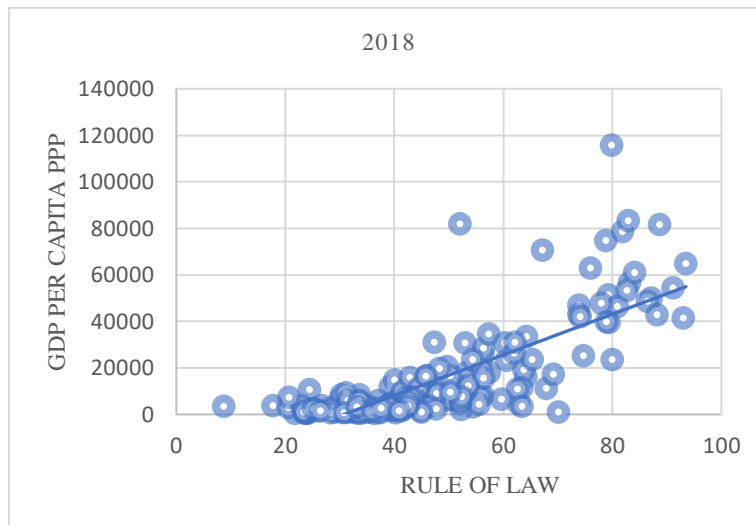
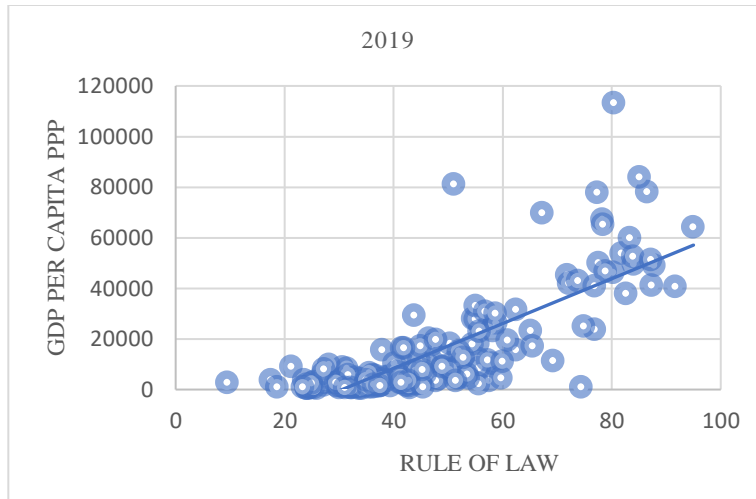


Figure 4. 1 Scatter graph for GDP per Capita (PPP) against Rule of Law

Similarly, Figure 4.2 shows a general positive pattern, whereby countries with higher Market Openness scores will also have higher GDP per Capita and vice versa.

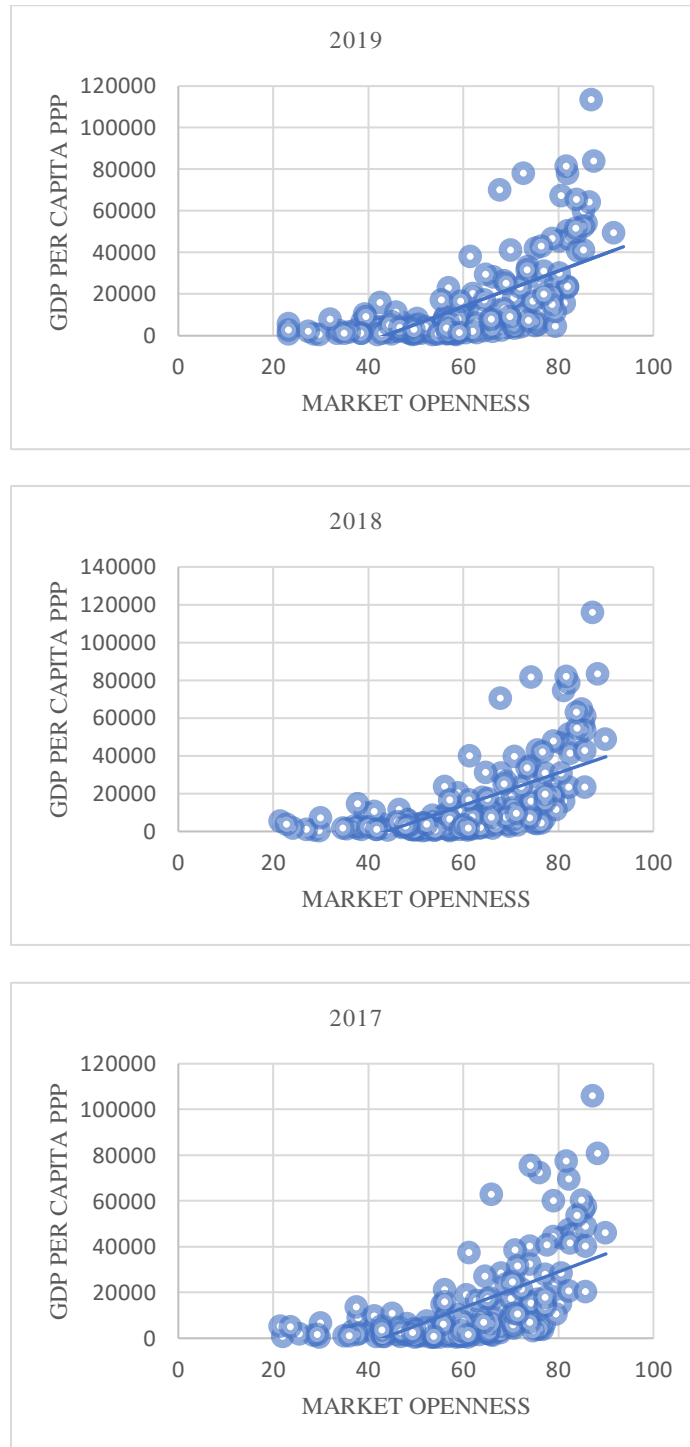


Figure 4. 2 Scatter graph for GDP per Capita (PPP) against Market Openness

Table 4. 2 Correlation Matrix

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	GDP per Capita (PPP)	1.00						
(2)	Property Rights	0.74	1.00					
(3)	Government Integrity	0.78	0.86	1.00				
(4)	Judicial Effectiveness	0.70	0.82	0.85	1.00			
(5)	Trade Freedom	0.53	0.67	0.59	0.55	1.00		
(6)	Investment Freedom	0.53	0.63	0.58	0.54	0.56	1.00	
(7)	Financial Freedom	0.63	0.72	0.64	0.60	0.64	0.79	1.00

Reporting, highest to lowest, the correlation of GDP per Capita, against the dependent variables, Government Integrity reported highest with 0.78, followed by Property Rights with 0.74, then Judicial Effectiveness with 0.70. The top three highest ranked correlation are proxies of Institutional quality. The last three are Financial Freedom with 0.63, Trade Freedom and Investment Freedom with 0.53.

There is also a high correlation between Government Integrity with Property Rights with 0.86, Government Integrity with Judicial Effectiveness and Property Rights and Judicial Effectiveness with 0.82.

#### 4.8 RESULTS

Employing a pooled OLS regression equation (3), as per section 4.2 Model Specification, the result is shown below in Table 4.3.



Table 4. 3 Estimation of Pooled regression of Equation (3)

Variable	Coefficient (Standard Error)
Constant	-32313.28*** (2264.52)
Rule of Law	749.10*** (43.36)
Market Openness	185.83*** (51.69)
No. of Observation	519
F- test (model)	419.47***
Degrees of Freedom	516
R-Squared	0.6192
Adjusted R-Squared	0.6177

Standard errors are reported in parenthesis.  
 \*, \*\*, \*\*\* indices significance at the 90%, 95%, and 99% level, respectively.

a. INTERPRETATION

The constant,  $\beta_0$  is statistically significant. When rule of law and market openness are zero, the predicted GDP per capita (PPP), on average is -\$32,313.28. The coefficient for Rule of Law,  $\beta_1$  is statistically significant at 99% confidence level. As the Rule of Law score increases by 1 unit, the predicted GDP per capita (PPP) of a country will increase by an average of \$749.10. The coefficient for Market Openness,  $\beta_2$  is statistically significant at 99% confidence level. As the Market Openness score increases by 1 unit, the predicted GDP per capita (PPP) of a country will increase by an average of \$185.83.

b. R-SQUARE

The R-squared of the model is 0.6192. interpreting, 61.92% of the population variance in GDP per capita (PPP) is accounted for by the Independent Variables. These results are consistent with our previously results in Chapter 3. Results, by way of cross-sectional OLS

estimator for year 2019.

### c. POOLED OLS REGRESSION WITH INDIVIDUAL SUB-FACTORS

Opening up the model, using the individual sub-factors of both the composite variable, Rule of Law and Market Openness as per reported in table 3.6, we write the model as follows in equation (4):

$$\text{Income (y}_{i,t}) = \beta_0 + \beta_1 \times \text{Property Rights}_{i,t} + \beta_2 \times \text{Judicial Effectiveness}_{i,t} + \beta_3 \times \text{Government Integrity}_{i,t} + \beta_4 \times \text{Trade Freedom}_{i,t} + \beta_5 \times \text{Investment Freedom}_{i,t} + \beta_6 \times \text{Financial Freedom}_{i,t} + \varepsilon \text{ (Error Term), (4)}$$

As mentioned previously in section 2.5. source of data, the proxy for institutions, rule of law, is made up of 3 sub-factors which are property rights, judicial effectiveness and government integrity. Similarly, the proxy for integration, market openness, is also made up 3 sub-factors which are trade freedom, investment freedom and financial freedom.

Firstly, I will run each sub-factor individual as the independent variable against GDP per Capita, with the objective of finding out the extent of impact, of the sub-factors, on the variable GDP per Capita. Equation is as such:

$$\text{Income (y}_{i,t}) = \beta_0 + \beta_i \times \text{Individual Sub-Factor}_{i,t} + \varepsilon \text{ (Error Term), (5)}$$

Secondly, I will run each sub-factor in one equation with all 6 sub-factors as independent variables against GDP per capita as the dependent variable, as shown in Equation (4).

The results for both are shown in Table 5.3 below/next page. To note that, headings 1, 2, 3, 4, 5 and 6, displays the results for equation (5) i.e. individual sub-factors against GDP per Capita one by one. Then, heading number 8, display the results of equation (4) i.e. all individual sub-factors in one equation.

When we run all the sub-factors individually, all the sub-factors are statistically

significant at 99% significant level. Reporting the coefficients, Trade Freedom reported the highest with 1,037.21, followed by Government Integrity with 831.96, Property Rights with 756.71, Judicial Integrity with 730.83, Financial Freedom with 667.41 and lastly, Investment Freedom with 484.10.

Reporting the R-Squared, Government Integrity reported the highest with 0.62, followed second by Property Rights with 0.54, Judicial Integrity with 0.49, Financial Freedom with 0.39, Trade Freedom with 0.29 and lastly, Investment Freedom with 0.28. Taking note, the top 3, with the highest R squared are Rule of Law (Proxy for Institutions) sub-factors and the bottom three are Market Openness (Proxy for Integration) sub-factors.

Subsequently, when all sub-factors are merged and run in one equation, as independent variables with GDP per capita the dependent variables, the results are more telling. Only Government Integrity with coefficient 581.85, and Financial Freedom with coefficient 201.79, were statistically significant. Both were significant at 99% confidence interval. The R-squared is reported at 0.65.

With regards to elasticities, all sub-factors report positive elastic relationship with GDP per capita PPP, albeit a small range from 2% to 4%. Reporting top down from table 4.3, as Property Rights increase by 1%, the predicted GDP per capita (PPP) of a country will increase by an average of 4%. Similarly, as Government Integrity increase by 1%, the predicted GDP per capita (PPP) of a country will increase by an average of 4%. The joint highest elasticity coefficient are Government Integrity, Judicial Integrity and Financial Freedom (0.04). This is followed secondly by Property Rights and Investment Freedom (0.03). Trade Freedom came in last with 0.02.

Table 4. 4 Result of Pooled OLS Regression of Individual Sub-Factors

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Elasticity
	GDP Per Capita								
Property	756.71***							104.39	0.03
Rights	(30.68)	-	-	-	-	-	-	(64.26)	
Government	-	831.96***	-	-	-	-	-	581.85***	0.04
Integrity		(28.88)						(63.17)	
Judicial	-	-	730.83***	-	-	-	-	43.09	0.04
Effectiveness			(32.95)					(56.19)	
Trade	-	-	-	1,037.21***	-	-	-	37.62	0.02
Freedom				(72.17)				(72.68)	
Investment	-	-	-	-	484.10***	-	-	-30.87	0.03
Freedom					(34.19)			(39.67)	
Financial	-	-	-	-	-	667.41***	-	201.79***	0.04
Freedom						(36.53)		(52.86)	
Constant	-25594.28***	-20905.86***	-19438.12***	-64263.89***	-13485.86***	-18032.57***	-36106.78***	-28740.20***	
	(1,741.65)	(1,353.45)	(1,666.10)	(5,546.57)	(2,129.69)	(1,921.84)	(2,828.70)	(4,318.77)	
Observations	519	519	519	519	519	519	519	519	
R-squared	0.54	0.62	0.49	0.29	0.28	0.39	0.40	0.65	

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

To conclude, this section provides some discussion on the result of the pooled OLS regression of individual sub-factors. One takeaway, is that by running both, the sub-factors individually, and also in one equation, both Government Integrity and Financial Freedom reported statistically significant. Trade Freedom, although reporting the highest coefficient, when included into one equation, was not statistically significant. Property Rights, Judicial Integrity, Trade Freedom and Investment Freedom were also not statistically significant.

Due to possible interactions effects, the only reasonable conclusion to make at this point is that, both Government Integrity and Financial Freedom are strong determinants for economic development, the individual R-square value for Government Integrity higher at 0.62, compared to Financial freedom with 0.40. To go back to our research question, ““What is the single most significant factor that explains the large variations in income between countries?””, based on this study, Government Integrity and Trade Freedom are both reasonable contenders as answers and based on the R-square and coefficient value, Government Integrity may have a slightly stronger case.

As a parting thought, in terms of both R-square and coefficients, Government Integrity has more impact towards economic growth, compared to Financial Freedom. Admittedly, a bit of a stretch, but nonetheless justifiable, if we take government integrity as an extension for institutions, and financial freedom an extension of market openness, this indicates that institutions are more crucial than integration. This may support the institutionalist view and puts the commonly prescribed notion of becoming a player in the global supply chain, the Western/Washington Consensus view, often recommended by organizations such as the IMF or WTO, for developing country as a short-cut for economic progress, on the backburner and behind institutions.

Although, the more pressing question of causality, that arises now, is, which of these variables, sets the precedent for the other to happen. Does Financial freedom, and as an extension perhaps, market openness, brings about better government integrity, i.e. good quality institutions. Or, is it the other way around, does good quality institutions bring about market openness? The truth of course, always lies somewhere in between.

In the next section we shall look at the interaction effects that could be helpful to provide more insight and clarity on the discussion.

#### 4.9 INTERACTION TERMS

##### a. TESTING

In this section I shall conduct some test to check possible interactions, firstly by checking the interaction of equation (4), with the possible interaction between Rule of Law and Market Openness.

Table 4. 5 Pooled OLS Regression with Interaction Term for equation (4)

Variable	Coefficient (Standard Error)
Constant	31157.96*** (5163.61)
Rule of Law	-893.38*** (129.21)
Market Openness	-745.92*** (83.16)
Interaction Term Constant	
Rule of Law & Market Openness	23.02*** (1.73)
No. of Observation	519
F- test (model)	433.52***
Degrees of Freedom	515
R-Squared	0.72
Standard errors are reported in parenthesis. *, **, *** indices significance at the 90%, 95%, and 99% level, respectively.	

Table 4.4. shows that the interaction term, between Rule of Law and Market Openness, is statistically significant at 99% confidence level. This suggest that there is likelihood of interaction between these two variables.

Secondly, I shall conduct an interaction test within the sub-components of Rule of Law as per the equation (7) written as:

$$\text{Income } (y_{i,t}) = \beta_0 + \beta_1 \times \text{Property Rights }_{i,t} + \beta_2 \times \text{Judicial Effectiveness }_{i,t} + \beta_3 \times \text{Government Integrity }_{i,t} + \varepsilon \text{ (Error Term)}, (7)$$

Table 4. 6 Pooled OLS Regression with Interaction Terms for equation (7)

Variable	Coefficient (Standard Error)
Constant	27502.70*** (8481.70)
Property Rights	-456.98** (184.38)
Government Integrity	-935.15*** (310.018)
Judicial Efficiency	-561.28** (239.76)
<b>Interaction Term Constant</b>	
Property Rights & Government Integrity	18.00*** (4.88)
Property Rights & Judicial Efficiency	8.88** (3.71)
Government Integrity & Judicial Efficiency	13.71** (6.33)
Property Rights, Government Integrity & Judicial Efficiency	-0.16** (0.070)
No. of Observation	519
F- test (model)	162.33
Degrees of Freedom	511
R-Squared	0.69
Standard errors are reported in parenthesis. *, **, *** indices significance at the 90%, 95%, and 99% level, respectively.	

Table 4.5 shows that all interaction terms between all three variables are statistically significant, suggesting that all the sub-components of Rule of Law are interacting with each other.

Next, I shall conduct an interaction test within the sub-components of Market Openness as per the equation (8) written as:



$$\text{Income (y}_{i,t}) = \beta_0 + \beta_1 \times \text{Trade Freedom}_{i,t} + \beta_2 \times \text{Investment Freedom}_{i,t} + \beta_3 \times \text{Financial Freedom}_{i,t} + \varepsilon \text{ (Error Term), (8)}$$

Table 4. 7 Pooled OLS Regression with Interaction Terms for equation (8)

Variable	Coefficient (Standard Error)
Constant	-50276.39** (22917.68)
Trade Freedom	842.076** (331.21)
Investment Freedom	1311.59*** (462.071)
Financial Freedom	2002.08*** (771.64)
<hr/>	
Interaction Term Constant	
Trade Freedom & Investment Freedom	-20.92*** (6.24)
Trade Freedom & Financial Freedom	-30.98*** (10.43)
Investment Freedom & Financial Freedom	-49.17*** (10.79)
Trade Freedom, Investment Freedom & Financial Freedom	0.77*** (0.14)
No. of Observation	519
F- test (model)	105.09
Degrees of Freedom	511
R-Squared	0.59
Standard errors are reported in parenthesis. *, **, *** indices significance at the 90%, 95%, and 99% level, respectively.	

Similarly, Table 4.6 shows that all interaction terms between all three variables are statistically significant, suggesting that all the sub-components of Market Openness are

interacting with each other.

Lastly, I shall check the interaction with all possible combination of the 6 independent variables in equation (5). Due to the large number of results, I will only show the interaction terms that are statistically significant in Table 4.7 below/next page. The results are consistent with Table 4.4, in which Rule of Law and Market Openness are interacting with each other. In this case, sub-components of Rule of Law and Market Openness are interacting with each other.

#### b. DISCUSSION OF RESULTS

The multi and intertwined interactions between components of Rule of Law (Property Rights, Government Integrity, Judicial Integrity) and Trade Freedom, Investment Freedom and Financial Freedom seems understandable, however the reasoning and causality is more complex.

Generally speaking, although we have found that government integrity has a strong and significant impact, and papers that estimates interrelationships have found that rule of law has a causal impact on income (Rigobon & Rodrik, 2004), all sub-factors of rule of law and market openness interacts as a unit, that supports economic growth via positive effects on GDP. Market openness in particular is also a significant factor in this study, whereby the literature presents a mixed bag of results between positive and negative impacts towards income. The positive effect of market openness in this paper could suggest that, market openness may have a positive effect albeit as an intermediary factor, for example, a system of political governance which is adapted or imported due to high level of influence from the process of integrating with the global market, generally becoming a component in the global supply chain, for example foreign direct investment, which promotes inclusive institutions and economic freedom – which in turns leads to economic growth.

The main point is interactions between these components somewhat produces a “chicken

and egg” scenario, alongside its multi-interactions. Whilst causality testing and more sophisticated handle of the variables and regressions by way of some controls, could resolve some of those tensions, however specific detailed explanations of the interactions are beyond the scope of this paper.

Overall, there are many and multi-interactions across all the sub-factors. Specifically, to highlight the highest interaction coefficients, particularly, No. 3, 5, 9 and 10 in Table 4.7. From this we derive two key (2) key points: i. There is a high cross interaction between Investment Freedom, with the Institutional proxy Judicial Effectiveness, and ii. There is high interaction between the integration proxies, trade, investment and financial freedom. To link back to the previous section of our OLS results, this could explain the following. Firstly, trade freedom reported the highest coefficient with 1,037.21, when we run all the sub-factors individually. However, when we run the sub-factors in one equation, trade freedom became insignificant. Secondly, high level of interactions between the integration proxies could explain why investment freedom reported a negative sign

Table 4. 8 Statistically Significant Interaction Terms for equation (3)

No	Variables	Coefficient	Standard Error	t	P>t
1	Property Rights, Government Integrity and Judicial Effectiveness**	-11.18	6.10	-1.84	0.07
2	Property Rights, Government Integrity and Investment Freedom***	-12.44	5.42	-2.30	0.02
3	Judicial Effectiveness and Investment Freedom***	-616.17	274.67	-2.24	0.03
4	Government Integrity, Judicial Effectiveness and Investment Freedom**	16.36	8.37	1.96	0.05
5	Trade Freedom and Investment Freedom**	-272.65	132.64	-2.06	0.04
6	Government Integrity, Trade Freedom and Investment Freedom*	8.16	4.73	1.73	0.09
7	Judicial Effectiveness, Trade Freedom and Investment Freedom***	9.52	3.77	2.53	0.01
8	Government Integrity, Judicial Effectiveness, Trade Freedom and Investment***	-0.29	0.12	-2.47	0.01
9	Trade Freedom and Financial Freedom**	-414.99	223.71	-1.86	0.06
10	Investment Freedom and Financial Freedom***	-505.85	205.25	-2.46	0.01
11	Government Integrity, Investment Freedom and Financial Freedom**	14.39	7.54	1.91	0.06
12	Judicial Effectiveness, Investment Freedom and Financial Freedom**	11.86	6.11	1.94	0.05
13	Property Rights, Judicial Effectiveness, Investment Freedom and Financial Freedom*	-0.173	0.10	-1.66	0.10
14	Trade Freedom, Investment Freedom and Financial Freedom***	7.74	2.81	2.75	0.01
15	Government Integrity, Trade Freedom, Investment Freedom and Financial Freedom***	-0.25	0.10	-2.50	0.01
16	Judicial Effectiveness, Trade Freedom, Investment Freedom and Financial Freedom**	-0.16	0.08	-2.00	0.05
17	Government Integrity, Judicial Effectiveness, Trade Freedom, Investment Freedom and Financial Freedom**	0.005	.003	1.96	0.05

\*, \*\*, \*\*\* indices significance at the 90%, 95%, and 99% level, respectively.

Note: As all results are reported to two decimal points, results less than 0.00 shall be reported to the nearest significant figures.

### c. IMPLICATION & CONCLUSION

Firstly, given the limitations and interactions and purely taking the results of this study at face value, I shall make an appeal to authority type argument, in terms of the existing and compelling research conducted in the field of Institutional Economics, the position is maintained that, institutions are vital towards economic development. Furthermore, Government integrity in particular, is a significant factor within the Institutional Economic framework, which deserves our attention and effort. The score of our government integrity data indices is a further composite and sub-factors of, carrying information with regards to the public's trust in politicians and leaders, the issue of irregular payments and bribes, transparency in government policymaking, governance & civil services, absence of corruption and also perception of corruption. These would be the key areas of focus for institutional reform to promote sustainable economic development.

Next, as the overarching objective of my study is closely connected to the issue of economic development of my home country, Brunei, this paper hopes to put institutional economics into the discussion, as one of the major, determinants of economic development.

Although the title of the paper implies a singular view on the causes of economic development, conventional wisdom tends to support a "pluralist" view on the causes of economic growth and development, and the amalgamation and myriad matters of education, infrastructure, agriculture, trade openness, prudent management of the natural resources, communities, environment, politics and ethics, to name a few, are all important towards the economic development of a country or society.

The next section is an attempt to discuss the idea of institutional economics of Brunei in terms of an institutional context with ideas of an enabling environment and a free economy, that

promotes entrepreneurship within the context of economic development, which is in line with the theory as presented in 1.3 b. Rationale.

## CHAPTER 5

### A BRUNEAN CONTEXT: ENTERPRENEURIAL INSTITUTIONS

#### 5.1 BACKGROUND

##### a. INTRODUCING INSTITUTIONAL ECONOMICS IN BRUNEI'S LITERATURE

In the academia, the field of institutional economics have been widespread and far reaching since Douglass North, a pioneer of the field, made the idea concrete in the 1990s. Summarizing, he devised a framework, starting by defining that institutions are the humanly devised constraints that structure political, economic and social interactions which consist of informal and formal rules. Economically speaking, these institutions are shaped by humans with the ultimate goal of reducing uncertainty in exchange, which defines choice sets and determine transaction and production costs. This in turn sets a standard in profitability and feasibility of engaging in economic activity. In other words, institutions lay out the incentive structure of an economy and directs economic change towards growth, stagnation or decline (North, 1991). Since Douglass North, the field has grown vastly and there have been significant and great contribution to the field over the last 3 decades. As established academia is still relatively young in Brunei, this provides an opportunity to put institutional economics into the discussion as the country continues to grow and build its scholastic knowledge in within out academic infrastructure to help inform policies and decisions.

##### b. LINKING ECONOMIC FREEDOM DATA AND INSTITUTIONS

The main data independent data used in this study: i. Rule of law and ii. Market openness are two (2) out of four (4) key aspects, from the Economic Freedom Index – with the other two being, Government size and Regulatory efficiency. These four Economic Freedom Index are key aspects of the economic and entrepreneurial environment over which governments typically

exercise policy control. It is important to highlight and re-iterate, that the economic freedom data directly assesses and carried information on the entrepreneurial environment, especially Rule of law and Market Openness.

The synthesis between institutions and entrepreneurship is one of the branches, which grew from the tree of institutional economics. Works from people such as William Baumol, which shall be used as one of the lynchpins in this chapter, posits that everyone is an entrepreneur and that entrepreneurship can be productive, unproductive and even destructive. This is consistent with Douglass North's statement that, "Institutions provide the incentive structure of an economy..." aforementioned above.

Taking into consideration the conservative and nationalistic conditions of Brunei, it would be wise to talk about institutions in terms of the synthesis with entrepreneurship, which may be more palatable, politically correct and aligned, to the agenda of the government and hearts and minds the Bruneian people.

#### c. OVERVIEW OF BRUNEI

The economic freedom score (scored from 0-100), for Brunei is 65.1 (2019 Heritage Foundation Economic Freedom Index), and is considered moderately free in terms of economic freedom. It is ranked the 63rd economically freest country in the world and 14th regionally. In terms of the index score we are most interested in, primarily rule of law: i. property rights scored 64, ii. judicial effectiveness with 56 and iii. Government integrity with 43.7. Secondly, in terms of market openness: i. trade freedom reports at 84, ii. investment freedom at 65 and iii. financial freedom scored an even 50.

Geographically, Brunei is small country in South-East Asia with a population size of



428,962<sup>4</sup> and total area of 5,770km<sup>2</sup> (2,228mi<sup>2</sup>)<sup>5</sup>, according to World Bank in 2018. In terms of governance and standard of living, Brunei is among the seven (7) countries with an absolute monarchy<sup>6</sup> and the country has maintained a very high human development index (HDI) of 0.845, ranked 43rd out of 189 countries, according to Human Development Report 2019, with a fairly high GDP per capita of \$27,871, ranking it 31st out of 186 countries, according to the International Monetary Fund 2019 data. Some authors have summed up Brunei as an affluent welfare state with a traditional norm and an undeveloped political process (Somjee & Somjee, 1995).

A quick macroeconomic view of Brunei can be assessed as follows. The gross output of Brunei is BND29.2 billion with Mining and Quarrying contributing 43.1%, followed by manufacturing with 22.2% and wholesale & retail trade with 15.8% (Department of Statistics Brunei, 2011). Oil and LNG exports accounts for 90% of government revenues, through corporate income taxes, royalties and dividends as 50% owner of Brunei Shell Petroleum (“BSP”) Sdn Bhd, a joint venture between Royal Dutch Shell and the Brunei government. This makes Royal Dutch Shell (“Shell”) one of the “de facto” corporation in the Bruneian political and institutional landscape.

It would be interesting to analyze and study how the most productive, profitable and economical industry in Brunei’s history, is contributed by the adoption and importation of Shell’s British/Dutch institutions in terms of its business culture and ways of workings. An idea that is not at all different, to the one presented by Paul Romer, cities with different rules, called

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<sup>4</sup> Brunei is the 60<sup>th</sup> smallest country in the world in terms of population (According to United Nations Population Division 2020)

<sup>5</sup> Brunei is the 32<sup>nd</sup> smallest country in the world.

<sup>6</sup> At the time of writing, the list of absolute monarchs, includes the Sultanate of Oman, State of Qatar, Kingdom of Saudi Arabia, Kingdom of Eswatini, Vatican City State and United Arab Emirates.

“charter cities.” (Romer, 2010)

A contrast between Panaga, located in the Kuala Belait district, the oil and gas town, where almost all of BSP’s operations take place and headquarters are located, and Bandar Seri Begawan, the bureaucratic capital of Brunei is located, may bring about interesting insights. Figure 6.1 and 6.2 show a screenshot of the bird eyes view of the two aforementioned areas respectively.

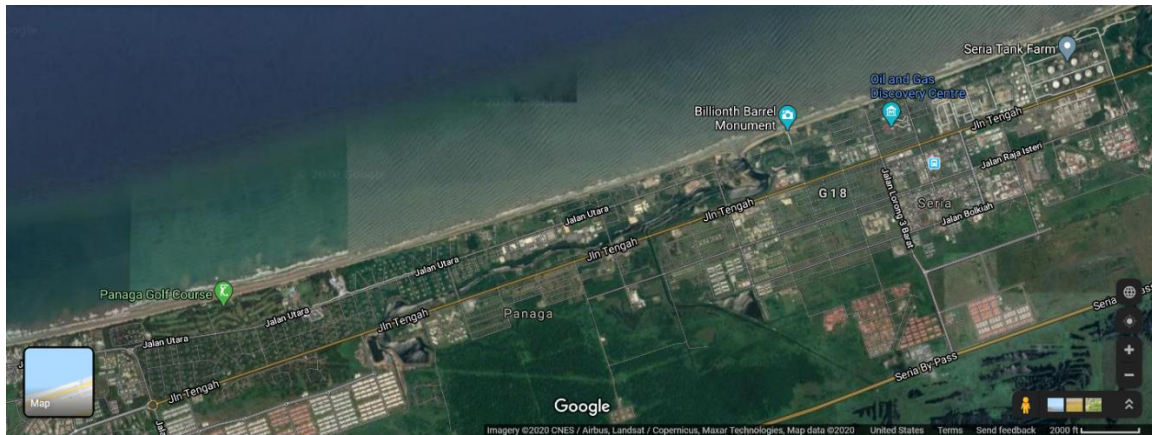


Figure 5. 1 Birds-eye of view of Seria (Brunei’s oil and gas town), at 2000ft

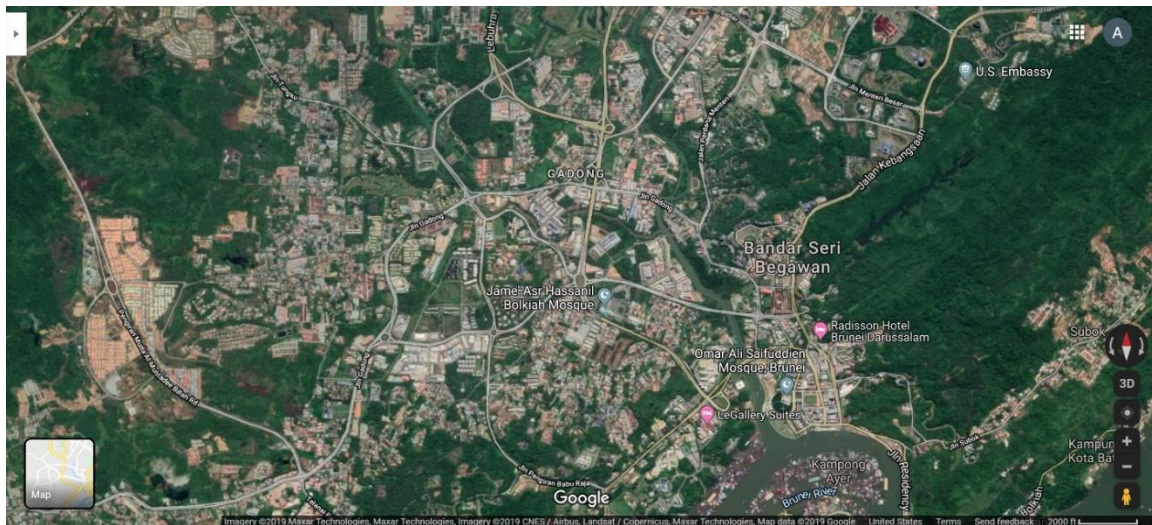


Figure 5. 2 Birds-eye view of Bandar Seri Begawan, at 2000ft

An obvious contrast is the layout itself. Seria is grid-like and which may be an efficient

layout of a city with its predictability, as it is easier to navigate, built and rebuilt. Bandar Seri Begawan has a more sprawling nature and are more akin to traditional bazaars and cities, perhaps suggesting a more organic way of growth. This Author is not saying that one is better than the other, but simply stating that the prescription given to Brunei and its capital, may not fit the “institutional profile” of the country. Therefore, undertaking a diagnosis of Brunei’s “institutional profile” is imperative as a first step towards institutional reform in Brunei. The next few sections provide some general ideas and small steps to take, in order for Brunei to gain a foothold upon an institutional realization and understanding. However, a more detailed and thorough research on this matter shall be comprised of a historical, philosophical, and potentially anthropological question this is outside the immediate scope of this paper.

## 5.2 INTRODUCTION: ENTREPRENEURIAL INSTITUTIONS

### a. ENTREPRENEURSHIP THEORIES AND ECONOMIC GROWTH HISTORY

Theories of entrepreneurship has been tested through the lenses of economic history. The novel study of the rise and fall of nations has provided insights on understanding the causes of long-term economic growth by using proxies and building frameworks with reasonable linkages, researchers are able to deduce whether or not their theories are right.

Major examples of using economic history is the study of Europe’s history. Summarizing and drawing ideas from, Thurik & Wenneker’s 1999 paper, “Linking entrepreneurship and Economic Growth”, one can say that entrepreneurship has played a vital role both in the take-off stages of the European economy and during the Industrial Revolution. Moreover, it is likely that economic decline, such as experienced in late 19th and most of 20th century Britain, was aggravated by the cultural and institutional framework becoming less conducive to entrepreneurship (Thurik & Wennekers, 1999).

Another seminal example, and an example closer to home, upon which Brunei often looks for ideas, is the East Asian Miracle whereby rapid sustained growth of the Republic of Korea, Taiwan, Singapore, Hong Kong, Japan, Indonesia, Malaysia and Thailand in the period of 1965-1990 is analyzed (The World Bank, 1993). It was found that the amongst the key reason for economic growth, was the emergence of entrepreneurship, encouraged and sanctioned by the government. Entrepreneurs were willing to take risks; competition was intense and central governments were focused in promoting competitiveness. The culture of entrepreneurship (values, attitudes towards work, production, wealth and saving, new information, risk and failure) and the existence of a sound institutional framework which allowed for economic freedom, were all fertile conditions for entrepreneurship and economic growth.

#### b. THE “ENTREPRENEURIAL SPIRIT” IN BRUNEI

I’ve chosen the term “Entrepreneurial Spirit” because, it is this Author’s observation that, there is this notion within Brunei, manifested from its policies and reflected from the country’s main think-tank, the Center for Strategic and Policy Studies (“CSPS”), that the concept of entrepreneurship is still shrouded in mystery.

Brunei’s commitment in promoting entrepreneurship is quite evident. Exploring CSPS’s journals on the subject, there is a general consensus that entrepreneurship is an important transmission channel for economic development vis-a-vis economic diversification from oil and gas. Subsequently we are still trying to understanding the phenomena of entrepreneurship and its implications towards policy and sustainable economic development, with an acknowledgement and desire for further research and data collection to better understand the entrepreneurship phenomena in Brunei Darussalam. Therefore, the subsequent sections, I shall explore this part of possible further research.

There is already a sense, that the concept of institutions, is vital to realize the entrepreneurial potential in Brunei, although the word “Institution” in and of itself is not defined and used directly, I humbly think that this is simply a matter of semantics and we are in fact, talking about the same thing. Accordingly, I hope to give more focus on this issue through the lens of Institutional Economics. It is this Authors hope that more attention will be given towards institutions, and that subsequent institutional reforms to help entrepreneurship blossom, shall be devised and implemented.

Entrepreneurship is often thought of as a “mindset” and used as an adjective for culture. One example, whereby this oft-cited “entrepreneurship culture” was brought up in Brunei’s literature, in Yazid Mahadi’s 2011 paper, “The Dutch Disease Hypothesis: Evidence from the Gulf Cooperation Council”. He correctly points out that, this entrepreneurship culture is a necessity for “innovation and fostering new niche sectors...”, which is one of two mechanism for overcoming the Dutch Disease<sup>7</sup>, the other mechanism being an effective and prudent oil revenue fund. He further buttresses his point by hypothesizing, in resource rich countries, an abundance of natural resources may reduce the pressure to innovate and foster new niche sectors (a matter of mindset) and concludes that the absence of a strong entrepreneurial culture and innovative mindset, worsens the resource curse<sup>8</sup> (Mahadi, 2011).

There is a clear desire for Brunei Darussalam to more towards the goal of becoming a “knowledge economy” (Lennon & Sasha, 2011). In their 2011 paper, “Developing the Knowledge Economy and Integrated Employment Areas in Brunei Darussalam, the Authors,

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<sup>7</sup> An economy is said to be affected by the Dutch disease when a resource boom slows down the growth of the other tradeable sectors as a consequence of an appreciation in the real exchange rate. For a succinct summary about the Dutch Disease in Brunei see Lawrey’s “An Economist’s Perspective on Economic Diversification in Brunei Darussalam (2011)”

<sup>8</sup> A theory that states that, the resource abundant countries have stagnated in economic growth since the early 1970s, inspiring the term “curse of natural resources”. For further information on the Resource Curse see, “The Curse of Natural Resource (Sachs 1995)”

explore the fundamental characteristic of a knowledge-based economy, highlights the importance of “preconditions for innovation” and “entrepreneurial environments” to achieve the aforementioned goal. Their ideas on zoning and the concept of Integrated Employment Area (“IEA”), whereby the government directly influence the preconditions for creating an entrepreneurial and innovative environment such as providing various land and supporting facilities (education, networking facilities, access to technology, etc.), can be observed firsthand with the establishment of the Darussalam Enterprise (“DARe”) in 2016, which is a national Small-Medium Enterprise (“SME”) body with the main goal to supporting local businesses in Brunei. It is clear, the impact of physical, town and country planning are also important factor in shaping this inclusive institutional environment.

This is part and parcel with the government’s plan to “develop a strong SME workforce where talents of entrepreneurs can be discovered, identified and nurtured...” and a need “to understand and monitor the entrepreneurship development...” (Duraman & Thrumarajah, 2010). In Lawrey’s, “An Economist’s Perspective on Economic Diversification in Brunei Darussalam”, the idea of tipping point is introduced with the requirement of a “...critical mass of entrepreneurship...” (Lawrey, 2010). In a broader sense and moving towards the idea of innovation and new sources growth, there is also an appeal to, “...understand Brunei’s creative industries’ potential and deliver appropriate infrastructure, services and support programs so that a vibrant social, cultural and economic environment can flourish.” (Lennon & Abdullah, 2013). Therefore, there is a strong acknowledgement to firstly, understand this phenomenon of entrepreneurship and in the following sections, I shall attempt to consolidate entrepreneurship theories and link it with institutions.

Given the Bruneian context of entrepreneurship whilst keeping the overarching objective

to help further research in the field of institutional entrepreneurship in Brunei in mind, the following sections shall be organized as follows. In Section 5.3, I shall review the major theories of entrepreneurship. Section 5.4 extends the literature review, to make the formal link between Entrepreneurship with Institutions and then in Section 5.5, I shall give some strategies on how entrepreneurship maybe tested and Section 5.6 concludes with policy implications.

### 5.3 THEORY OF ENTREPRENEURSHIP

Firstly, for practical purposes, I will keep in mind the target audience of this chapter, for further research will most likely be carried out by local think-tank, economic developers, local departments & agencies, and even business school students. I shall start to understand the essence of an entrepreneur, with an article aptly titled, “Nature or Nurture – Decoding the DNA of the Entrepreneur,” which is based on a survey and in-depth interview conducted by Ernst & Young, on 687 entrepreneurs, with the objective of formalizing a solid model, of what comprises the entrepreneur.

Then, I will move towards a perspective of economic theory, with the subsequent articles from three major intellectual tradition on entrepreneurship. Firstly, the Austrian Tradition with Kirzner’s Competition and Equilibrium, secondly, the German tradition with Schumpeter’s section on Creative Destruction, from Capitalism, Socialism and Democracy and lastly, and most importantly, William Baumol’s Theory of Productive and Unproductive Entrepreneurship.

#### a. NATURE OR NURTURE – DECODING THE DNA OF THE ENTREPRENEUR

Overall, this article provides insights on five key findings. First, it starts with a business school truism, that entrepreneurial leaders are made, not born. Although many entrepreneur leaders start young, experience through education and time spent in traditional corporate environment is vital in providing the skills needed to build successful business. More than half of

entrepreneur leaders are “transitioned” from being employed, meaning they had some experience outside the world of entrepreneurship before launching their ventures. Popular entrepreneurs such as Bill Gates of Microsoft or Mark Zuckerberg of Facebook who left college to form great businesses are exceptions to the rule.

Secondly, entrepreneurship is rarely a one-off decision. Majority of respondents to the survey are “serial entrepreneurs” who have launched at least two companies. Entrepreneurial leaders who embark on more than one venture gain valuable insight and lessons into how to make a new business successful. As such, they perform a vital role in the economy and, among them start a significant proportion of all new ventures.

Thirdly, the article found that three factors: i. Funding, ii. People and iii. Expertise, are the biggest barriers to entrepreneurial success. The most common barrier is lack of funding or finance. Many entrepreneurs continue to experience problems with accessing finance, despite gradual easing of credit conditions in many countries. The two other most reported obstacles are people and expertise. Therefore, entrepreneurial leaders are well-advised to build “ecosystems” – networks of resources – to address these three areas.

The fourth point is that, entrepreneurs share common traits. In the core, on a psychological level, there is a strong internal locus of control – a belief that events result directly from an individual’s own actions or behaviors. This is complemented by a mindset that sees opportunities where others see disruption, an acceptance of calculated risk and a tolerance of failure. They see opportunity where others see disruption and it is important to highlight that culture has a strong influence on risk-taking and tolerance of failure. Surrounding this core are six guides to action: Passion, persistence, the ability to work with a team yet follow their own instincts, the creation of a “success culture”, an eye for niches and market gaps, and focus on



building an ecosystem to support the venture.

Lastly, the fifth point is that, traditional companies can learn from entrepreneurial leaders. Large companies and corporation should establish employee incentives and foster innovation. Successful entrepreneurial companies place larger amounts of share ownership in hands of employees. Although tradition company have few incentives to disrupt their own business models with game-changing innovations, those entrepreneurial companies that can move towards innovation are richly rewarded. Companies need to foster culture in which entrepreneurship is celebrated and rewarded.

#### b. AUSTRIAN SCHOOL OF THOUGHT

One of the main originators of the Austrian entrepreneurship school of thought is Israel Kirzner. According to his theory of competition and entrepreneurship (Kirzner, 1973), the objective of the market process theory is to “understand how the decisions of individual participants in the market interact, to generate market forces which compel *changes* in prices, in outputs and in methods of production and the allocation of resources." Generally, the entrepreneur moves market towards equilibrium by transferring and communicating information between consumer and producers. The market process is inherently competitive where opportunities to buy and sell are available in the market. This competition forces entrepreneurs to gravitate closer and closer to their ability to participate profitably in the market. Production is inherently entrepreneurial and competitive, in which pure entrepreneurship requires no resources to be initially owned.

Two key ideas are introduced, imperfect information (or imperfect knowledge) and alertness & equilibrium, which has become commonplace in the economic and business grammar. Firstly, with imperfect knowledge, profit opportunities exist. All such opportunities

consist of price differential whereby the concept of arbitrage is crucial in all entrepreneurial activity. In other words, price differentials are where prospective entrepreneurial profits are to be won. In the context of production possibilities, entrepreneurship consist in one's conviction, that oneself has perceived earlier errors in the market, which have created this opportunity, a situation of price differential; between the price at which one can buy inputs and the price at which it will be possible to sell outputs. Simply put, another modern axiom comes to mind, "Buy low, sell high". The Austrian school also adds that, in order to become a successful entrepreneur, one must possess qualities of vision, boldness, determination and creativity.

With regards to alertness and equilibrium, the entrepreneur strives towards bringing equilibrium, and towards perfects information, by being "alert" to market opportunities and price opportunities. The entrepreneurial element of human action is "alertness to possibly newly worthwhile goals and to possibly newly available resources". Entrepreneurs actions eliminate prices distortions and move the system toward general equilibrium. To start, entrepreneur's make decisions and carry out their plans, taking in consideration of other participants. Due to imperfect knowledge, at the end of a given period, two outcomes occur: i. Due to being too optimistic, entrepreneurs find their plans could not be carried out and ii) Due to being too pessimistic, plans were carried out, but failed to take advantage of more beneficial opportunities. Through market participating, entrepreneurs learn from others (in form of prices), gaining knowledge that causes revisions in future plans. The analytical essence of the pure entrepreneurial role, and the movement towards equilibrium of the entrepreneurial activity, therefore consist purely in this arbitrage opportunistic trading paradigm, through the means of perception between price differences.

### c. GERMAN SCHOOL OF THOUGHT

The German tradition of entrepreneurship theory, specifically, Schumpeter's 'Theory of Creative Destruction' (Schumpeter, 1975), views entrepreneurs as creators of instability and creative destruction. This is a stark contrast in comparison to the Austrian process oriented, equilibrium seeking entrepreneurs.

According to the German school of thought, capitalism by nature, is a form or method of economic change and can never be stationary. The essence of capitalism, is characterized by continual technological change, driven by innovation and creative entrepreneurs. The fundamental impulse that sets and keeps the capitalist engine in motion, comes from new consumerism; new goods & services, new methods of production or transportation, new markets and new forms of industrial organization that capitalist enterprise creates.

One of the central ideas, is that the Schumpeterian entrepreneur, "revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one". This process of creative destruction is presented as an essential fact of capitalism. Schumpeter rejected the orthodox emphasis of the perfectly competitive market and asserts that the entrepreneurial character is a real world dynamically competitive process, whereby capitalism is viewed as a persistent "gale of creative destruction".

Within this idea of creative destruction, the concept of innovation plays a vital role. The essence of the entrepreneur is the ability to break away from the routine, destroying existing structures and move the system away from the even, circular flow of equilibrium. Schumpeter views entrepreneurs, as the disruptive, disequilibrium force, that dislodges the market from equilibrium and that profits are won by this disruption. The entrepreneur introduces new innovation to reality, in a world fraught with uncertainties, and this entrepreneurial venture

creates a shock to the existing market. Furthermore, the Schumpeterian entrepreneur disrupts the existing plans of those who fail to anticipate changes and opportunities, whom have invested their careers in the stale methods of production, which the new venture is about to displace. Added value, benefits and consumer surpluses, therefore can only be obtained through drastically discoordination and frustrating the plans of those in the displaced incumbent industry.

Bold, creative and innovative Schumpeterian entrepreneurship is responsible for dramatic technological breakthroughs, capable of revolutionizing an entire industry. The Schumpeterian entrepreneur is a leader and an innovating entrepreneur that is responsible for creating disequilibrium, a visionary – someone who can imagine how the world might be improved by a radical innovation with the psychological qualities that encourage one to ignore conventional wisdom. These are essential characteristics of the entrepreneur that is presented by Schumpeter.

#### 5.4 ENTREPRENEURSHIP AND INSTITUTIONS

*“Institutions are the primary cause of economic growth, by means of productive entrepreneurship allocation.”*

Arguably, one of the most significant contemporary theories on entrepreneurship since Kirzner and Schumpeter, is the work of William Baumol, in, “Entrepreneurship: Productive, Unproductive and Destructive” (Baumol, 1990). As mentioned before, this section of Baumol’s theory shall act as fulcrum for this chapter, to synthesize institutions with entrepreneurship more concretely. Hopefully, we will begin to see the link between entrepreneurship theories and institutional economic theory, more clearly.

##### a. OMNIPRESENT ENTREPRENEURS

Every now and then, entrepreneurship, is brought up, to account and provide speculation, as the cause of economic prosperity. When times are good, alongside innovation and economic

growth, it is implied that entrepreneurship is thriving and doing well. On the other hand, in bad times, of slow economic growth, the implication is that entrepreneurship has declined. According to Baumol, entrepreneurship is an omnipresent feature of human nature (Sobel, 2008). It is a different notion to one, whereby, entrepreneurs are comparable to an endangered rare species or rare breed that are cut from a different cloth and needs to be “identified” (Duraman & Thrumarajah, 2010) and nurtured in some sort of “entrepreneurial sanctuary” before being released into the wild capitalist market.

In his 1990 paper, Baumol proposes that, “Entrepreneurs are always with us and always play some substantial role...” There is, “a variety of roles among which the entrepreneur’s efforts can be reallocated...”. The actions of entrepreneurs are, and entrepreneurial allocation is dependent on the “Rules of the Game”, which determines the reward structure in the economy i.e. the prevailing set of institutions. Therefore, “the central hypothesis here is that it is the set of rules and not the supply of entrepreneurs or the nature of their objectives that undergoes significant changes from one period to another and helps to dictate the ultimate effect on the economy via the allocation of entrepreneurial resources.”

#### b. PRODUCTIVE, UNPRODUCTIVE AND DESTRUCTIVE ENTREPRENEURSHIP

Now that we have established the assumptions that entrepreneurs are ever presents, we move on to define the entrepreneurs, which Baumol propose, is a person who is concerned with, “... the imaginative pursuit of position, with limited concern about the means used to achieve the purpose.”

The allocation of entrepreneurial effort is channeled in means that could be either productive or unproductive and/or destructive. Generally speaking, the productive entrepreneurship is positive for the public welfare or productivity growth such as devotion of

labor efforts toward private-sector wealth creation, innovation and productive market entrepreneurship. On the other hand, unproductive or destructive entrepreneurship are the opposite. It can take many forms, both legally, through activities which concerns itself with the re-distribution of wealth, primarily rent-seeking behaviors and also illegally, including activities of which values, may pose questionable to society. Historically, these could be violent wars and conquest, and it could also be activities in the black market such as organized crime, drugs, human/animal trafficking, etc. However, in this paper we shall be concerned on the legal means of unproductive/destructive entrepreneurship, mainly through rent-seeking behaviors, whereby entrepreneurs seek to increase one's share of existing wealth without creating new wealth by legal and pollical means such as lobbying, litigations and other freeloading behaviors.

The theory contends, though its historical analysis and evidence from ancient Rome, early China & the Middle Ages and of the Renaissance in Europe, that the direction and decision of entrepreneurship depends heavily on the structure of payoffs in the economy – the rules of the game. Thus, an institutional environment that encourages productive entrepreneurship becomes the ultimate determinant of economic growth. Baumol's concludes as such, "The prime determinants of entrepreneurial behavior at any particular time and place is the prevailing rules of the game that govern the payoff of one entrepreneurial activity relative to another." (Baumol, 1990)

Baumol models the entrepreneurial process as follows. We start with economic inputs such as capital, skilled labor, technology & infrastructure and resource. These inputs are then channeled through institutional quality to create entrepreneurial outcomes. Desirable, inclusive institutions channel effort into productive entrepreneurship, sustaining higher rates of economic growth. When institutions have inclusive characteristics, which provide for secure property

rights, a fair and balanced judicial system, sound contract enforcement, and also an effective constitutional limit on government's ability to transfer wealth through taxation and regulation, it is much more likely, to reduce the profitability of unproductive political and legal entrepreneurship. Under this incentive structure, creative individuals are more likely to engage in the creation of new wealth through productive market entrepreneurship. In contrast, with undesirable exclusive institutions, the returns to unproductive entrepreneurship is higher and creative individuals will attempt to capture existing wealth through unproductive entrepreneurship such as rent-seeking activities.

In summary, as entrepreneurship is an omnipresent feature of human nature, and what differs across time and place, is not the degree of underlying entrepreneurial spirit, but instead how that spirit is channeled. In political and legal arenas, just like in the market sector, there are both innovative Schumpeterian, and Kirzner type "arbitrage" opportunities, that are profitable and are positions of economic ends, that can be pursued by entrepreneurs (Sobel, 2008).

#### c. EMPIRICAL EVIDENCE

Inspired by the work of William Baumol, economists have tested and confirmed that there is significant evidence which supports the notion that institutional quality has a positive impact on productive entrepreneurship. An example is as follows.

In Russel S. Sobel's paper, "Testing Baumol: Institutional quality and the productivity of entrepreneurship" (Sobel, 2008), he examined cross-sectional data from the 48 continental U.S. states, which produced two main findings. Firstly, he examined the relationship between the level of productive and unproductive entrepreneurs with institutional quality score. Using regression tools, he found that better institutional quality results in higher level of productive entrepreneurial activity. Secondly, by examining Net Entrepreneurial Productivity ("NEP")

index<sup>9</sup>, state income and institutional quality, he found that, states with better institutional quality tend to have a higher level of net entrepreneurial productivity. This is because, states with better institutional quality have entrepreneurial efforts channeled, more toward productive entrepreneurship. Therefore, these results confirm Sobel's hypothesis that, "...institutional quality creates wealth, primarily because it promotes productive entrepreneurship, which in turn creates wealth and income. This finding explains why researchers have found separately that both institutional quality and entrepreneurship each largely explain the different paths of economies. They both do explain it, but the causal link flows from institutions through entrepreneurship to wealth."

#### d. CAVEATS OF CONSOLIDATING INSTITUTIONS AND ENTREPRENEURSHIP

It is important to highlight one main caveat. Both Institutions and Entrepreneurship theories face the limitation of what is called the "structure-agency" problem. Basically, this is an issue of socialization against autonomy, in a determination whether individuals act as free agents or in a manner dictated by social structure. Within Institutional theory, a broader structure-agency debate is often referred to as the "paradox of embedded agency". Research on institutions tends to focus on how organizational processes are shaped by institutional forces that reinforce continuity and reward conformity. In contrast, research on entrepreneurship focuses on how organizational processes and institutions themselves are shaped by creative entrepreneurial forces that bring about change. The juxtaposition, "of these contradictory forces into a single concept generates a promising tension – one that opens up avenues for inquiry into how processes associated with continuity and change unfold, and, how such unfolding processes can

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<sup>9</sup> A positive NEP means the state has relatively more productive than unproductive entrepreneurship, while a zero NEP reflects equal proportion of the two and a negative NEP means the state had relatively more unproductive entrepreneurship than productive entrepreneurship.



be influenced strategically.” (Garud, Hardy, & Maguire, 2007)

## 5.5 UNDERSTANDING THE ENTREPRENEURIAL PROFILE

In order to implement successful policies, it is imperative that we must first try, to understand the entrepreneurship phenomena in Brunei specifically. The specificity of study in a Bruneian context is important because we have our own unique set of features, characteristics and underlying assumptions. I understand that there are many good initiatives which are the way in Brunei, in order to drive the promotion of Entrepreneurship. There are also great benefits we can reap from the outsourced 3rd party consultants, whom draw influences from orthodox neoclassical economic approaches or post-modern business school approaches. However, these studies may have underlying anthropological, metaphysical, ethical and epistemological assumptions, which are different, from those held by Bruneians. Therefore, understanding the entrepreneurial phenomena in Brunei is vital.

There have been a massive effort and initiative from the government to push the entrepreneurship agenda. As a matter of fact, entrepreneurship has been on Brunei’s agenda for quite some time, and can be traced back since the 5th National Development Plan in 1986. This has culminated with the more recent formation of DARE with various other ministries, authorities and boards playing a role along the way. It is clear that a substantial amount of resources has been allocated in pursuit of the entrepreneurship agenda.

Therefore, broadly speaking, the keys to victories are as follows: First, by understanding the entrepreneurship phenomena in Brunei, then, secondly, critically assessing the success or failures as a result of Brunei’s policies and then finally, making the appropriate adjustments. If the performance and results continue to fall below the standards set about Brunei’s goals, then we need to change our modus operandi and ultimately change, “the way we think about thinking

about things”, (also known as an intellectual revolution, paradigm shift, change in mindset etc.). We need to do this, before we can actually start taking action, else we risk having a wasteful trial and error approach akin to find a needle in a haystack.

Therefore, to refocus, the objective of this section is to: i. Understand the entrepreneurship in Brunei and ii. Measuring entrepreneurship with economic growth as a criterion of success.

I will use some ideas from Thurik & Wenneker’s paper, “Linking entrepreneurship and Economic Growth (Thurik & Wennekers, 1999), to suggest ways to measure entrepreneurship and to suggest ways in which the relationship between dimensions of entrepreneurship and growth might be empirically investigated.

a. **ENTREPRENEURIAL CONCEPTS NEED TO BE OPERATIONALIZED**

Entrepreneurship can be thought of as, the behavioral characteristic of people; therefore, it is an inherent complex phenomenon to capture. Clearly, it is difficult to measure entrepreneurship, both at the individual and the aggregate level. The concepts involved have to be operationalized, in other words, we need to define the exact measurement tools, scales and methods, in order to conduct tests that are reliable and can be replicated. Statistical concepts are called upon. Firstly, we start with a matter of identification, who to study, and what are the independent variable proxies to use for entrepreneurs. Proxies are needed to help researchers and policy makers to make decisions. The second point is, how to measure the dependent variables, conducting hypothesis testing and how to set up control and treatment groups. In order to conduct this second step, we need to establish a framework to link entrepreneurship and economic growth, and understand the intermediate linkages, which is inevitable due to absence of a direct link between entrepreneurship and economic growth.

b. FRAMEWORK

Table 5.1. shows a framework linking entrepreneurship to economic growth (Thurik & Wennekers, 1999), and a useful starting point to understand and develop an entrepreneurial profile. The framework operates on three (3) different levels of analysis: i. Individual level, ii. Firm level and iii. Macro level. On each level, we can then think of its subsequent conditions, crucial elements and impact of entrepreneurship. The subsequent paragraphs give a brief account of the framework on these three levels of analysis, starting with individual, then firm and finally on a macro level.

Table 5. 1 Framework Linking Entrepreneurship to Economic Growth

Level of Analysis	Conditions for Entrepreneurship	Crucial Elements of Entrepreneurship	Impact of Entrepreneurship
Individual Level	Psychological Endowments Culture Institutions	Attitudes Skills Actions	Self-realization personal wealth
Firm Level	Business Culture Incentives	Start-ups Entre Into New Markets Innovation	Firm Performance
Macro Level	Culture Institutions	Variety Competition Selection	Competitiveness Economic Growth

Linking entrepreneurship to economic growth also means linking the individual level to the firm and subsequently the macro level. Firstly, the analysis starts at the level of individual entrepreneurs operating on their own or in teams or in partnership. This deals with behavior as a variable. Therefore, the relevant disciplines are psychology and managerial economics and the unit of observation will be the individual persons with traits and behaviors as the variables.

Secondly, entrepreneurial action takes us to the firm level. Entrepreneurs need a vehicle, or some type of means to transform their personal qualities and ambitions, into actions. Small

firms where the entrepreneur has a controlling stake provide such a means. Larger firms often mimic smallness (using organizational forms like business units, subsidiaries and joint ventures) to introduce corporate entrepreneurship. The outcome of these entrepreneurial manifestations at the firm level generally has to do with newness and new entry from start-ups. Examples of newness can be through product, process and organizational innovation, entry of new markets and innovative business start-ups. In terms of a production function, the entrepreneurs act as a coordinator of this production functions (organizing input and outputs) within an organization. As the focal unit of observation is the firms and industries itself, the relevant discipline of study is in industrial and organizational economics. Therefore, the studies of intermediate linkages between conditions, entrepreneurship and its impacts using variables such as the conquest of new markets, firm performance (for example, structure-conduct-performance paradigm<sup>10</sup>, efficiency school paradigm<sup>11</sup>), inventions and innovation, new business formation and competition are appropriate.

Thirdly, at the macro level, the analysis shall focus on the aggregate levels of industries, regions and national economics. The summation of all individual entrepreneurial actions shall, “compose a mosaic of new experiments”. Variety, competition and also imitation, expand and transform the productive potential of a regional or national economy, by replacement or displacement of obsolete firms, by higher productivity and also by way of expansion of new niches and industries. Collectively, entrepreneurship enhances international competitiveness and in turn its market share. Viewed from within a closed economy or the world economy as a

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<sup>10</sup> Structure-Conduct-Performance (“SCP”) paradigm dictates that industry-wide (the market) structural characteristics would determine the profits of individual firms in an industry. Industries vary with respect to concentration levels, pricing/advertising, behaviors and profitability. Overall, the performance and profits of firms can be explained by which market/industry structure they are in.

<sup>11</sup> The efficiency school paradigm (“Chicago School”), basically states that everything starts with the firm. With firm performance as the prime mover, this in turn effect firm conduct which impact market structures. To explain further, dominance arises only from superior efficiency, suggesting causation runs from performance to structure.

whole, one could say that the additional productive potential in a competitive environment would create its own demand. We assume that the outcome of this chain of variables linking the individual level to the macro level, will result in economic growth. There will be two focal units of observation which are: i) Groups & societies and ii) Macroeconomic framework influencing micro behaviors. The former, shall be the focus area for social psychology, anthropology and sociology studying variables such as culture (open-mindedness, acceptance of risk, long term orientation etc.). The latter falls under the jurisprudence of law & economics, and also institutional economist, analyzing institutions (in addition to the earlier ideas in this paper, it also includes incentives & punishment, competition rules, etc.).

Lastly, feedback is likely to exist in the framework. Next to the linkages from the individual level to the aggregate level, it is likely that there are important feedback mechanisms. Competition and selection amidst variety, undoubtedly enable individuals (and also firms), to learn from both their own and other's successes and failures. These learning processes enable individuals to increase their skills and adapt their attitudes. The outcome of these so-called spillovers will be new entrepreneurial actions, creating a recurrent chain of linkages.

### c. PROXIES AND ITS CHALLENGES

On an aggregate level, it seems pragmatic to count numbers. Some proxies can be used, such as measuring rates of self-employment. It is the only yardstick for entrepreneurship because statistical information is available, along the ownership dimension. Employment share of surviving young firms can also be used as a proxy for entrepreneurial activity in manufacturing industries. Comparative entrepreneurial positions of industries, are also possible i.e. share of small firms in an existing market. However, if classification and typologies are not well defined, e.g. interchangeable terms such as entrepreneurs, self-employed and businessmen are often used

indiscriminately, it's not clear which numbers to count. Of course, counting numbers, in however sophisticated a manner, will always remain an approximation of the rate of entrepreneurship. Lastly, on this level, we must at least be aware, whether intuitively or other ways, of some way to measure the extent and intensity of entrepreneurial activity.

#### d. WAY FORWARD AND RESEARCH IMPLICATION

In order to measure entrepreneurship, there must be a development of clear classification and typologies of entrepreneurship at a micro, individual level. There needs to be clear and standardized classification according to a general type. Crucially, the operationalization of multi-dimensional concept of entrepreneurship, at higher level of aggregation such as industries and national economies, could be developed and maintained. Possibly, a scale which can be used as a device, for tracking the amount of entrepreneurship over time or comparing it between national economics.

To move forward and create a productive institutional environment, we must also understand the determinants of entrepreneurship. Both cultural and the institutional framework are important conditions that codetermines the amount of entrepreneurship in an economy, and the realities in which entrepreneurs operate in practice.

#### e. AN EXAMPLE (OF UNDERSTANDING THE INSTITUTIONAL PROFILE)

Here, I will provide an example of a study (Manolova, Eunni, & Gyoshev, 2008), which measured country institutional profiles for the promotion of entrepreneurship. A sample of 254 business students from three emerging countries: Bulgaria, Hungary and Latvia, were used.

The theoretical outline of the paper is as follows. Formal and informal institutions can be divided into three (3) categories: i. Regulatory, ii. Normative and iii. Cognitive institutions. This is analogous with the three (3) levels of analysis previously mentioned. Basically, the level of

analysis exists within a spectrum, with the macro on one end and micro on the other end.

Firstly, regulatory institutions, can be defined as, institutions that are formally codified, enacted, and enforced structure of laws in a community, society, or nation. Secondly, normative institutions, are informal institutions, which typically manifest in standards and commercial conventions such as those established by professional and trade associations, and business groups. Thirdly, cognitive institutions, are axiomatic beliefs about the expected standards of behavior that are specific to a culture, which are typically learned through social interactions by living or growing up in a community or society.

Finally, the results are as such. The Authors found that each country fared better in a different dimension of institutional environment, with lags from other dimensions which has important implications for public policy, legal reform and attitudinal changes in society. For example, in Latvia, which has a slow responding value system to promote an entrepreneurship and regulatory regime, a policy to initiate programs to upgrade knowledge and skills of people are vital to actualize entrepreneurial ambitions. In Bulgaria, where starting businesses are cherished and people have the required awareness and know-how, a policy for legislative reform is more important. Lastly, in Hungary, the government has relaxed laws to encourage industry and commerce, but has not made enough strategic investments to enhance entrepreneurial competencies and the social attitudes are not supportive to starting new businesses.

By using and thinking about entrepreneurial institutions using three dimensions, we can then get a clearer picture of the institutional profile of our country, region or area. This in turn will affect which policies which will be more suitable and effective.

## 5.6 POLICY IMPLICATION

### a. OVERALL IDEA

The buoyant idea, that economic productivity and growth depends on “the spirit of entrepreneurship”, which merely comes and goes, is quite problematic, because it leaves policy makers stranded, and bereft of any ideas to harness this “spirit”. However, it is more plausible and certainly less hopeless, if the task at hand is to make adjustments to the rules of the game, to create institutions that encourage more wealth creation and productive-type allocation of resources. It is important to highlight, that productive entrepreneurship should not be limited to the private sector, but in all sectors including public sectors (in terms of added value and welfare economics in general). Then the, “prevailing rules that affect the allocation of entrepreneurial activity can be observed, described, and, with luck, modified and improved.” (Baumol, 1990)

Brunei’s policy makers should focus its goals and attention, towards the reallocation of entrepreneurial effort towards productive means, by way of changing the rules that determine the pay-off & incentive structure, of relative rewards and punishments, rather than trying to modify the goals of the entrepreneurs and prospective entrepreneurs themselves. This is a much more malleable and also optimistic route towards the goal of universal perpetuity, creating a sustainable thriving entrepreneurial environment. It is difficult to change people, their mindset and overall objectives, but it is much easier and faster to make changes in the reward structures. Therefore, an interesting area of footing for policy makers, which could yield significant promising opportunities, is by putting emphasis on the modification in the reward structure to different entrepreneurial activities and investigating these differences.

On the flipside, it is also possible to change institutions to affect penalty structures, institutions which could counter undesired institutional influences on unproductive and



destructive entrepreneurial activities.

Expanding further, it may be easier to think of means i.e. measures and policies that can impact institutions i.e. rules of the game can be modified more effectively with a more meaningful result. These means, by which institutions are adjusted or changes are definitely more identifiable than trying to harness the “entrepreneurial spirit”. These same means, which attempts to sway entrepreneurs to shift towards productive directions, without any changes to their ultimate goals seems also more tangible for policy makers to test, such as by ways of randomized controlled trials<sup>12</sup> (“RCT”), is possible in a small, centralized, and relative manageable<sup>13</sup> country such as Brunei.

The general idea is that, changing informal institutions such as cultural change and norms are difficult and slow. It may take decades and also significant shocks, which could cause trauma<sup>14</sup>, to change informal institutions. However, if we can identify rules of the game that specifically impact the relative payoffs to different entrepreneurial activities, this shall be a key factor in determining whether or not entrepreneurships will be allocated in productive or unproductive means. Thus, this can significantly affect the potency of the economy’s productive growth.

Essentially, as previously mentioned, in section 5.4 Entrepreneurship and Institutions, necessary specific reforms are ones that: i. Increase the relative reward to productive market entrepreneurship and/or ii. Decrease the relative reward to unproductive political and legal entrepreneurship and that the rewards to unproductive entrepreneurship. It is worth to stress

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<sup>12</sup> See, “The Experimental Approach to Development Economics” (Banerjee & Ester, 2009), for more information on RCTs.

<sup>13</sup> The top 50 companies in the world in term of employees, have at least, approximately 300,000 or more employees (Duffin, 2019).

<sup>14</sup> See Karl Polanyi’s, “Great Transformation” (Polanyi, 1957).

again, that, unproductive entrepreneurship can be reduced through reforms that increase the security of private property rights, create a fairer and more balanced judicial and liability system, strengthening of contract enforcement, lessen popularity seeking type government spending<sup>15</sup>, and more effectively limit governments ability to transfer wealth through taxation, regulation and subsidies.

Another policy implication of Baumol's theory is also up for debate, as Brunei is a developmental, welfare state. Rather than focusing on expanding government programs like subsidized loans, workforce education, or programs aimed at increasing 'entrepreneurial inputs' as a way to foster, the better path is through institutional reform that constrains or minimizes government's role, lowering the return to unproductive entrepreneurship. Government programs too often encourage entrepreneurial individuals to devote effort towards figuring out how to obtain the transfers, rather than devoting those efforts toward satisfying consumers and creating wealth. This is a valid view since, there are many pitfalls in a planned welfare economy, such as Venezuela. However, there is also reason to be optimistic, and successful models of welfare states, as proven by northern, Nordic European countries. It is important for us to take, this view with a grain of salt, and that government programs in and of itself, isn't inherently bad, but the problem may lie with the planning, implementation and extent of the government role<sup>16</sup>.

#### b. WAWASAN 2035

One of the reactions, that was born from the 2000s energy crisis in Brunei, is called the Wawasan 2035. This is a long-term vision, to secure Brunei's place in the world economy by reaching the Top 10 in terms of GDP per capita and safeguard its people by reaching the Top 10

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<sup>15</sup> The original term used was "Pork-barrel" spending, which is more applicable to a more representation-based democracy

<sup>16</sup> See, "The Developmental State: Dead or Alive?" (Wade, 2018), for a succinct debate between the developmental state and liberal state

in terms of Human Development Index (HDI). As an oil and gas depending nation, the oil price drop, from a high of \$147 to a low of \$32, hit hard and crippled Brunei's trade balance.

Thirteen key (13) areas of strategic development were identified, which are (i) education, (ii) economy, (iii) security, (iv) institutional development, (v) local business development, (vi) infrastructure development, (vii) social security, (viii) environment, (ix) health, (x) religion, (xi) land use, (xii) infrastructure and info-communication technology, and (xiii) manpower planning. This is hoped to transform Brunei into an entrepreneurial-based economy. Therefore, the objective of this paper is line with this vision and this Author hopes that there will both be an audience and active participatory efforts towards advocating the field of institutional economics and its importance towards productive entrepreneurship.

As correctly identified in the current Wawasan 2035, making inroads towards securing property rights, such as reforming outdated land legislation would a good step. For example, in terms of registering property, Brunei is ranked 142 out of 190 with a score of 51.48 (World Bank, 2019), which examine the steps, time and cost involved in registering property and carries information of quality of land administration such as reliability of infrastructure, transparency of information, geographic coverage, land dispute resolution and equal access to property rights.

## CHAPTER 6

### PARTING THOUGHTS

All and all, this paper simply attempted to verify and test economic freedom data as a case to build upon and highlight the importance of institutions towards economic development. The field of institutional economics is vast and many great scholars and works have built strong cases and proven empirically with far greater sophistication of institutions being the primary driver and undermining factor driving growth and prosperity.

The data chosen here, the economic freedom index was chosen as a proxy for institutions as it contains data my home country, Brunei Darussalam and also because of it carries information and rationality which are more entrepreneur-centric and aligned itself with the main theory which supports and promotes inclusive institutions. Inclusive institutions, both economically and politically is a vital foundation for sustained economic growth. This Author likes to think that institutions in the following analogy. Mechanically, good institutions are like good foundations of a building and more organically speaking, good inclusive institutions are akin to high quality soil which promotes and is conducive to a healthy ecology.

As I conclude, this paper can be split into two general parts. The first part, comprising of chapter 1, 2, 3 and 4, is a straight forward data driven OLS estimation, with institutional variables as my independent variables and economic growth via GDP per capita as my dependent variable. Generally positive and statistically significant outcomes were found, and a more exploratory testing were conducted such as interaction testing, panel data and also narrowing down on specific sub-factors of the composite variables. The second part, chapter 5, of this paper is even more sprawling and wandered in nature, as I tried to walk to fine line to make it less political and more entrepreneurial in tone.

Alas, I have now more questions than when I first started this paper. Trying to understanding the institutional profile of Brunei Darussalam with questions such as, “What are the critical junctions of my country’s history”, “What does it mean to be a Bruneian? An anthropological study”, “Are grassroots and local solutions a more effective means of bringing about Institutional reform?” and etc. These questions can only be answered if we as a country are willing to embark in meaningful work and constructive dialogue with unity by bridging the distance of differences, by returning to wisdom. Wisdom from our faith in God, drawing inspiration from our rich traditions, a tolerance, empathetic and an understanding patience with each other in our communities and most importantly in our own household management, needs to be embedded and incorporate into our economic framework and strive towards a system of permanence and harmony, which is uniquely Brunei, not more merely a cheap imitation of the West.

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Index as Proxies

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