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‘GENDER INEQUALITY AND SOCIOECONOMIC DEVELOPMENT’

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_Te amo carino._

_Together we can achieve anything._
DECLARATION

I declare that the work presented in this project is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text, and that material has not been submitted, whither in whole or in party, for a degree at The University of Queensland or any other university.

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ABSTRACT

Gender equality is a key issue in development and ‘gender mainstreaming’ is now common practice. In the past, gender equality has been a concern for reasons of human rights, but I show how it is a concern of economic necessity. The paper examines the direct effect that gender inequality has on economic growth and social development, and then the indirect effect that is transmitted through institutions and governance. Firstly, I find that while gender inequality can help growth through the creation of investment incentives and lessened likelihood of political conflict, these circumstances are myopic and uncommon. Conversely, the negative human capital, fertility, income and productivity effects of gender inequality apply universally and gender inequality is harmful to long-term growth. Secondly, in all indicators examined, gender inequality is a severe obstacle to social development, but addressing gender inequality will never alone be sufficient for poverty reduction. I also find evidence that Islam and ethnic fractionalization are not always consistent with high levels of gender inequality, nor are they binding barriers to social development. Thirdly, institutions and improved governance assists economic and social development. After addressing a number of pressing concerns in the literature, I present clear evidence that women in parliament are strongly associated with lowered corruption, and a number of other key variables. We find that in all three areas, there is not an efficiency/equity trade off with respect to gender, and equality is actually economically efficient with respect to long-term economic growth and social development. Policy implications are considered with respect to the current direction of international policy, and some recommendations are made based on the project’s major findings.

Keywords: gender, gender inequality, gender gap, social development, education, health, institutions, corruption, productivity, economic growth, economic development, socioeconomic development, discrimination, efficiency, equity
GENDER INEQUALITY

AND

SOCIOECONOMIC DEVELOPMENT
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LIST OF ACRONYMS

CCI = Control of Corruption Index (World Bank)
CPI = Corruption Perceptions Index (Transparency International)
FDI = Foreign Direct Investment
GAD = Gender and Development
GDI = Gender Development Index
GDP = Gross Domestic Product
GEM = Gender Empowerment Measure (UNDP)
HDI = Human Development Index (UNDP)
IMF = International Monetary Fund
MDG = Millennium Development Goals
MFP = Multi-factor Productivity
NGO = Non-governmental organisation
OECD = Organisation for Economic Cooperation and Development (advanced economies)
WDI = World Development Indicators (World Bank)
WGI = World Governance Indicators (World Bank)
WID = Women in Development
UN = United Nations
UNDP = United Nations Development Programme
UNESCO = United Nations Educational, Scientific and Cultural Organisation
UNFPA = United Nations Population Fund
UNICEF = United Nations Children’s Fund
UNIFEM = United Nations Development Fund for Women
CHAPTER ONE: INTRODUCTION
1.0. INTRODUCTION

In the field of development, gender issues are becoming increasingly important. Previously a focus of church groups, non-government organisations (NGO’s), and women’s rights organizations - addressing gender inequality is now firmly in the mainstream of development activities. UN Secretary General Ban-Ki Moon has only recently announced a new gender equality agency to amalgamate the smaller gender-related departments and better manage intergovernmental resources. The ‘gender implications’ are an important part of almost any project in the fields of social or economic development.

This project will critically examine economic theory, literature, and empirical trends with respect to gender inequality and its effect on socioeconomic development, and determine if this policy focus on gender is necessary for successful socioeconomic development. The major institutional policy push towards gender equality started in 2001 with the World Bank’s highly influential ‘Engendering Development’ report, and this coincided with the inclusion of a number of gender specific objectives in the Millennium Development Goals (MDG’s). This was prompted by the UN’s 4th World Conference on Women (Beijing Platform for Action), which is recognised as a landmark event; raising the importance of gender equality. The contribution of this project relative to the existing literature will be a point of surveying, clarifying and making an objective judgement on the economics of gender inequality based on the available evidence. There is no consensus on the effect of gender inequality on socio-economic development. Some believe that it has positive effects, and some believe that it has no effect at all. Some even believe that it might be an important driver of economic growth. Furthermore, much of the current literature on gender inequality has an agenda of some sort – be it institutional, feminist, human rights, or something else. As an independent and neutral student I am seeking to evaluate all of their cases and look purely at the economics of gender inequality, without any existing point of view on whether
equality is right or wrong, and to provide a piece of research strong enough for the reader to make a sound value judgement for themselves and better understand this pressing issue.

A lot of economists focus on economic efficiency. Somewhat less focus equity. The majority of society support equitable and fair outcomes, and a fair and just society. Gender inequality can cut across most aspects of socioeconomic development and society at large, so it is indeed important to understand it properly. Efficiency and equity have often been seen as a trade-off, and the following little anecdote is a useful example of the pervasiveness of gender issues throughout society.

In 2005 Larry Summers\(^1\) was removed from his Presidency of Harvard University for a number of reasons, one of which was arguably related to biased gender comments he made in regards to his staffing, stating there was a ‘different availability of aptitude at the high end’. This comment was based on studies showing that male IQ’s had a higher standard deviation than females. He dismissed discrimination as a cause because on economic grounds it would place institutions that practice discrimination at a competitive disadvantage to those who did not. He did not lack support in his stance but he did face great opposition, which led to his discontinued tenure at Harvard University and is rumoured to have also cost him the job of US Treasury Secretary. This is a classic example of gender issues leading to the re-surfacing of the old efficiency vs. equity argument. Whether Summers was right or wrong does not matter in this discussion, but it does illustrate just how important gender issues in all different aspects of society; how they traverse all aspects of economic life; how important they are in decision-making; and how viewpoints will often differ greatly and be a source of conflict. This project will shed light on whether there needs to be trade-off and conflict, or whether ‘gender equity’ may actually also is economically ‘gender efficient’ in development economics.

\(^1\) Larry Summers is the current Director of the National Economic Council for Barack Obama.
The objective of this project is to analyse the relationship between gender inequality and socioeconomic development by examining a number of important variables, and see if more equitable gender outcomes can actually be more efficient as well. More specifically, the project will look at gender inequality and;

- Economic development - focusing on factor productivity and economic growth;
- Social development - focusing on health, education and poverty;
- Institutional development - focusing on corruption and governance.

The findings of the project will be significant because the effects of gender inequality on all three of these dimensions are still not clear when surveying textbooks and literature. Since addressing gender is such an important consideration in the industry and global policy arenas, it is important to know if all the resources devoted to addressing gender inequality are being correctly targeted if the goal is to improve socioeconomic development.

“There is now a shared understanding within the development community that development policies and actions that fail to take gender inequality into account and fail to address disparities between males and females will have limited effectiveness and serious cost implications” - World Bank (2003).

Aside from a clear global focus on gender, there have been a couple of highly influential findings which illuminate the economic importance of gender issues. For example, if North Africa, the Middle-east, Sub-Saharan Africa and South Asia had achieved gender equality in schooling from 1960-1992 as expeditiously as in the East Asian Tiger economies, their income per capita could have grown by an additional 0.5 to 0.9 percentage points per year – almost doubling Africa’s per capita income growth (Klasen, 1999). Other economists have
conducted studies with similar findings examining the effect on gender equality and growth (Dollar and Gatti, 1999) and levels of aggregate output (Hill and King, 1993), but there is still no agreement.

The MDG’s are the world’s agreed development objectives. Gender inequality is a recurring theme throughout the MDG’s. While gender issues and gender inequality are made explicit in the third MDG, women have a disproportionate share of the development problems of education access, hunger and poverty, child mortality and maternal health, and HIV/AIDS (UNIFEM, 2009). From a policy-making perspective, we can generally say that it is economic growth which is a prime concern of most development economists in national governments, academia and international organizations. Economic growth is typically correlated with improvements in a number of the other MDG’s, and although the monetary aspect of development can help serve as a foundation to reach the rest of the goals, it alone is not sufficient.

The MDG’s have made directly addressing gender issues an important part of development, and this is reflected in the missions of different UN bodies (UNIFEM, 2009; UNICEF, 2009; UNDP, 2009), and the seminal World Bank report in 2001. It is important for us as economists to understand the relationship between gender inequality and development outcomes in order to craft better policy decisions. By these ‘outcomes’, I refer to not just economic growth, but also social development and institutional development, all of which are closely linked. It is also important to understand how these different facets of development fit together with gender issues, and the complex interactions between the different variables and outcomes.
1.1. Recent Trends in Gender

Gender inequality remains pervasive around the world today, despite the significant economic and social progress of the last century. There is no region of the developing world where women possess the same legal, economic and social rights as men. While the problems are felt most by women, the costs of gender inequality cut across all of society and the economy, and can ultimately harm everyone (World Bank, 2001). Economic and social development allows for various opportunities to increase gender equality in the long run, and there is significant literature to support this. However, economic growth alone cannot deliver perfect results. It is necessary to have an institutional environment which enables this change, and social policy measures must be taken to address persistent inequalities (World Bank, 2001). Figure 1.1 shows gender inequality around the world in the four areas of health, education, economy and politics, with 0 representing complete inequality and 1 representing complete equality. It illustrates how gender equality is globally now high in health and education, but the economic and political arenas are still lagging somewhat, especially the latter (World Economic Forum, 2009).

Figure 4.1 - Global Patterns of Gender Inequality

Across South Asia, Sub-Saharan Africa, the Middle East, and North Africa, the primary enrolment rate of girls has roughly doubled in the last 50 years, and is still rising faster than boys – substantially reducing gender gaps in education (World Bank, 2001). Meanwhile, women’s life expectancy has increased by over 15 years in developing countries, and the expected biological pattern of female longevity has now emerged in all developing regions, with females now outliving males – as depicted in Figure 1.2.

Figure 1.2 - Women Now Live Longer than Men in All Regions

![Graph](attachment:graph.png)

Source: World Bank, 2001

In the labour force, female participation is growing faster than that of men – an average of 15 percentage points in East-Asia and Latin America – also narrowing the gender gap in employment. Figure 1.3 shows the different regional trends in female labour force participation, with half of the regions showing significant improvement in equity and the other half remaining stagnant. Gender wage gaps have also narrowed in most countries. Amidst this progress, gender gaps do still persist around the world, and repeated socioeconomic shocks set back this progress and place these gains in jeopardy.
Gender inequality in basic rights tends to be more prevalent in less-developed regions, and tends to improve with economic development. This economic project is concerned with the inverse relationship, the effect which addressing gender inequalities has on economic development outcomes. One only has to browse the formidable websites of any of the UN agencies or large NGO’s to find many projects, divisions, research projects, magazines and even general rhetoric about gender in development. Although the policy ‘push’ has only been in full force for the last decade, the trends above show significant progress has been made for almost half a century.

Source: World Bank, 2001
1.2. **Key Definitions and Concepts**

As gender inequality can be a broad topic, this section will now state the definitions to be used for the project, and the indicators to be examined.

The United Nations Population Fund (UNFPA, 2009) provides the following definition of gender:

"The term gender refers to the economic, social and cultural attributes and opportunities associated with being male or female. ... Gender attributes and characteristics, encompassing, inter alia, the roles that men and women play and the expectations placed upon them, vary widely among societies and change over time. But the fact that gender attributes are socially constructed means that they are also amenable to change in ways that can make a society more just and equitable."

The UNFPA (2009) provides the following definition of gender equality:

"Equality between men and women exists when both sexes are able to share equally in the distribution of power and influence; have equal opportunities for financial independence through work or through setting up businesses; enjoy equal access to education and the opportunity to develop personal ambitions, interests and talents; share responsibility for the home and children and are completely free from coercion, intimidation and gender-based violence both at work and at home.”
Similarly known as the ‘gender-gap’, the Oxford American Dictionary (2009) defines the gender-gap as the ‘discrepancy in opportunities, status, attitudes, etc. between men and women.’

Gender inequality is measured using a wide array of indicators and proxy indicators. These are generally from an ‘opportunities’ or ‘outcomes’ perspective and some key areas of measurement are health, education, employment, representation, and legal rights. In fact, the gender indices used by the United Nations Development Programme (UNDP) and World Bank are typically comprised of differences in life expectancy and education levels such as enrolments, and democratic representation such as the proportion of parliamentary seats occupied by females. The studies which we survey in this project will commonly refer to gender wage gaps, differences in education and health outcomes, and also parliamentary representation. The UNDP Gender Development Index (GDI) and Gender Empowerment Measure (GEM) will also be used in a number of graphs, and these are comprised of the weighted averages of a number of such gender aggregates.

With the ultimate goal of providing insights to socioeconomic development, it is important to first provide some clarification, as development is a very broad and holistic concept. Economic development, social development, and institutional development are key dimensions of the broad notion of development which will be studied in this project. More specifically, in the sphere of socioeconomic development, I refer to a combination of economic and social development outcomes, but only examining certain dimensions. In economic development I will just be concerned with income, growth and productivity. Development has often been confused with economic growth, which is necessary for development, but alone it is not sufficient when accounting for the other social indicators listed in the MDG’s. Reduction of monetary poverty is only one of the eight MDG’s.
In social development I refer to the overall level of development of the non-monetary aspects as proxy by health and education aggregates. Monetary social development will be examined using poverty rates. I will also consider institutional development, which is also a broad concept, but be primarily concerned with corruption and governance. I believe this to be the area most affected by gender inequality, and also the most interconnected to socioeconomic development and other dimensions of institutions which are beyond the scope of this study.

The widely-accepted UNDP (2009) definition of development is:

“To live a long and healthy life, acquire knowledge, and have the resources needed for a decent standard of living.”

Sen (1987) defines development as:

“The expansion of the capabilities of people to live the lives they choose to lead,” and;
“Expanding the capability of people to live a minimally accepted life.”

Both of these broad definitions touch on both the monetary and non-monetary aspects of development enumerated in the previous paragraphs, and are implicitly concerned with inequality. Gender inequality directly impacts one’s ability to be healthy, educated, income earning -- and most importantly with Sen’s definition -- one’s ability to have their own capabilities and freedoms. As this study will demonstrate, these disabilities and un-freedoms are often the transmission mechanisms through which society at large can bear the costs of gender inequality.
1.3. **MODEL OF GENDER INEQUALITY IN DEVELOPMENT**

To understand the effect of gender inequality on socioeconomic development properly, it is important to note that there are several different relationships at play. Let’s assume the following composition of socioeconomic development:

\[ \text{Socioeconomic development} = \text{economic development} + \text{social development} \]

I expect economic development, which I will mainly proxy by the level and rate of growth of real per-capita GDP, to be affected directly though gender inequality in a number of ways. In the short term, we will see transmission through indicators such as wages and income, but in the long term the transmission mechanisms will be in the many determinants of long term growth; including health, education, investment and institutions. As factor productivity is a key determinant of growth, I expect that gender inequality may also affect different productivities. My model of gender inequality and growth can be represented by the following simple functions:

\[ \text{Economic growth} = f(\text{gender inequality, institutions, other control factors}) \]

*Where:*

\[ \text{Institutions} = f(\text{gender inequality}) \]
I also expect gender inequality to directly affect social development. I will only focus on the dimensions of overall health, education and poverty, and represent gender inequality and social development with the following function:

\[ \text{Social Development} = f (\text{gender inequality, institutions, other control factors}) \]

Where:

\[ \text{Institutions} = f (\text{gender inequality}) \]

Figure 1.4 shows a simple diagrammatic representation of this model, with the direct effects of gender inequality on socioeconomic development on the left and the indirect effects transmitted through institutions on the right. The project will work through this framework, examining first the former and then the latter. The model’s purpose and structure is such that this one project can hopefully provide answers or some kind of consensus on the effects of gender inequality across the interdisciplinary fields which make up development economics. Then, when the effects and transmission mechanisms are better understood as a whole within this framework, may be better able to make a value judgement on gender policy and the true ‘efficiency of equity’.

Figure 1.4 – A Simple Model of Gender Inequality and Socioeconomic Development
1.4. ASSUMPTIONS, LIMITATIONS AND DATA SOURCING

There will be a number of recurring assumptions and limitations. As already stated, development is a wide concept with many different dimensions, and I will only be examining a few of these and deliberately neglecting others as they are outside the scope of the project and not crucial for my gendered socioeconomic analysis. Furthermore, economic, socioeconomic, and institutional developments also are broad concepts themselves, for which we will only be examining certain dimensions and neglecting others. This is not because any of the neglected dimensions are less important. This project is concerned with the socioeconomic effects of gender inequality, and it is an economics project. This is to be made explicit because gender is often thought to be in the realm of many other disciplines and while I may draw on some of their material, the focus is only on the economics of gender. It is not an anthropological or political science piece, so theory, literature and rhetoric from disciplines other than economics will be omitted and considered irrelevant.

After examining the direct effects on socioeconomic development, I will presume any institutional improvement (or deterioration) brought about by gender inequality will directly affect economic growth and social development, for which institutions are a fundamental determinant. Therefore, gender inequality will indirectly hit socioeconomic development through the conduit of institutions. This is to be made explicit because there may be various other factors affecting the indirect links and interaction between institutional variables and socioeconomic development. However, based on institutional literature and theory, I believe there are adequate grounds to assume that institutional improvements will result in improved socioeconomic outcomes, ceteris paribus.
Gender inequality in developing countries has traditionally involved female subordination and the female sex bearing the bulk of gender inequality. So, when the gender gap is discussed in this project, the status quo will be females earning, living, and learning less than males. Lessening any gender gaps can be assumed to be improving the status, participation and respective outcomes of females.

Models, theories and conjectures of income inequality will often be used to try to explain gender inequality, and this is because the author believes such models accurately represent the distribution of power and decision making processes described in the project. The poor are often marginalized and disadvantaged with respect to income inequality, and the same problems are often experienced by a gender when discriminated against. Furthermore, due to the patriarchal nature of many developing countries, women are repeatedly suffering from income inequality and poverty also, so I deem such inequality models as useful representations and powerful tools to understand the dynamics of gender inequality too.

The primary purpose of this economic project is to critically review literature and empirical studies, not to conduct my own intensive econometric analysis. The project is to survey the literature and critique the different arguments found, not to put my own argument forth and rigorously test it using quantitative methods. Any empirical data used shall be simply incorporated to show stylized facts, trends and correlations between the different variables examined. Any regressions used, as in Chapter 4, are simply there as preliminary evidence for some future research and have been done to better understand the variables and criticisms found in the literature, not to provide robust evidence in support of any hypothesis or finding. It is acknowledged that many of the relationships and correlations shown throughout this project will exhibit reverse causality, endogeneity issues, and multicollinearity.
Technical analysis to quantify and address these problems is beyond the scope of this economic project and may be addressed in a later piece. The endogeneity and complex interactions which reinforce gender inequality throughout the different aspects of the economy and society at large are also beyond the scope of this project, as it will only be looking at direct effects – long or short term – and indirect effects from governance and corruption in institutions. Everything else will be assumed to remain constant and be held exogenous to this project.

Any data used in this economic project, in both the stylized facts and regression analysis, can be viewed in Appendix Two. Unless otherwise stated, data is from 2006. It has been extracted from reputable sources\(^2\) including:

- Freedom House Indices
- Transparency International Corruption Perceptions Index
- United Nations Development Programme Datasets
- World Bank World Development Indicators
- World Bank World Governance Indicators

1.5. Project Structure

The project structure will follow the conceptual model shown in Figure 1.4. Chapter Two will examine the effects of gender inequality and economic growth, and the various mechanisms through which gender inequality may be transmitted through to growth outcomes, including human capital accumulation, factor productivity, and investment.

\(^2\) See Appendix One for a full list and description of variables and sources
Chapter Three will discuss the effects of gender inequality on social development. As two main components of social development will have already been considered in Chapter Two – health and education – this chapter will pay more attention to the overall health and education outcomes, poverty, and other interesting gender-related influences on social development, such as Islam.

Chapter Four will look at the effect of gender inequality on institutions. Its relevance will be explained at the start of the chapter, showing how institutions are a key determinant of socioeconomic outcomes. This chapter will then look at the effects of gender inequality on institutions - focusing on corruption and governance. Since much policy focus has been targeted at including women in governance to fight corruption, and the status quo in many developing countries is a male-dominated public bureaucracy, we will focus on the effect of female inclusion in governance on governance outcomes.

Chapter Five will be the concluding chapter, summarizing the findings of the project, discussing the policy implications of these findings, providing some future avenues for study, and concluding with some final remarks.
CHAPTER TWO:

GENDER, PRODUCTIVITY AND GROWTH
2.0 INTRODUCTION

In their 2001 seminal report on gender and development, entitled ‘Engendering Development’, the World Bank discusses how gender inequality in knowledge, health, and freedom will also influence people’s lives through economic growth (World Bank, 2001). This report groups productivity and growth together, stating that they are both impacted by gender access to physical, land and information, capital, gender-based labour practices and societal norms (World Bank, 2001). The World Bank report’s section on ‘Costs to Productivity and Growth’ focuses on gender differentials in child schooling as a proxy for future skill levels, lost output as a result of gender bias in labour markets and capital distributions, and links between gender inequality and economic growth.

The chapter will examine similar content but firstly, a few distinctions must be made. In discussing economic growth, I refer to the annual growth rate of gross domestic product (GDP) and GDP per capita. In discussing productivity, I refer to total factor productivity (TFP), which is otherwise known as the multiple-factor productivity or the Solow residual. In analysing sources of growth, once changes in the traditional factors of production are accounted for, the TFP or Solow residual is used to account for the residual contribution to production and growth which is made by efficiency, technology and any other influences on productivity. We expect gender allocation of labour and capital to not just affect labour and capital productivities, but also TFP. As gender inequality is expected to be deeply embedded throughout society and the economy, economic efficiency will also be discussed in a far more general manner, with regard to the overall efficiency and an optimal allocation of resources and factors of production.
Rapidly increasing factor productivities and economic growth have previously led to vast improvements in many aspects of socioeconomic development; ranging from health, education and poverty, right through to individual incomes and structural metamorphosis of an economy (Perkins et al, 2006), so this is an important starting point for my analysis. After providing some raw data and stylized facts, I will provide a background of some economic theories, conjectures, and models which may be useful in understanding the relationships to be discussed. I will then proceed to examine the effect that gender inequality has TFP, which is supposed to be a key engine of economic growth, and discuss gender inequality from an “efficiency versus equity” perspective. I will also critically survey the economic literature and available empirical findings, evaluating the hypothesis that gender inequality is harmful for economic growth, and the opposing argument that gender inequality can promote growth. This discussion will pay particular attention to the various transmission mechanisms, and the chapter will be concluded with a brief summary on the effect of gender inequality on economic growth, as a conditional means for perhaps achieving the more holistic goal of ‘development’.

2.1. STYLIZED FACTS

To begin with, we will start by examining some raw data and stylized trends with regards to gender inequality and income, productivity and growth. From Figures 2.1, 2.2 and 2.3, it is evident that higher levels of gender equality seem to be associated with higher levels of overall economic development, for which level of income per person can proxy.
Figure 2.5- Global Gender Gap and GDP Per Capita (2009)

Source: WEF Gender Gap Report 2009

Figure 6.2 - Gender Development and GDP Per Capita
Figures 2.4 and 2.5 depict the relationships between the UNDP Gender Empowerment Measure and GDP per hour in OECD countries, and labour productivity growth in OECD countries, respectively. Higher levels of gender empowerment tend to correspond to higher hourly levels of output, with no clear relationship between gender and labour productivity growth.

Figure 2.4 - Gender Empowerment and GDP per Hour (2006)
Figures 2.6 illustrates the more specific relationship between income gaps as measured by the female to male income ratio, and GDP per capita – and there is no clear relationship present.
Furthermore to this raw data, it is worth noting that gender inequalities do persist in advanced economies, and economic development is not a treatment for gender inequality. As OECD nations tend to have lower levels of gender inequality, these higher incomes also correspond with increased political and civil freedoms (World Bank, 2001), and increased income alone may not remove gender inequality.

Consistent with Figures 2.1 – 2.4, we would expect lower levels of TFP to also be associated with higher levels of inequality, as TFP tends to rise with the level of economic development. Figure 2.7 shows multiple-factor productivity (MFP) – which is synonymous with total factor productivity in OECD countries for which the data was readily available – plotted against gender inequality, and there appears to be no clear trend. Perhaps there would be a difference with non-OECD countries, but data was not readily available.

Figure 2.7 - Gender Empowerment and Multi-Factor Productivity in OECD Countries (2005)
Figure 2.8 shows a scatter plot of gender equality correlated with per capita GDP growth of countries for which data was readily available. Gender equality seems to exhibit a weak positive relationship with GDP growth rates.

The stylized trends in this section allow us to state that gender inequality appears to be negatively correlated with; overall economic development, productivity as proxy by MFP, and economic growth. Since these are all simple scatter plots, we cannot infer anything about the direction of causality. However, it is worth noting that causality has already been shown in the inverse relationship, with growth proven to cause changes in levels of gender inequality, and also transform other social structures encompassing gender inequality (Bourguignon, 2005).
For gender inequality to be explicitly included as a MDG, and to be implicitly a part of a number of the other goals, we expected theories and data to show that gender inequality is bad for growth and also many other facets of development. This expectation is consistent with the correlations shown in the stylized facts. The chapter will now proceed to examine the economic theory which may help us understand this raw data and then review the relevant literature to clarify the relationships between different variables and mechanisms of transmission.

2.2. Theoretical Background

A number of theories, models and conjectures can be applied to the gender economics of growth and productivity, and they will be reviewed in this section. Some of these theories, models and conjectures will also be relevant to later chapters, as they can also be applied to our study of social development and institutions.

The fundamental economic problem is satisfying all human wants with scarce resources. This becomes a question of optimal allocations. How should the factors of production, such as labour and capital, be allocated in the most efficient way to best try and solve this problem? There is a second economic problem, which is the coordination problem of individual utility-maximizing agents making the correct decisions to properly allocate these resources. Bear in mind throughout this paper that gender inequality cuts across both of these problems, altering the allocation of labour, capital and other factors of production in our quest to solve the first problem, and altering the behaviour, rigid norms and institutions which are responsible for coordinating this allocation. These economic problems will implicitly occur throughout the paper and are at the core of most economic theories.
The relevant models, conjectures and theories for considering the effect of gender inequality on socioeconomic development are as follows;

- A Gender Inequality Kuznets Curve
- Sen’s Exchange Entitlement Theory
- Efficiency and Equity
- Growth Theories
- Becker’s Household Allocation
- Labour-Surplus Model

### 2.2.1. A Gender Inequality Kuznets Curve

Simon Kuznets was one of the most prominent economists in the study of income inequality, and has derived the Kuznets curve, which is an inverted-U shaped curve representing the level of income inequality in a country through its different stages of development. It suggests that as a country moves from an agricultural based-economy to an industrial one, income inequality tends to steeply rise and then later decrease, following an inverted-U shape as the economy moves through different stages of development and aggregate income levels. His theory was accepted until the late 1980’s as a stylized fact about development until evidence proved that it no longer held true (Bruno, Ravallion and Squire, 1998). None the less, it has proven popular in development economics with its application being borrowed to show other inverted-U shaped trends, such as environmental degradation and economic development. It has never been applied to gender inequality, but we speculate here that there is a possibility that gender-inequality may follow a similar trend over time. The
reason why we expect it to follow this pattern is because as a nation develops, thriving industries may either be male or female dominated, for example heavy industry and textiles, respectively. As these gender-dominated industries grow, wages should rise and lead to a rise in inequality. With further development, there will be increased micro-diversity and less gender segregation in the workplace which will then lead to income inequality declining again.

**2.2.2. Sen's Exchange and Entitlement Theory**

Sen (1980) discusses how the economic, social and political characteristics of a society and person in that society can determine their entitlements. He identifies four types of entitlements in a market-based economy:

- Production-based entitlements;
- Own-labour entitlements;
- Trade-based entitlement; and
- Inheritance and transfer entitlements (Sen, 1980).

From this work, Sen went on to argue that freedom is the principle means and end of development, and the focus should be shifted from those with low-income to those lacking development of human capabilities (Streeten, 2000). With high levels of gender inequality impeding women’s freedoms and capabilities, gender inequality can indeed be considered from this perspective.
Tisdell et al (2003) went on to apply Sen’s entitlement theory to women, and show that women’s status is indeed dependent on these entitlements, endowments and bargaining power. The socio-economic status of women in many developing countries, and therefore gender inequality, is explained by their lack of entitlements (Tisdell et al, 2003), and all entitlements are necessary contemporaneously for empowerment and gender equity. This theory suggests to us a priori that gender inequality as an obstacle to growth may be largely dependent on initial conditions and the entitlements of men and women, and that inequality in itself may actually be endogenously reinforcing.

2.2.3. Efficiency and Equity

Governments around the world – and companies – are establishing quotas for the hiring of female staff to match males, and even outnumbering them in some cases in the fight to ‘weed’ corruption. This policy is forcing an outcome, when there may be equality of opportunity, but most likely that equality of opportunity will be distorted somewhere along the way to the outcome by societal norms, history, culture, and other factors. Whether examining a leading academic institution like the Harvard example in Chapter One, a firm, a national economy or the global economy, it is clear that there is a policy consensus towards gender equality of opportunities, but there is no clear consensus as to whether we should also be striving for equality of outcomes. This is reflected in the economic literature, with mainstream economics emphasizing equality of opportunity in the sense of formal and legal equality, but appearing to be quite reluctant to promote equality of outcome in case it undermines efficiency (Berik et al, 2009). It still attracts much argument and dissent. If equal opportunities provided to both sexes in the interest of economic efficiency and competition do not lead to equal outcomes -- partly because of the countless interacting factors – does
this mean that equal outcomes should still be a goal and forced by policy and interventionist quotas? On the other hand, should we as economists stick with providing the opportunity; letting the market work; and accept the most efficient outcome the market then provides? While gender interventions are clearly equity enhancing, are they also efficiency enhancing at the macro level?

The most prolific economist with respect to the efficiency vs. equity argument is undoubtedly Stiglitz (1994), who provides a critique of the fundamental theorems of welfare economics in a synthesis of the efficiency vs. equity argument. His critique can be used as a useful tool in considering the mechanics of gender inequality and economic orthodoxy.

The first fundamental theorem basically states that competition leads to efficiency. This implies that Adam Smith’s invisible hand works, a competitive economy is Pareto efficient, and this is the foundation of our belief in market economies (Stiglitz, 1994). The second fundamental theorem of welfare economics states that market mechanisms can be used to reach every Pareto efficient outcome. Therefore, efficiency and equity must be two separate issues (Stiglitz, 1994). He believes that the underlying assumptions of both of these theorems limit their validity, because these conditions are unprecedented and rare in the market; that is, perfect information, and a complete market, respectively. He rejects the first theory that a competitive market left to its own devices will lead to Pareto optimality because with imperfect information, efficiency and distribution cannot be so simply distributed and lump-sum redistributions are simply not feasible. This implies that gender equality may not be self-regulating, nor can we simply allow inequality in the hope for a ‘Kaldor-Hicks’ style compensation payout to the discriminated group. He rejects the second theory on this basis as well, and states that the ability of an economy to actually be Pareto efficient may heavily depend on the initial distribution (Stiglitz, 1994). A number of studies have indeed shown
that due to failures, markets are not always the most efficient way to allocate resources, nor do they result in efficient outcomes (Binswanger and Deininger, 1997; Duhs, 2006).

Applying this logic to gender inequality, it is implied that gender inequality and gender efficiency are indeed interdependent issues and the mechanics of the systems of gender inequality may exhibit a high level of path-dependence and sensitivity to initial conditions. A laissez faire approach may then not lead to the most efficient outcome when addressing gender equity.

This is of relevance to gender inequality, because indeed, efficiency and equity are not two separate issues, and the question of whether gender equity should be ‘left to the market’ or whether interventionist policy should be implemented is a pressing issue in governments and businesses worldwide. We will go on to see that gender equity and efficiency are highly interdependent, and after examining the effect that gender inequality has on productivity and economic growth, we will attempt to provide an objective answer as to whether improved gender equality will improve productivity and economic growth. That is, is gender equity also representative of ‘gender efficiency’ and long-run ‘traditional’ growth-led economic development?

2.2.5. Growth Theories

All widely accepted growth models stress the importance of, investing in health and education, and using production factors as efficiently as possible to improve growth outcomes (Perkins et Al 2006). A priori, we do expect gender inequality to have negative effects on these factors. Health and education together make up human capital, which is an important determinant of economic growth (Aghion and Durlaf, 2005). Since Rostow’s
stages of growth model in the 1950’s, which focused on capital formation (physical, human and natural) as a pre-condition for economic ‘take-off’ (Rostow, 1954), capital and productivity have constantly been an important part of most economic development theories. The Harrod-Domar model focused on capital investment, which back then referred to physical capital, but we can use this model, as shown in Equation 1, to understand the contribution of what is arguably the key input to the growth process in our modern era (OECD, 1996) – human capital.

Equation 1: A modified Harrod-Domar Growth Model

\[ \frac{\Delta Y}{Y} = \frac{s}{hk} \]

Gender inequality increases the denominator (human capital-output ratio), with decreased human capital outcomes in education and health, and results in lower growth.

Productivity growth has long been identified as a key driver of economic growth, and is defined as the increase in output produced by each machine or worker (Perkins et al, 2006). It can be increased through technological change or improvements in efficiency. I expect gender inequality to be an obstacle to labour and capital productivity, due to allocation problems posed by inequality, and the fact that capital is more complementary to female labour than it is to male labour (Galor and Weil, 1996). Furthermore, in neo-classical growth accounting, we account for the proportion of economic growth which is propagated by each respective factor of production. Any growth not captured by these factors then forms what is known as the Solow residual or TFP, and this is often a good representation of the overall comparative efficiency levels across countries. I expect gender to affect long-run growth in a dynamic and non-linear manner, disturbing the whole economic system with inefficient resource allocations. Since TFP is often in practice, a combination of omission of other variables from growth equations and efficiency gains (Perkins et al, 2006), we do indeed
hypothesize that TFP will be significantly affected by gender inequality, as gender inequality is a complex phenomenon which cuts across many of the factors of production. Calculating these Solow residuals and attributing their exact proportions brought about by gender inequality variance are beyond the scope of this project. To simply amalgamate growth theories into one a priori statement – we expect that gender inequality will negatively influence the labour supply, productivity, factor accumulation, and other determinants of economic growth.

2.2.6. Becker’s Household Allocations

In his famous 1965 paper, ‘A Theory of the Allocation of Time’, Becker likens household production to that of firms and industries, in the sense that household output is the output of combining inputs subject to cost minimization, in which case the inputs are goods and time. Dasgupta (2000) went on to present a two-sectoral model of household consumption allocation, where household consumption is distributed according to only one set of preferences subject to the family budget constraint. These theories are relevant to this project because expansions in employment opportunities are generally believed to lessen household gender disparities (Dasgupta, 2000), due to a shift in resources in favour of the woman, and increased income which will shift the budget constraint curve out. This is important to consider with respect to growth because women are more likely to consider others in their decisions (Swamy et al, 2001), and are more likely to spend on children (OECD, 2008). We therefore expect that less gender inequality at the household level may be transmitted through to long-term growth, as both increased maternal capital transfers and investment in children as a result of these theories.
2.2.7. Lewis Model of Growth and Income Inequality

Two-sector models have been in economic theory for a long time, with the best known early model originating from David Ricardo. He developed two key assumptions which have been an important part of economics; labour surplus and diminishing returns. This labour surplus referred to a British agricultural sector whose labour supply could be drawn on by the industrial sector without reducing aggregate agricultural production, or causing a rise in either sector’s wages (Perkins et al, 2006). A more modern version of this two-sector labour surplus model was developed by W.A. Lewis in 1954 with a particular focus on developing countries, and in this model the modern sector can draw workers from the agricultural sector with little to no effect on the marginal product of agriculture. The wages are kept low due to an ‘unlimited supply’ of labour, allowing the industrial growth to be accompanied by a rising relative share of income, which is then saved or invested to result in output growth. Similar to the Kuznets curve, income inequality in this model will continue to rise with economic development until all the surplus labour has been absorbed and wages become inelastic, which will result in a fall in inequality. This model traditionally deals with income inequality and growth, but in the case of extreme gender adversity I expect overall gender inequality to also include and represent income inequality. Therefore, the gender which is discriminated against may be hypothetically represented by the poor or traditional sector in this model. Note that the model does not take into account the political economy of inequality, and the effect that the high level of inequality at the turning point will have on future redistribution of wealth. The importance of this model is the fact that it shows inequality is not just an effect of economic growth; it can be a cause as well. Do the dynamics of this model accurately represent women coming from the domestic sector to the formal employment sector?
2.3. CRITICAL LITERATURE SURVEY FINDINGS

2.3.1. EFFICIENCY, OPPORTUNITIES AND OUTCOMES

At the industrial and firm level, it is commonplace that gender discrimination does not promote efficiency, and that employers discriminating will promote a distinct disadvantage (Becker, 1971). In other words, it is inefficient for them to discriminate because competitors who do not will have access to a wider variety of skilled human resources. At the macro level, it has been found that countries which deny gender-equal access to education or health are likely to suffer economic punishment for the practice of discrimination, with the overall level of competitiveness of their economies declining over time (Self and Grabowski, 2009). Figure 2.9 is extracted from the World Gender Gap Report 2009 and shows the positive linear relationship between a gender gap index and a competitiveness index. Note that a higher score on the gender gap index corresponds to a smaller gender gap, or less inequality, and competitiveness does empirically appear to increase with increased equality.

Figure 2.9 - Competitiveness and Gender Inequality

Source: WEF Gender Gap Report 2009
Labour productivity has been shown to significantly increase with each degree of further female education, and educational gender gaps are well-known to be an impediment to productivity and efficiency (Knowles et al, 2002). Table 2.1 is extracted from the World Bank report ‘Engendering Development’, and illustrates the increased efficiency which would be brought about if gender inequality in the labour market ceased. Note the significant 9% predicted GDP increases in Brazil and Ecuador.

Table 2.1 - The Labour Market Gender Efficiency/Equity 'Trade-offs'

<table>
<thead>
<tr>
<th>Country and year data collected</th>
<th>Percentage change in</th>
<th>Percentage of labor force that must change occupation to achieve gender wage equality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female wages</td>
<td>Male wages</td>
</tr>
<tr>
<td>Argentina 1987</td>
<td>38</td>
<td>-9</td>
</tr>
<tr>
<td>Bolivia 1989</td>
<td>50</td>
<td>-9</td>
</tr>
<tr>
<td>Brazil 1980</td>
<td>96</td>
<td>-8</td>
</tr>
<tr>
<td>Chile 1987</td>
<td>41</td>
<td>-6</td>
</tr>
<tr>
<td>Colombia 1988</td>
<td>46</td>
<td>-8</td>
</tr>
<tr>
<td>Costa Rica 1989</td>
<td>35</td>
<td>-6</td>
</tr>
<tr>
<td>Ecuador 1986</td>
<td>59</td>
<td>-13</td>
</tr>
<tr>
<td>Guatemala 1989</td>
<td>25</td>
<td>-6</td>
</tr>
<tr>
<td>Jamaica 1989</td>
<td>61</td>
<td>-8</td>
</tr>
<tr>
<td>Uruguay 1989</td>
<td>30</td>
<td>-8</td>
</tr>
<tr>
<td>Venezuela, R.B. de 1987</td>
<td>24</td>
<td>-6</td>
</tr>
</tbody>
</table>

Source: World Bank, 2001

Although various studies (Becker, 1971; World Bank, 2001) and supporting economic theory encourage the removal of gender equity in opportunities and discourage discrimination in the interest of economic efficiency, simple economic theory does not recognize how embedded markets are with society (Berik et al, 2009). That is, the pervasiveness of gender issues in society is entrenched in the operation of ‘free markets’ and market outcomes will always have a bias and exhibit traits of path-dependence. Market operations reproduce power inequality – such as decision-making authority and senior
positions in public and private companies – and historical social norms which tend to be based in these institutions (markets). Therefore, markets can hinder progress in gender equality through endogenous feedback effects which reinforce the status quo. Berik et al (2009) discuss this situation with respect to labour markets. They describe where men are assigned the role of ‘breadwinner’ or main income provider, there is a rationale for them to be placed into jobs with upward mobility and higher earnings potential, as it is a more long-term focus and it is assumed that the woman will be the secondary provider who can rely on the man. This then leaves women to be placed into low wage, insecure, and myopic jobs, fitting for a secondary income earner.

In OECD countries there has been significant progress and equality of opportunity for both women and men, yet Berik’s theory still holds – that markets will reinforce gender inequality and it is true that gender equality will remain elusive. For example, the average pay difference in OECD countries was over 18% in full time jobs in 2008, with a 33% differential in Japan and South Korea, and 20% in Germany, Switzerland, Canada and the United States. Women are clearly paid less or they are perhaps still working in historically female-dominated and underpaid fields like education and health care. The highest differential persists in management positions where educational backgrounds and work experience are similar, and you also would expect market competition to be the fiercest (OECD, 2008).

This problem with the laissez-faire approach to gender equity and efficiency has led to feminist economists seeking equality of outcomes as well as opportunities. In these outcomes they seek equality in occupations, activities, resources, income and assets, and there is pressure in many countries, including Australia, to establish binding female quotas in government and the private sector. There is sufficient evidence to support the argument that
equality of opportunity and outcomes are closely related, and that persistent systemic inequality in outcomes will always feedback and contribute to unequal power dynamics and unequal opportunities (Berik et al, 2009). Therefore, simply establishing the equality of opportunities, or ‘freedoms’, may not actually be enough to establish equality of gender outcomes, nor is there enough evidence to say that forcing gender outcomes will actually be efficient and welfare enhancing. With so much private and public sector interest in gender inequality, there is certainly scope for future research to determine the absolute welfare effects of equal outcomes as opposed to equal opportunities. So far, there is insufficient evidence to say that ‘gender equity’ is also gender efficient, but upon reviewing the overall socio-economic effects of gender inequality it is suspected that there will be very powerful direct and indirect effects, and efficiency-enhancing externalities.

2.3.2. GENDER INEQUALITY HINDERS GROWTH

Gender Inequality as a Determinant of Growth

Economic growth is a means for expanding capabilities, especially in very low-income countries. Feminist economists emphasize gender equitable achievement of an adequate level of provision and expansion of capabilities (Berik et al, 2009). Although after examining the raw data we are led to believe that gender inequality will only be negatively associated with growth, the effects of gender inequality on growth are largely dependent on which measure of gender inequality or transmission mechanism is being considered in the evaluation due to the complexity of inequality. For example, differential levels of investment in human capital stocks such as education and health will not become effective until the future, while gender wage gaps have been shown to be fast-acting variables influencing short-term aggregate demand, employment and total output (Berik et al, 2009). This section
will discuss the different transmission mechanisms and the positive or negative influences that gender inequality has on them. Overall, it is found that macroeconomic effects of gender inequality are highly contradictory, as inequality can stimulate some aggregates – investment, exports, income inequality - whilst propagating negative effects in others like income and wages, literacy, school enrolments, productivity, life expectancy and immunization (Stotsky, 2006; Berik and Rodgers, 2008; Braunstein, 2008; Klasen, 2002; Seguino, 2008).

For over a decade now, institutional economists at leading institutions like the World Bank have preached about how equality in education and employment - and the education of women in particular - leads to improved economic development in the forms of including higher productivity and faster growth rates (Knowles et Al, 2002; World Bank, 2001; Summers, 1992). Over this same time, a small body of economic literature has emerged which looks at the effect of different measures of gender inequality on economic growth, in which gender inequality is typically measured by the gender distribution of capabilities, and gender gaps in income, health, education, employment. Various female empowerment measures are also studied, but it appears that their direct growth effects are yet to be considered. From surveying the literature, it appears that there is yet to be a quantitative study conducted using some of the various gender indices available - only gaps in health, education, wages, employment have been examined, with much normative discussion in the fields of economics and the broader social sciences. Until 2000, feminist economists have advocated that the relevance of gender has still not been embraced by the economics profession, especially in cross-country growth studies which should be including it as a significant explanatory variable (Seguino, 2000).
Upon careful review of the literature, the feminist economists were correct in their strong assertion. In what is arguably the seminal publication of our time regarding economic growth - ‘Handbook of Economic Growth’, published in 2005 – there is a very comprehensive survey of growth regressions and the explanatory variables used. Indeed, a specific gender inequality index-type variable did not occur once throughout their bibliographic index of variables featured at the end, although levels of female education, health and wages were used in a number of studies (Aghion and Durlaf, 2005). However, since the World Bank’s ‘Engendering Development’ report in 2001, the study of gender inequality is not just in the realm of feminist economics. It is now firmly in the mainstream as a key policy concern for most multi-lateral organizations, governments and businesses, and we can infer that it is highly important that much more specific measures of gender should also be commonly included as determinants of growth in quantitative studies.

**The Gender-Growth Nexus Consensus**

In the past decade, evidence is gathering which implicitly supports the hypothesis that gender inequality slows the long term rate of economic growth, and there is growing international recognition that gender equality is good for growth and necessary for poverty reduction (World Bank, 2007). While no one has measured overall gender equality and its effect on growth, authors have looked at certain aspects of it, using gender gaps in education, life expectancy, and employment as their explanatory variables and country growth rates as the dependent variable (Hill and King, 1995; Dollar and Gatti, 1999; Knowles et al, 2002; Esteve-Volart, 2004; Klasen, 2002). All of these studies are heavily influenced by neoclassical economic theories, and is common in cross-country regression; they implicitly assume that the estimated effects of gender inequality are homogenous. In other words, they
do not account for gender inequality affecting different countries in different ways due to the underlying institutions, social stigmas, and societal norms. For example, gender differences in Muslim nations have different dynamics to those which do not, and countries with high-levels of male corruption will have different dynamics to those which do not, and no two societies and historical systems will be the same. It may be worth putting in extra controlling interactive variables to better understand these dynamics. It is also worth noting that while most of these studies are based on orthodox economics and embedded in neo-classical theories of production, human capital and growth, the heterodox schools of thought such as the feminist economists, behavioural economists, and even the broader political-science based theorists mostly agree that gender inequality is an obstacle to growth (Berik et al, 2009).

Formalized back into a factor-productivity perspective, we can look at women as an input to the production process. In this light, the OECD (2008) found that they are one of the world’s most underutilized resources. This has important consequences for growth, as gender equality in employment – or more working women – would help offset the negative effects of declining fertility and aging populations. In OECD countries in the last few decades, the largest share of economic growth has come from simply employing more women (OECD, 2008). Even when there is already a significant degree of gender equality in employment, like the United Kingdom, it has been found that better harnessing of women’s skills could still lead to a 2% gain in GDP (OECD, 2008).
The Transmission Mechanisms

There are a number of different channels through which gender inequality can impact economic growth. In empirical studies, these are typically measured through gender gaps, among other variables. The two key channels through which gender equality affects long-term economic growth are in the determinants of human capital – health and education. Other key causal mechanisms are notably job segregation in the labour market, wage differentials (Seguino, 2000), fertility (Galor and Weil, 1996) and access to resources (Berik et al, 2009). The speed at which these transmissions occur has a high level of variance, with wages and enrolment and other fast-acting variables showing their effects quickly, but variables such as fertility, education levels and life expectancy showing their effect more in the long term.

Galor and Weil (1996) present some interesting findings about women’s capital per worker and wage levels in the labour market, and their respective greater long-term effects. It was found that an increase in capital per worker will raise women’s wages relative to males because capital is more complementary to women’s labour than it is to men’s. Other studies also shown that because of this fact, technological growth and investment in innovation are better complements to female labour than male, due to their cognitive ability (Hornstein et al, 2005; Weinberg, 2000).

Galor and Weil then show how increasing women’s relative wages will reduce fertility due to the opportunity costs of children increasing more than household income. This lower fertility then raises the level of capital per worker even further, creating a positive feedback cycle which then generates a demographic transition. A rapid decline in fertility will be accompanied by increased output growth and per capita incomes (Galor and Weil, 1996). So,
in this model the two key effects are; the positive effect of capital accumulation on female wages, which will increase aggregate income quickly, and the negative effect of female relative wages on fertility. Additionally, in a study showing how gender equality can account for the Industrial Revolution and Demographic Transition, Lagerlof (2003), presents a different model with similar findings to that of Galor and Weil (1996). Lagerlof (2003) shows how gender equality in human capital and higher opportunity cost for women’s time can lead to the substitution of ‘quantity’ for ‘quality’ in children, with fertility falling and increasing human capital, leading to a higher per-capita income stabilized growth path.

As gender inequality is far greater in developing economies – which are primarily agriculturally-based – the economics of gender and growth in agrarian economies are worth consideration. Traditionally in agricultural economies, the negative growth effects of gender have been linked to the gender division or labour, inequality in land ownership, and unequal access to rural credit (Doss and Morris, 2001; Blackden and Bhanu, 1999). However, the recent paper by Berik et al (2009) argues that the key to increasing agricultural productivity and growth now lies in gender equality in access to technology and land, rather than wages and other factors.

The main way that gender inequality affects long-term growth is undoubtedly human capital formation, accumulation and transmission. Female education as a variable has withstood rigorous testing and has a statistically significant positive effect on labour productivity (Knowles et al, 2002), and empirical evidence shows that that educational gender gaps are a direct impediment to growth and development (Klasen, 1999; Knowles et al, 2002; Dollar and Gatti, 1999). Furthermore, in extensive cross-country studies, there is a high variance in female education, and a degree less variance in male education, with men often having higher education levels than women, especially in non-OECD countries (WDI, 2009).
Ceteris paribus, positive growth effects are generated by additional female educational attainment in all the studies surveyed (Benavot, 1989; Hill and King, 1995; Summers, 1992; Klasen, 1999; Knowles et al, 2002; Dollar and Gatti, 1999), which in light of the status quo, means that lessening gender inequality in education is a clearly a driver for growth. Figure 2.10 is based on Klasen’s (1999) paper, and extracted from ‘Engendering Development’, showing the expected change in growth rates which would have been experienced if Sub-Saharan Africa, South Asia, and the Middle East and North Africa managed to narrow their gender gap in education as quickly as East Asia.

Figure 2.10: Klasen's Predictions for Growth with East-Asian Equality

![Average annual growth in per capita GNP, 1960–92](image)

- **Note:** "Predicted" represents the average predicted GNP growth rate for a region if its gender gap in education had started at East Asia’s level in 1960 and had narrowed as fast as East Asia’s did from 1960 to 1992.
- **Source:** Simulations based on regression results from Klasen (1999a).

Specific econometric studies have also been conducted which examine the gender gaps directly, and it is found that gender inequality in education is linked to higher fertility rates and lower savings rates – which both have negative neo-classical implications for economic growth rates (Barro and Lee, 1996; Klasen, 1999; Caselli, Esquivel and Lefort, 1996).
A rise in fertility reduces the level of investment in each child’s education and health, and therefore has negative effects on a nation’s aggregate human capital stock. Gender inequality has been shown to contribute to women’s unequal household bargaining power and then affecting the distribution of resources and investment in children. It is also interesting to note that females have a higher tendency to allocate spending to children’s needs than males do (OECD, 2008). So, gender inequality in spending does indeed lead to lowered investment in children, which will then lower the quality of the future labour supply, deplete long term human capital stocks, and impede long run productivity growth (Berik et al, 2009).

Education does not alone make up human capital, we must also consider health. We can state health and education gender gaps are endogenously determined, as life expectancy has been effectively used as an instrumental variable for male and female education levels (Klasen, 2002), and gender inequality in educational attainment is often largely mirrored in inequality of health outcomes (WDI, 2009). Failure to provide adequate maternal and other health services to women or men will result in lower health outcomes, and these lower health outcomes are a robustly negative influence on growth rates across a wide variety of empirical studies (Barro and Lee, 1994; Bloom and Malaney, 1998; Bloom and Sachs, 1998; Gallup et al, 2000).

**Is there a Gender Inequality Kuznets Curve?**

Furthermore, while health levels – as measured by disease prevalence, mortality and life expectancies – tend to rise with income (Pritchett and Summers, 1996), education and gender inequality also follow this trend. Current data can provide evidence that gender inequalities such as income gaps are growing in the rapidly industrializing nations like India.
and China (WDI, 2009), and OECD countries are clearly pushing to return to gender equality parity. This shows that there may indeed be a gender-based Kuznets curve of gender inequality, but our discussion regarding the negative relationship between gender inequality and growth shows that is unlikely to be binding, and is more likely a result of market segregation of male workers into the industrial sector in China, and the services sector of India. Additionally, in less developed countries there is a policy focus on gender empowerment and education of women. This fact combined with evidence of countries increasingly ‘leapfrogging’ the industrial stage of development (Mandeville and Kardoyo, 2009) means that it is unlikely that such a curve will now be valid under empirical scrutiny - just as the original income-inequality Kuznets curve is no longer valid (Bruno et al, 1998).

**The Robustness of Evidence Supporting this Hypothesis**

Discussion to this point has not actually mentioned female participation rates, which may be affected by society, maternal and domestic roles, and structural employment demand. However, significant empirical evidence exists to prove that even when female participation rates are lower than for males, the effects of gender equality and improved female education on aggregate education, health status, and population growth, will all provide a significant indirect boost to productivity and long-run economic growth (Knowles et al, 2002). Furthermore, female education is also linked to the increased productivity of unpaid, domestic, and reproductive labour (Hill and King, 1995), showing that there are no cons in terms of economic growth and productivity which arise from the increased education of women, regardless of the structure of the economy.
There is a compelling body of literature suggesting that gender inequality in education, wage, and health has negative effects on economic growth through a variety of different channels. However, to conduct a comprehensive analysis one must assess whether or not women are actually able to capture the entire extent of increased productivity in the form of increased incomes and shifting of the steady-state national income, or whether there is a male-female trade off. This will largely depend on the structure of the economy, institutions and rules on capital flows (Berik et Al, 2009). With this ambiguity and some opposing evidence – which is in some cases even written by feminist economists – it cannot be stated to which extent gender equality will beneficial for economic growth, but it is clear that the positive relationship found in the positive trend exhibited by equality in the raw data at the start of this chapter has plenty of supporting evidence in the literature.

2.3.3. Gender Inequality is Good for Growth

In contrast to the all the evidence supporting the hypothesis that gender inequality is bad for growth, there are a few outlying statistics and studies which provide evidence of the contrary.

First, consider gender inequality from a Darwinian evolutionary point of view. If child care and domestic duties were included in national accounting, women would then account for over half of the GDP in the OECD areas (The Economist, 2006), so there is no question that they provide just as valuable an input to the economy as men. As it stands though, they are responsible for a just small proportion of GDP in relation to men (The Economist, 2006). Could it be part of either the male or female nature to be less productive and have lower work ethics than the other sex, or be more adaptive to certain types of production? Perhaps
males forged this income gender-gap during the industrial revolution with the increased demand for more masculine, strength-based labour in trades and the then-modern industries, and it has held strong as a historical and societal norm through to today. It would be consistent with the basic trends in China and India today if it were the case. There is little evidence to support such a radical point of view – but quite simply it is worth considering as there are a few societal trends emerging after heavy investigation. For example, women are far more prone than men to self-declared ill health, reduced work capacity due to illness, and stress related work disorders (WHO, 2006) – all of which contribute to lower levels of productivity. However, we must also approach this fact with caution as it may be a result of discrimination, violence, low social support, lack of job security, working multiple jobs, domestic duties and limited advancement opportunities.

In stark contrast to the previously discussed work which shows that inequality slows growth, Seguino (2000) provides empirical evidence in stark contrast to the mainstream, showing that under certain circumstances, GDP growth is positively related to gender wage inequality, and that part of the impact of the inequality is transmitted through a positive effect on investment as a share of GDP. Her result does not so much conflict with any other theories, but is more the application of a standard econometric specification applied to a unique and small sample of economies which share some common properties. She recognises that the effects of gender inequality on different variables, including growth, are likely to depend on the structure of the economy. From this assertion, Seguino (2000) forms her hypothesis that women’s wages relative to men’s was a stimulus to growth in export-oriented economies which discriminated against women. She also investigates the possibility that the transmission mechanism to growth may be a stimulus to investment.
Income inequality leads to political conflict and social unrest. There is a vast body of economic literature and empirical evidence which shows how conflict is a severe impediment to growth through its negative impacts on investment through the creation of a climate of uncertainty and instability, and ineffective macroeconomic policy. Seguino (2000) briefly notes that inequality may be less likely to produce this social conflict if the burden is shouldered by women, because they were historically socialized to accept gender inequality as the socially acceptable status quo. She then hypothesizes that in countries with a more patriarchal system, gender wage inequality will be more likely to produce less negative growth effects.

The results of this study are robust in favour of the hypotheses tested. In semi-industrialized, export oriented economies in which women are crowded into export industries, wider gender earnings differentials lead to higher rates of economic growth, ceteris paribus. A 0.1% increase in the gender wage gap is representative of a 0.15% increase in growth, and this variable performed robustly across a series of different equations. To grasp the magnitude of this effect, consider that increasing the average educational attainment by one year raises the GDP growth rate 0.5 of a percentage point. It is also worth noting that in her different specifications, she found that the female human capital variable is positive and significant -- consistent with previous work discussed – and that the male human capital variable effect on growth was smaller and insignificant. Higher gender wage gaps in these cases signal weaker bargaining power on the part of the female worker, and hence skewing the distribution of labour market power heavily in favour of business. As expected, gender wage inequality has a positive and highly significant effect on investment as a share of GDP. It can then be asserted that investment profitability may be affected by low wages, which generate the foreign exchange to purchase the technological capital necessary for structural change and rapid industrial growth, as occurred in these countries in the study.
This paper is clear evidence that gender inequality can affect growth and productivity in many different ways. Several channels of transmission are simultaneously at work and these channels may exhibit either positive or negative effects on economic growth. Furthermore, the dynamics of these channels are subject to many other interacting factors, including the country in question’s stage of development. The semi-industrialized countries in the sample have clearly benefited from a high degree of gender wage inequality and it is a causal factor in their high levels of foreign direct investment (FDI) and rapid growth. The concern is now that growth has slowed in most of these economies, gender inequality has not significantly dissipated in even the most successful ones (UNDP, 2009; WDI, 2009).

Seguino (2000) effectively shows that discrimination may be useful for growth in the early to middle stages of development, in a similar style to that of the Lewis model, where the industrial sector thrives and drives growth based on a fixed wage for those entering this labour market. The gender dynamics of labour markets fit this logic too, as women tend to crowd into low wage jobs, and this explains a portion of the gender wage gaps by respective jobs and industries. Reiterated, they are effective low cost labour inputs to the industrial sector. From a public policy perspective, gender discrimination may have actually been a favourable policy because women are also less likely to form labour unions and lobby for increased wages, to militarize, or cause as severe a political conflict in the face of inequality as their male counterparts. In future, growth regression studies should allow for the non-linear effects of gender inequality variables depending on the underlying level of socioeconomic development and other factors clearly interacting with gender inequality.
2.4. Chapter Summary

This Chapter has presented theoretical evidence and empirical studies showing that gender inequality can be a large obstacle to growth, but conversely it can also act to promote growth. The net effect of gender inequality is a priori unclear, at least if we are looking at a generic economy. The net effects are purely circumstantial and conditional upon which types of gender inequality are examined, what kind of economies are considered, and which transmission mechanisms are considered.

Gender inequality has previously promoted growth by creating an incentive for investment in export-oriented economies, that is, feminization of a labour force with lower wages stimulating investment. The attraction mechanism is best explained by China’s undervalued exchange rate – keeping wages low attracts FDI and promotes exports. In the same way that China’s policy has a similar effect as a tax on domestic consumption and a direct exports subsidy, a lower wage for a female population decreases their incomes and consumption, whilst making cheap labour readily available to drive export growth and investment. Such a discriminatory policy is unsustainable and unacceptable in our current MDG-based development climate. The severe pressure from the WTO on China for their cheap labour policies would only be amplified if it were a feminized labour force, there or anywhere else.

Gender inequality may also promote growth in that it is a second-best solution for a male-dominated political conflict and civil unrest which arises out of inequality. Having women bear the greater share of a nation’s income inequality, as they have historically done in patriarchal societies, may be a preferred option to society as a whole bearing this burden. It will decrease the likelihood of militant groups forming, and conflict then erupting over income inequality, which would create a far greater obstacle to growth.
This argument is met with an even stronger consensus that gender inequality is an impediment for economic growth. Gender gaps in wages have been shown to distort the incentive systems in place and spending patterns of women, which are primarily invested in children and developing future human capital. Gender gaps in education are detrimental to long term growth because of the massive development effects and externalities generated by a society of educated women, and maternal inter-generational human capital transmission. Lower gender gaps in education also correspond with lower fertility which is beneficial for growth and per capita incomes. Gender gaps in health and life expectancy harm a nation’s long term growth and productivity, and in employment they have negative effects on aggregate demand and short run output. Furthermore, female capital per worker has been shown to have a higher return than male capital per worker, and practical application of neo-classical theory shows that a higher steady-state output and growth rate will correspond with capital investment that is skewed towards the female. The benefits and costs to economic growth imposed by gender inequality are clearly skewed so that a reduction in gender inequality is a more favourable outcome to reach a higher long-term growth path, as the circumstantial and exceptional studies are somewhat more myopic and set over a certain period of time.

Ceteris paribus, there is sufficient evidence to believe that in the long-run, achievement of the goal of gender-equal opportunities in labour, health and education is far more efficient than the pervasive gender inequality we see today. The policy issue now will be to convert equality of opportunities into equal outcomes. The complexity of gender inequality does indeed stress that there may be a ‘market failure’ in achieving gender-equitable outcomes, but there is insufficient evidence to state whether or not forced outcomes will yield net productivity gains compared with the gender inequality status quo.
CHAPTER THREE:

GENDER AND SOCIAL DEVELOPMENT
3.0 INTRODUCTION

Due to the different dimensions of development, it is also important to also consider the non-monetary aspects of social development, and also poverty. While strong income growth is an important condition for poverty reduction, it alone is not sufficient and high poverty can persist despite strong growth (Bourguignon, 2003). Higher levels of incomes are indeed associated with better development outcomes, but GDP alone does not capture the non-monetary facets of development, nor address poverty by itself.

Dynamic efficiency is an economic term for when an economy can appropriately manage short-term imbalances in the long run, focusing on sustainability and indefinite efficiency. Short-term efficiency and maximization of benefits at a particular point in time is known as static efficiency, and usually refers to efficient production or allocation. Economic decisions which occur over time can amount to many static decisions, whereas a dynamic decision is one which has some impact on the choices and outcomes of the future. It is through dynamic efficiency that an economy is further able to endure efficiency improvements over time, and when making public policy decisions there is commonly a trade-off with what might be welfare maximizing right now, and what will continue to maximize welfare into the future. Social development policy is important to consider in this light, as politics can often interfere with socially optimal public policy. In developing countries this can be attributed to many possible causes, whether politics, conflict, reforms, budget constraints, corruption, or myopic behaviour by the government.
I will now provide a brief yet colourful example of the dual-edged sword which policymakers yield when intervening in social development. The Chinese ‘one-child’ policy, which combined with their traditionally male-dominated society, has arguably led to improved social development outcomes in the form of primary education and life expectancy (WDI, 2009). This, as expected, has helped foster their strong growth and resulted in per capita incomes increasing. However, a side effect was the fact that preference for males, and this policy, has led to one of the world’s highest ‘femicide’ rates. This is the abortion of female children. Aside from creating a large ‘black market’ for babies, this policy is starting to skew the proportion of young males to females highly towards men. With the vast amount of evidence supporting the benefits of a large, healthy and educated female population – as both workers and mothers – we must consider the intergenerational human-capital and social effects which may stem from this. Improved outcomes now may have severely negative long-term effects, and this reflects the importance of contrasting the static outcomes with the more long term dynamic consequences. Is this policy going to be harmful in the long run for social development and growth, or is the reduction in population growth necessary to boost per capita incomes more important? Social development is a long-term process, and it is therefore important to consider it through a long-term dynamic efficiency lens.

Social development is also a broad concept, and it too covers many dimensions. With over 200 different social development variables available from the World Development Indicators, it is important to be specific as to which aspects are being considered in this chapter. The UNDP has produced the Human Development Index (HDI), which is a weighted average index of four indicators for health, education and standard of living\(^3\).

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\(^3\) Life expectancy at birth, as proxy for population health; literacy (2/3 weighting) and combined primary, secondary and tertiary gross enrolment ratio (1/3 weighting) as proxy for education; and log of GDP per capita at PPP as proxy for standard of living
This measure has been quite popular in development economics but has also seen its fair share of criticism. Many economists now say that it is poor indicator for development, that it is just a proxy for GDP per capita or a measure of how Scandinavian a country is (Caplan, 2009), and are dissatisfied with the arbitrary weighting system assigned to the different variables. Many indicators of social development are flawed like this and sometimes difficult to distinguish from simple GDP measures due to their correlation. In this section I will examine the non-monetary social development indicators of overall health and education, which together make up human capital. I will then discuss monetary poverty. These elements of social development are key components of the humanity-based approaches to development, including the popular ‘capabilities approach’ as advocated by Amartya Sen. The importance of social aspects of development has been recognised for a long time. For example, in his highly influential paper almost fifty years ago, Schultz (1961) famously stated that; “A major limiting factor in the advance of poor countries was insufficient investment in people”.

Health and education are endogenously determined, and share many similarities from a policy perspective. These include quality vs. quantity issues, intra-sectoral allocations, and prioritization of programs, targeting, and effectiveness. We must note in advance that much of the effects of gender inequality on health and education have already been discussed in the previous chapter, as human capital is an important determinant of growth. In fact, there are few economic relationships as robust as the positive relationship that exists between income and education (Perkins et Al. 2006), with ambiguous causality in both directions (Easterly, 2001). A similar relationship exists between health and economic growth, income levels, and poverty, only with strong and unchallenged bi-directional causality in all relationships (Pritchett and Summers, 1996). For example, if 1980’s growth rates were 1%
higher, half a million child deaths would have been averted in one year alone (Pritchett and Summers, 1996), and a ten percent increase in life expectancy is expected to result in a 0.3-0.4% increase in economic growth (Sachs, 2001). Increased health and educational outcomes also increase productivity and investment – which are two fundamental causes of economic growth in any of the widely accepted growth models (Perkins et Al. 2006). This chapter provides a holistic discussion of the relationship between gender equality and social outcomes. Some of the findings concerning this relationship have been mentioned in the previous chapter. This chapter therefore provides further discussion and evidence, also addressing pressing policy issues that emerge for gender development in culturally and religiously diverse countries.

We will begin with some stylized facts and theory, then proceed through a literature review looking at the hypothesis that gender inequality improves social development, considering not just human capital, but also the Islamic faith, and poverty reduction.

3.1. STYLIZED FACTS

Figures 3.1, 3.2, and 3.3 show the traditional UNDP Human development index (HDI) bilaterally correlated against a few different UNDP gender measures; Gender Empowerment Measure (GEM), Gender Development Index (GDI), and a female to male income ratio. Figures 3.1 and 3.2 illustrate a clear positive relationship between gender empowerment and gender development, and the HDI. In fact, the HDI and GDI scatter plot is almost a perfectly straight line.
This is interesting because the GDI is composed in three steps:

1. Male and Female ‘HDI’ indices are calculated;
2. For each area of the gendered HDI, the pairs of indices are combined into an Equally Distributed Index to reward gender equality and penalize inequality, which is the harmonic mean of the two indices.
3. The GDI is then the unweighted average of the three Equally Distributed Indices: life expectancy, education, and income.

Given that the harmonic mean does place enough of a penalty on gender inequality, this linear relationship does indeed show a strong overall relationship between gender and socioeconomic development, with HDI proxy for both social development and economic development as measured by GDP. Lower levels of socioeconomic development appear to be highly correlated with lower levels of gender equality, and this is precisely the relationship that this project seeks to evaluate.

Figure 3.1 – Gender Empowerment and Human Development in 2006
Figure 3.3 shows HDI and a male to female income ratio, and there does not appear to be a clear relationship there, as some countries with high HDI ratings also have very high levels of income inequality, and vice versa.
Figures 3.4 and 3.5 look at total male and female life expectancy as a proxy indicator for overall health outcomes. There appears to be strong positive linear relationship between both GEM and GDI, and male and female life expectancies. This implies that gender equality may indeed be associated with more positive health outcomes.

Figure 3.4 - Gender Development and Male and Female Life Expectancy in 2006

Figure 3.5 - Gender Empowerment and Life Expectancy in 2006
Figures 3.6 and 3.7 show the relationship between the GDI and selected educational outcomes; enrolments and literacy rates. There appears to be a positive linear relationship between both gender equality and school enrolments and also between gender equality and literacy.

Figure 3.6 - Gender Development and School Enrolment in 2006

![Figure 3.6 - Gender Development and School Enrolment in 2006](image)

Figure 3.7 - Gender Development and Adult Literacy in 2006

![Figure 3.7 - Gender Development and Adult Literacy in 2006](image)
Figures 3.8 and 3.9 show the relationship between gender development and poverty rates – $1.25 US per day and $2.00 US per day. In both cases it appears that lower levels of gender development highly correlated with increased incidence of poverty, which is not surprising as many development indicators tend to move together.

Figure 3.8 - Gender Development and Extreme Poverty in 2006

Figure 3.9 - Gender Development and Moderate Poverty in 2006
These are just ordinary least squares (OLS) correlations and we cannot infer any causality, but from this raw data it appears that gender inequality does indeed tend to be negatively correlated with all of the dimensions of social development examined in this section. These stylized facts are indeed confirmed by the existing empirical analysis. Health, education and poverty are highly related to one another and overall improvements in social development will tend to have them all improve together, but it is unclear which variables are the most affected by gender inequality as health, education and poverty are all endogenously determined.

2.4. CRITICAL LITERATURE SURVEY FINDINGS

2.4.1. OVERALL HEALTH AND EDUCATION

Reviewing the current literature, it is clear that gender inequality has no positive effects on social development outcomes. This is consistent with our stylized facts and expectations. We will discuss health and education together here due to their endogenous determination and many similarities shared.

Throughout his Presidency at the World Bank, Wolfensohn often discussed the way that educating girls and better health outcomes have a catalytic effect on all dimensions of economic development.

‘If we educate a boy, we educate one person. If we educate a girl, we educate a whole family – and a whole nation’ (Wolfensohn, 1995).
The precursor to this female-focused policy and research push was Summers’ (1994) influential paper which argued that female education provided the greatest returns to investment in development versus any other investment. Furthermore, improved health outcomes led to better economic outcomes through many channels including reduced health care expenditure, reduced disease burden, and the ability to live longer and more productive working lives. The benefits of social development do not need elaboration. Of concern to us is whether pervasive gender inequality will significantly harm social development in the form of health and education outcomes, or not.

Gender discrimination and inequality is sometimes explained to be naturally occurring due to the traditional status of women – with men as the ‘breadwinner’ and less social conflict arising from the discrimination against women than from other forms of discrimination and conflict – such as racial, religious and political. In the workplace women were usually not given jobs with a high degree of upward mobility because men typically provided the majority of household income with women staying home to raise the children and do unpaid domestic labour. This logic extends to the social outcomes of health and education, with a preference typically given to men as the ‘breadwinner’. This is not the case anymore, and although gender inequality is still strong in many areas, it has indeed diminished a lot. The gaps in access to education and literacy are the gender indicators showing the greatest improvement (World Bank, 2001; WDI, 2009). However, this improvement is especially strong in advanced and industrializing economies and less so in the developing countries (WDI, 2009). So progress in gender equality is more rapid in countries where discrimination is already low, but progress is much slower and sometimes stagnant in countries where it is needed the most. As shown in Figures 3.1 and 3.2, gender inequality is highly related to social development as proxy by HDI, of which GDP per capita makes up a significant
component. This represents the endogeneity between gender inequality, social development and human development. Therefore, a country lagging behind in one of these areas, say economic development, may face a far harder task than a developed country, in bridging the gender gap.

While there are cognitive skill differences between boys and girls -- in almost all countries girls read better but boys are better at maths – differences net to zero, showing that changing educational quality is most important and applies equally to boys and girls (World Bank, 2008). Equality in education increases overall education outcomes, and creates great externalities in social development, including the innovation rates in a society, community engagement, and better health benefits (Acemoglu and Angrist, 2004; Haveman and Wolfe, 1984). Social benefits generated by women’s schooling are especially significant in developing countries (Schultz, 2002). Externalities are also generated in the form of intergenerational effects, as parents who are more educated tend to spend time with their children more effectively, are better at assessing their children’s education and serve as better role models (World Bank, 2008). Furthermore, women’s parental capital is shown to have a far greater impact on overall child schooling than men’s schooling (Ainsworth and Filmer, 2006). With the endogenous determination of health and education outcomes, improved equality in education delivers large intergenerational health benefits too. For example, if we considering child mortality, an extra year of female schooling reduces infant mortality 5-10% (Schultz, 1993) and children of mothers who have at least 5 years education are 40% more lively to live past the age of five than children of uneducated mothers (Summers, 1994).
All of these findings suggest that gender inequality is harmful for the health and education aspects of social development, while supporting the policy stance of lessening education and health gaps between men and women – often by targeting women directly. Moreover, they are quite fitting with the stylized facts provided at the start of the chapter.

The most effective investments for increasing productivity as well as enhancing the well being of families are simply increasing education and literacy rates. UNESCO reports that there have been dramatic gains in reducing gender inequality in school attainment, but the gains have not been uniform (UNESCO, 2005) nor without serious concerns.

General investment in females has been shown to have higher payoffs than males (Summers, 1994). This may be attributed to the status quo of health and education attainment around the world previously being highly skewed in favour of the male group, or due to the positive intergenerational and maternal effects that women have on their families and society as a whole. Hindering this transmission of health and education to women, and pervasive gender inequality, is therefore harmful to overall social development. That said, such provision should not be in favour of women or female-only policy, as men may find themselves in the same disadvantaged position as women used to.

As mentioned before, gender equality in health and education generates great social returns. A few studies have tried to measure the social return to schooling, and they are found to be far higher than private returns (Acemoglu and Angrist, 2000; Haveman and Wolfe, 1984). However, it is the private returns which to education which has been found to be the key determinant of investment in education, and enrolment rates (Kingdon and Theopold, 2006). This may indeed prove a barrier to equitable provision of education to men and women, as in developing countries, the rate of return to primary education is lower than for men; the return
provide higher returns through secondary education; but at the university level men then again yield higher returns (World Bank, 2008). These findings do not hold in some studies, for example Barro and Sala-i-Martin (2005) find that secondary education has a negative coefficient – representing negative returns -- in their growth regression. These results can all be approached with caution because investment in education, or continuation of education, is not only determined by the returns to education but also by life expectancy, household finances, and the cost of schooling. This clearly displays the endogeneity of health and education in human capital accumulation. However, these respective lower returns to primary, tertiary, and possibly even secondary female education may affect efforts to achieve equality in education, especially in countries which do not have universal primary education.

These problematic incentives also take us back to the MDG’s. While this incentive structure may have been an obstacle to the second MDG of universal primary education, far more young girls are now receiving primary education in some of the poorest parts of the world and this trend continues. The third MDG however is measured by elimination of educational disparity at all levels. As very few women are progressing past primary education to receive secondary and tertiary education (World Bank, 2006), this MDG is less likely to be attained since inequality at the higher levels of education is still highly prevalent and showing no signs of improving quickly. The higher returns to female secondary education state that this should not be the trend which we are seeing, but it is, and we expect it will only be harder to achieve at the tertiary level if universal secondary education is proving such an elusive task.
The OECD states that at the global level, there is still a persistent educational gender gap and developing countries are not investing in the optimal mix of female and male education (OECD, 2006). In light of the other studies, such a statement is easy to immediately criticize, as investment should not be in either female or male education in the form of ‘targeted’ investment, but in the inclusive provision of education to both genders in a non-discriminatory manner which enables opportunities for both. Policy targeting focus groups will inevitably neglect those outside the focus group, regardless of whether or not they were previously discriminated against. The result of such targeted policy may later place males at a comparative disadvantage in line with the shift of male labour in OECD countries towards ‘masculine’, trade-based labour, with lower-pay at the high end and lower educational requirements.

In OECD countries women are now becoming more educated than men, and the challenge now is to make better use of women’s qualifications and respective skills sets. In developing countries and emerging economies, the situation is the reverse. Reducing gender inequality in education and health – reflected in indicators such as life expectancy and literacy – is absolutely essential to reduce poverty and speed up economic and social development, but men must not be neglected. Focus should be on universal education and health, not just focusing entirely on females to try and bridge gender gaps. However, once these women are educated in developing countries and emerging economies, the current situation in OECD countries will only replicate itself. It is important to make sure that the investment in education is met with adequate job opportunities, or this large investment in education is practically lost.
Of particular relevance to developing countries and social development are some studies on gender inequality and violence, as these countries tend to be more prone to have intra-country conflict and violence. Mukherjee (2007) found direct empirical links have been found between gender inequality and persistent structural violence within a country, while Sen (1999) found that women with education are more likely to resist and not tolerate violence. Combining these findings together we can assert that gender inequality is associated with persistent violence, while gender equality can help to reduce it. This is interesting, as Seguino (2000) puts forth the opposite hypothesis that gender inequality may lessen the likelihood of conflict in a country because women are less likely to react to inequality than men, but she does not test it empirically. If all of these hypothesised relationships are reality, there may be some kind of a trade off; or the increased conflict and gender inequality may just be a result of other variables. Regardless, Mukherjee (2007) and Sen’s (1999) findings are conclusive that gender equality is associated with a decreased likelihood of conflict, and the presence of conflict is typically a major hindrance for social development.

As expected from surveying our raw data, gender inequality does harm social development in education and health. For over twenty years there has been significant economic literature published as supporting evidence of the fact that female education produces social welfare gains. Since men were traditionally more formally educated than women, and still are in developing countries, this female education is representative of lower gender inequality in education. The evidence shows that these social gains are yielded in reducing fertility and infant mortality, increasing life expectancy, improving family and child health, and increasing the quantity and quality of children’s educational attainment levels (Subbarao and Raney, 1995; Schultz, 1988; Behrman et al, 1988). It has been found that even if female participation rates in different markets are lower than for males, these effects of improved
female education on general levels of education, health status, and population growth will indirectly boost productivity as well as all social development aggregates (Knowles et al, 2002). The high social returns generated by the eradication of gender inequality in health and education more than justify gender equitable policy action and public spending to fight gender inequality. However, the differential returns to both male and female education and labour indirectly signal that there may be problems in the labour markets as well, and that achieving social development by removing gender equality in health and education may also involve addressing structural and social problems in the other markets which are distorting the incentive systems in place and making equitable outcomes harder to achieve.

2.4.2. Islam, Ethnic Fractionalization and Social Development

Despite significant progress, there are still certain factors that greatly hinder the reduction of gender inequality and its respective improvements on social development outcomes. One serious, yet controversial, example of such a factor is Islam. Empirical studies have shown that the extent of Islam in a nation tends to increase gender inequality, decrease female attainment of secondary education, and overall female literacy (Self and Grabowski, 2009). Such evidence and the constant resistance to gender equality that prevails in Muslim societies have supported the past assumption that Islam is a barrier to gender equality and reaching the Millennium Development Goals. The resistance has persisted despite many of them undergoing serious industrialization and development, two processes usually correlated with reduced gender inequality. We thought such a barrier worth investigating, to see if all the literature is consistent with this heavy accusation. There are indeed some interesting outliers to this trend, which prove that these statistical findings and assumptions are not entirely rigid and robust.
In the past developing nations have typically used top down education, injected the programs of international agencies, and other elite-based movements, which have transformed women and helped to create a vibrant civil society in which female empowerment in personal, community and transnational levels strongly increase. With this process showing little positive change in devout Muslim nations, a new process has arisen in the most unexpected of circumstances. Afghan refugee women living in Iran are a now practising a different vision of the Islamic faith. These previously disempowered refugees with little rights have achieved a more egalitarian version of Islam, empowering them to take charge of their own lives and to lead their societies development (Hoodfar, 2007). However, it is not just in these refugee camps where this is taking place. A recent paper in the Journal of Development Studies discusses the great impacts of state policy by Afghanistan, Iran, US and Pakistan, on Afghan women, and men in Afghani and diasporic communities throughout the Middle East. It is found that under the extreme forms of uncertainty, coercion, marginalization, segregation and fear, women and men are establishing voice and agency in a more equitable society. This forced exile has been an important factor in shaping their new identity. Under NATO and US occupation they are now challenging the imperialist representation of Afghani Muslim women and seeking freedom from this hierarchical and patriarchal domination and subordination (Rostami-Povey, 2007)

Empirical studies also show that social development and gender equality are reduced by ethnic fractionalization (Self and Grabowski, 2009), but again, with this above example arising in the context of extreme fractionalization, we cannot hold such studies as binding evidence when it comes to policy making and achieving the MDG’s. If this progress can be achieved in the most dire of circumstances, it can be done again elsewhere and the effect that these variable of religion and ethnic fractionalization have on inequality and social
development is exactly that – variable and subject to change. This presents a clear need for development practitioners and policy makers to challenge female exclusion from the power structures of Muslim communities, and help to enable transformation within their cultures and societies (Hoodfar, 2007).

2.4.3. Poverty

Another aspect of social development and important part of the MDG’s is poverty reduction. The other forms of social development previously discussed – health and education – have an important effect on the reduction of poverty and there is a high degree of interconnectedness, especially with the different degrees of poverty and different definitions. These definitions have been broadened from just monetary poverty to include poverty in opportunity, capabilities, institutions and more.

Approximately 70% of the world’s poor are women and they have unequal access to economic opportunities in developed and developing countries alike (OECD, 2008). There is a crucial link between poverty alleviation and development of female human capital and total social capital. Gender inequality has been found to not only be a key determinant of health and education, but also poverty and especially disease-related poverty (Mukherjee, 2007). When an index of gender gaps is correlated with GDP per capita, it shows that while economic progress improves the status of someone and is a powerful tool in fighting poverty, there is a limit to the advancement that can be made by a country with persistent gender inequality. This link arises though the channel of social development, which has a positive relationship with overall economic development. More specifically, market distortions arise with the denial of equality and economic resources are not allocated to those
who could make the most use of them (OECD, 2008). For example, studies have shown that equality of primary education in Africa can increase food crop yields by up to 20% whereas equal access to capital would increase output by 15% (World Bank, 2001). Such increases brought about by equality have a tremendous effect on fighting poverty, and it is important to realize that while gender inequality may directly hurt poverty, there are again many indirect effects that it has on poverty which are captured in the both the pure economic dimensions and the social dimensions. The key is participation, and social institutions and cultures that promote gender inequality in limiting access to employment, inheritance and finance will have systemic negative effects on the levels of social development (OECD, 2008). With such inequality being embedded in the economic system, it is harder to remove.

We have discussed briefly in the introductory chapter and this one the effect of women making up more of the poor population than men, and how gender inequality can also be represented by income inequality (OECD, 2008). It is also acknowledged that there are several different dimensions of poverty apart from just monetary poverty – which are systemic societal problems affecting one’s capabilities and the opportunities provided to those impoverished (Sen, 2001). However, some do claim that poverty rates of women are usually not or only slightly higher than those of men, and the gender poverty cannot be confirmed empirically, at least when considering monetary poverty (Strengmann-Kuhn, 2007). This paper does consider a case study on Germany, which does not have either a high poverty rate or high gender inequality by international standards.
While gender inequality and poverty are closely related, there is sufficient evidence to show that reducing gender inequality alone is not enough to reduce poverty. Just as economic growth, education, investment, aid or any other single variable is not enough to address poverty, neither is improving gender equality. Poverty reduction through gender equality will be brought about through a number of channels – including health, education, and economic growth. Poverty has many dimensions and gender equality may just be one of these. The correlation between gender inequality and poverty in our stylized facts is more likely a by-product of the other relationships shown in the previous graphs – which also show the same type relationship when regressed on poverty. O’Laughlin (2007) shows that a number of key papers suggesting that addressing gender inequality will directly reduce poverty are conceptually flawed and that changing women’s unequal collective position to a stronger and individual position cannot and has not decisively reduced rural poverty in Africa. Instead, the extent to which gender equality can reduce poverty will be contingent on restructuring the long term and unequal processes integrated within the market, and not just inserting more women into these unequal societies and markets (O’Laughlin, 2007). Razavi (2007) supports this view and criticism, arguing that a dominant ‘pro-poor’ and ‘pro-women’ agenda of attacking gender inequality without addressing its structures, is likely to further entrench gender inequalities throughout the market and impoverish the unpaid care economy even further. She states that redistributions should be more firmly at the centre of policy design and the correct incentives in place to help remove women from their poverty, such as valuing unpaid care and allowing for it to be shared between men and women (Razavi, 2007).
2.5. **Chapter Summary**

To summarize, improved gender inequality is harmful for social development, and no evidence was found to the contrary. The extent to which removing gender inequality actually helps social development does depend on which aspect of social development is examined, but on the whole gender equality yields positive returns for social development. Robust evidence shows that improved gender equality in health and education boosts both these social development outcomes, and they are interdependent on each other. Improvements in health and education also generate tremendous externalities upon society at large, and are generally associated with improvements in most aspects of social development. Islam is often considered as a burden to social development due to the status of women and gender inequality in Islam societies, but a few studies display how neither Islam nor ethnic fractionalization are binding variables synonymous with gender inequality. They are subject to change and cannot be assumed to represent gender unequal societies and lower prospects of social development. While positive health and education outcomes are admittedly very powerful tools for addressing poverty, the extent to which gender inequality directly determines poverty rates is very questionable, and we cannot state that simply improving gender inequality will reduce poverty. The effects of gender equality on human capital and economic growth are far stronger tools for poverty reduction than blindly placing more women in school, jobs and parliament. Most gender inequality is systemic, just as poverty is, and long-term ‘pro-poor’ policy seeks to address the problematic processes which drive poverty. A similar and process-oriented approach needs to be taken to address gender inequality and the market processes which reinforce gender-poverty structures.
Developed countries now face a risk where male human capital is slowly depredating, with females becoming more educated than men (OECD, 2008). This may pose long term problems as men are typically better at math and technical work and women are better at reading and cognitive tasks (World Bank, 2008). Society needs a balance, not a most favoured educated sex. It is important to not just target women, lest we lose sight of the men and they develop their own problems (Vera-Sanso, 2008). Policy should strive to provide no gender discrimination, or favouritism, in order to make the best outcomes and establish equality of opportunities for social development. Equality of opportunity in health and education will then boost overall social development which then in turn will assist in poverty reduction.
CHAPTER FOUR:

GENDER AND INSTITUTIONS
4.0. INTRODUCTION

This chapter will examine the link between gender inequality and institutions. The logic behind this is that since good institutions are fundamental determinants of growth (Acemoglu, 2004) and social development (Kinrade, 2009), any improvements in institutions which may be brought about by lowered gender inequality will also be helpful to achieve the broader goal of socio-economic development through indirect effects. That is, aside from the direct effects on growth and social development already examined in Chapters 2 and 3, gender inequality may also affect socio-economic development indirectly through the conduit of institutions.

Institutions can be defined as “the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social or economic” (North, 1991).

Institutional development is a broad concept with different dimensions including the effectiveness of law, government responsiveness to people, government effectiveness, democratic participation, political stability, and control of corruption. We focus on the governance aspect of institutions, with bad institutions being synonymous with pervasive corruption and poor governance. We focus on this area because it is in governance which I expect gender inequality to have the largest effect, and quality of governance tends to often have a strong influence on the other dimensions of institutions.
For the purpose of this chapter, institutional improvements will be typically characterized by the removal or mitigation of rent-seeking behaviour and corruption from within institutions, so naturally the chapter will involve some behavioural economics and examining the effect of gender inequality on rent-seeking and ‘bad’ behaviour. We will see whether one sex may be more prone to corruption than another. One of the hardest tasks facing public bureaucracies is designing institutions which discourage agents from acting opportunistically at the expense of the public (Dollar et al, 2001), and evidence suggests that gender issues may be far more important than traditionally understood.

Some typical governance and corruption Indicators include the World Bank’s World Governance Indicators (WGI), Transparency International’s Corruption Perceptions Index (CPI), Bribery indices of the World Economic Forum’s Global Competitiveness Report, and the International County Risk Guides Corruption Indices.

We will begin with some overall stylized facts and an introduction to women in governance, then following with a section outlining the key theories with respect to institutions. These theories will enumerate the effects that institutions have on socioeconomic development – considering growth and social development. They will pay particular attention to how unequal societies and gender inequality fit into this institutional theory. We will then review the key literature and empirical findings on the effects of gender inequality in institutions, paying particular attention to the behavioural characteristics of both genders – particularly females who have been traditionally discriminated against in governance – and then conclude this chapter with a summary of the findings and how it all fits within the theoretical framework.
4.1. Stylized Facts

As it stands, women are vastly underrepresented in governance forums, and in most countries there is a clear absence of women throughout the decision making process from the local level right through to the national level. A governance gender gap has been found in countries regardless of economic status, religion or institutions and has been known to be influenced by factors such as low-labour force participation, poverty, and societal norms, attitudes and stereotypes with respect to gender roles (OECD, 2008). There is a strong relationship between labour force participation in the economy and engagement in political life, and the countries of the Nordic region rank the highest in both. In 2008 women were outnumbered by men in every single parliament in the world. The OECD average is less than 25% women, the worldwide average is less than 16%, and a number of countries have none at all.

Figures 4.1 and 4.2 show the Corruption Perceptions Index (CPI) correlated against the UNDP’s Gender Empowerment Measure (GEM) and Gender Development Index (GDI), respectively. It is important to note that both of these indices rate higher with improved outcomes; 1 on the GEM and GDI represents very high levels of gender equality, and 10 on the CPI represents a very low level of perceived corruption. All data for this section is from 2006 unless indicated otherwise. Both of these figures show that higher levels of gender quality correspond to lower levels of perceived corruption.
To confirm these relationships, the same gender indicators were correlated against the World Bank’s Control of Corruption Index (CCI), from the World Governance Indicators (WGI) Database. In this data base the indices range from -2.5 to 2.5 and a higher number represents a higher degree of control over corruption. These findings in Figures 4.3 and 4.4 were consistent with Figures 4.1 and 4.2.
Figure 4.3 - Gender Empowerment and Control of Corruption

Figure 4.4 - Gender Development and Control of Corruption
Another common indicator used to represent gender inequality is the proportion of parliamentary seats which are occupied by women. Figures 4.5 and 4.6 show the percentage of female parliamentary seats which are occupied by women correlated against the CPI and CCI, and while the relationship does not appear to be very strong, there does appear to be a weak linear trend with increased female presence being associated with lower corruption.

Figure 4.5 - Females in Parliament and Perceived Corruption

![Figure 4.5 - Females in Parliament and Perceived Corruption](image)

Figure 4.6 - Females in Parliament and Control of Corruption

![Figure 4.6 - Females in Parliament and Control of Corruption](image)
Some of the key variables expected to also influence corruption are the degree of Voice and Accountability, and Civil Liberties. Figure 4.7 shows the strong relationship between Voice and Accountability and perceived corruption, indicating that increased Voice and Accountability corresponds with lower perceived corruption. The Transparency International CPI was used to try and minimize any bias which would have been caused by using the CCI, which comes from the same WGI database as the Voice and Accountability Index. I then check that there is also a relationship between gender development and Voice and Accountability, and Figure 4.8 shows high levels of gender development strongly correlated with high levels of accountability, but the relationship is far less strong at the lower end of the spectrum. Figure 4.9 shows the correlation between females in parliament and voice and accountability, and there is far less of a linear relationship than expected. It is only clear once a trend line is injected into the graph. These three graphs show that the interactions between gender inequality and corruption may actually be conditional upon other factors – such as political voice, accountability, freedom and civil liberties and other variables.

Figure 4.7 - Voice and Accountability and Perceived Corruption
Figure 4.8 - Gender Development and Voice and Accountability

![Figure 4.8 - Gender Development and Voice and Accountability](image1)

Figure 4.9 - Females in Parliament and Voice and Accountability

![Figure 4.9 - Females in Parliament and Voice and Accountability](image2)
The last two figures -- Figure 4.10 and 4.11 -- show the relationship between our gender indicators and the WGI Index of Government Effectiveness, finding that higher levels of gender equality tend to be associated with a more effective government. This is consistent with our first few graphs which show that gender inequality tends to be associated with more corrupt government, which is also less effective government.

Figure 4.10 - Females in Parliament and Government Effectiveness

Figure 4.11 - Gender Empowerment and Government Effectiveness
Firstly, these stylized facts are merely bilateral correlations and we cannot state any causality from the relationships exhibited above, but there is a clear relationship between gender inequality and poor governance and corruption. Furthermore, there appears to be a number of other factors which may influence corruption that are associated with gender inequality – such as civil liberties. This chapter will proceed to survey the literature to see if these stylized facts are sound – that is does gender inequality and increased female presence in parliament result in lower corruption?

Secondly, let’s briefly consider the possibility of bi-directional causality, that is -- institutional improvements may improve gender equality. Before proceeding, it is worth establishing that this is not an issue and this hypothesis has not held under empirical testing (Self and Grabowski, 2009). However, if institutions are separated into those which are easily adaptable and those which are not, there is a slight difference. Self and Grabowski (2009) found institutional reform in malleable institutions which involves greater governance, accountability and access is not likely to cause any significant change in gender inequality. On the other hand, they found that non-malleable institutions which are connected to religion, ethnicity and culture, can influence gender inequality, but it occurs very slowly and over long periods of time (Self and Grabowski, 2009).
4.2. Theoretical Background

Institutions are an important determinant of economic outcomes because the institutional structure ‘shapes social behaviour and articulates collective actions through the definition of incentives and penalties’, therefore ‘conditioning’ socioeconomic development (Acemoglu et al, 2005). A useful survey of the theoretical and empirical literature regarding the effect of income inequality on institutions was recently conducted. This study stated an overall consensus that unequal societies develop exploitative and inefficient institutions, and that such a negative cycle is very reinforcing (Savoia et al, 2010). Extensive empirical analysis does support this relationship but the authors state that there is still more analysis needed. The key reason for this is that most of the regression analyses surveyed are likely to be plagued with endogeneity problems which are to a high degree unaccounted for (Savoia et al, 2010). Still, we would therefore expect gender inequality to have a negative effect on institutions; firstly because rent-seeking behaviour in institutions has been historically dominated by men, and secondly, income inequality in general is associated with poorer institutions and income is often correlated with sex and status in developing countries. Income inequality is typically a rich/poor issue, but in developing countries - and with respect to available opportunities - these rich/poor issues also represent male/female issues and therefore can be theorized and modelled as such. Institutions have three types of effects: income effects, conditionality effects, and distribution effects. Gender inequality is an important moderator of these effects, and can also directly influence the quality of institutions.
**Income and Conditionality Effects**

Ceteris paribus, if gender inequality is bad for institutions; it is bad for growth. There is a consensus that positive institutions lead to positive income and growth effects, and poor institutions and corruption are bad for growth (Azariadis and Stachurski, 2005; North, 1990; Easterly and Levine, 1997; Hall and Jones, 1999; Rodrik et al. 2002; Knack and Keefer, 1995; Acemoglu et al. 2002 and 2005). The theory behind this is that worse institutions will increase uncertainty and cost of investments, lowering the incentives to invest and – ceteris paribus – slowing down the rate of capital accumulation and this relationship holds empirically (Gyimah-Brempong, 2002; Kaufmann, Kraay and Mastruzzi, 2003). This relationship may be affected by poor property rights also. Poor institutions also create scope for opportunistic, myopic government behaviour which jeopardizes long term efficiency. Empirical evidence strongly supports the income and growth effects of institutions, but can be sometimes clouded regarding the role of democracy in these relationships, so allowing us to speculate that gender inequality in political voice and representation may too be an important part of these interactions and a key moderating variable on the effect that gender inequality has on institutions; and institutions on growth.

Institutions also have indirect effects on economic outcomes, which are termed as conditionality effects. An important factor in the determination of economic and social outcomes is the level of public sector efficacy. Weak institutions and corruption heavily undermine public sector efficacy, and more effective public spending in areas such as education and health is commonly much higher in higher income economies with better institutions. Given that women have an increased tendency towards more social policies and investment in future human capital, we can use Figures 4.1 and 4.2 to speculate that gender
inequality may be a contributing factor to this conditionality effect. The relationship is confirmed in Figure 4.11, which shows gender equality also positively correlated with government effectiveness. Better institutions guarantee the efficiency of policy design, implementation, and monitoring, as well as allocative efficiency. Aside from public sector effects, institutions also yield conditionality effects through areas such as natural resources, aid, and conflict (Knack, 2001).

The effect of natural resources are conditional upon the quality of institutions in place, as better institutions provide the government with control over the resulting revenues, which can then be used to govern and invest in public goods, redistribute income and drive growth (Lane and Tornell, 1996) –therein contributing towards political order. This is of relevance because natural resources have historically been managed and worked by men, who are therefore responsible for most of the rent-seeking behaviour commonly associated with natural resources. The analysis in this chapter may then help serve as some preliminary evidence as to whether gender inequality is also an indirect determinant of the extent to which natural resources are more or less of a ‘curse’ for economic and social development. Moreover, it is the often young men who make up the lion’s share of organized militants in conflict zones (Collier, 2008), and weak institutions will make it easier for such rebels and terrorists to organize, increasing the risk of civil war. Conflict over the rents from war dividends can then slow institutional development further and lead to a vicious cycle of delayed institutional reform (Collier and Hoeffler, 2005). As mentioned in Chapter Three, gender inequality has been proved to be associated with increased violence and conflict (Mukherjee, 2007; Sen, 1999). It may be partially explained by this theoretical conditionality effect and the hypothesized relationship between institutions and gender inequality.
**Distributional Effects**

Women in developing countries are systematically less politically connected than males, and have for a long-time struggled to get access to credit and capital. Poor institutions make it more difficult for less politically connected groups to access investments opportunities, through the provision of licences, credit and other necessary barriers. Such distributional inefficiencies result in a more unequal distribution of profitable opportunities, income and development outcomes, underwriting and strengthening gender inequality. This typically hinders any positive effects that gender equality may have on institutions by reinforcing the status quo. Further to this point, poor institutions increase this income inequality and poverty (Abed and Gupta, 2002; Gyimah-Brempong, 2002), and also tend to hit the poor disproportionately worse than they do the rich (Gyimah-Brempong, 2002). If women are more disempowered than men and face an increased likelihood of poverty, institutions and gender inequality will be reinforcing of one another and exhibit strong bi-directional causality. Furthermore, because entering the rent-seeking sector requires significant initial political or financial capital, increasing returns in the rent seeking sector relative to the private sector will lead to increasing inequalities between the rich and the poor, or men and women. While this is important, it is the inverse relationship with which I am concerned; the effect of gender inequality on institutions.
Gender as a Determinant of Institutional Quality

The theoretical and empirical findings enumerated above illustrate how important institutions are in successful economic development and growth. It is therefore important to move further back along this chain to determine what exactly determines institutional quality – which differs so much between countries. There are a number of key determinants prevailing in the institutions literature, and gender inequality in institutions had not been studied in institutional economics\(^4\) before 2001. It is still not widely regarded and cited as a fundamental determinant of institutional quality. Some determinants which are widely accepted and cited include colonial heritage (Acemoglu et al, 2001), legal origins (La Porta et al, 2004), natural resource abundance, and aid dependency. These first two are historical ones, and since we are investigating if gender inequality is a determinant too, let’s consider gender in such history. In colonial times, women were not entitled to economic independence because it would undermine the male’s role as their superior (Terborg-Penn et al, 1989). Regardless of these two determinants of colonial heritage and legal origin, gender inequality was instilled in many countries whether the institutions were extractive or settlements, so we would not so much expect gender inequality to be correlated with them. Weaker institutions have also been found to be a result of ethnic fractionalization because it causes a more socially polarized society, in which interest groups will then engage in lobbying and rent-seeking behaviour (Easterly and Levine, 1997), but like the colonial heritage and legal origins, ethnic fractionalization does not occur down gender lines. As a determinant of institutional quality, we can expect gender to not be correlated with most of these factors, apart from perhaps natural resources abundance for the reasons previously elaborated.

\(^4\) It has not been studied in an economics journal. There is extensive research in the broader social sciences, but lack an economic framework or empirical testing.
Theoretical explanation of why gender inequality may be a key determinant of institutional quality can be found in the field of behavioural economics. The basic consensus from this literature is that ‘men are more individually oriented and selfish than women’ (Dollar et al 2001). Women have been found to be far stronger advocates of ethical behaviour and exhibit higher levels of integrity than men (Glover et al, 1997; Reiss and Mitra, 1998; Ones and Viswesvaran, 1998), which implies that when in positions of governance they would be less likely to condone corruption and rent-seeking behaviour. Furthermore, from a public policy perspective, female leadership is implied to increase social welfare for a number of reasons, including;

- Women behave more generously when making economic decisions (Eckel and Grossman, 1998); and
- Women are more likely to try account for the interests of women, families and children (OECD, 2008).
- Women are more likely to exhibit ‘helping’ behaviour’ (Eagly and Crowly, 1986); and
- Women are more likely to cast electoral votes based on social issues (Goertzel, 1983).

As previously discussed, institutions do have an effect on gender and income inequality through the distribution effects. But what effect does initial distribution and levels of gender equality have on institutional quality? In the institutional literature the determinants are implicitly related to gender inequality, whether we look at rent-seeking interest groups in the resource sector, or colonial heritage and histories of slavery and gender inequality embedded in the initial formation of institutions. Interest groups, resource extraction, and much colonial Western history and colonization display a balance of power highly skewed towards the men, and under this logic it is of great interest to determine and study the relationship with gender inequality, as it may impact heavily on these determinants.
Nevertheless, behavioural economics theory suggests that female behavioural patterns may actually have a direct positive effect on institutions. This direct effect would then be stronger than any indirect effects enumerated above, and possibly be the causal factor. Gender inequality around the world is still highest in politics compared to other areas like labour markets, education and health (World Economic Forum, 2009). From a policy perspective we want to know whether improving gender equality outcomes will improve institutions and therefore socioeconomic outcomes through the three key transmission channels previously adduced. In other words, to what extent are the socioeconomic development benefits of gender equality uncovered in the last two chapters of this project actually derived from the conduit of institutions, if at all?

4.3. **CRITICAL LITERATURE SURVEY FINDINGS**

For almost 20 years, feminist economists have attributed persistent corruption to the rent-seeking behaviour of men who wish to maintain gender inequality in institutions and social structures which allow the prevalence of their privileged economic positions (Sen 1990; Agarwal, 1997; Purkayastha, 1999; Braunstein, 2008). When acting collectively males can create and then perpetuate such social and formal institutions which are of benefit to them, but are socially and economically quite costly (Berik et al, 2009). These male-dominated institutions reinforce and exacerbate gender inequality, which then strengthens the rent-seeking and corrupt behaviour. Feminist scholars and political scientists also cite that governments remaining male dominated can explain much of their poor functioning and lack of responsiveness (Staudt, 1999).
More recently, the OECD has found that when women do participate in governance activities, there is an increased likelihood that policies will reflect the needs of all of society. They bring different perspectives into the decision-making process, and a lack of female representation limits the effectiveness of the state, policies, and representational quality (OECD, 2008). Furthermore, the UNDP (2007) reports many studies showing that the overall quality of governance tends to rise and corruption decreases when women are well represented in decision-making bodies.

The ‘Engendering Development’ report was the first highly influential piece bringing gender into mainstream development, and development economics. It made reference to two seminal papers, which were groundbreaking studies and labelled as ‘forthcoming’ at the time of the report, and these papers have gone on to be the key pieces on the topic of gender inequality and institutions in economic circles. These papers empirically support the previous claims by social scientists and feminist economists, and have been followed by more recent and critical studies which cast doubt on the initial 2001 institutional consensus. We will focus on these two important papers to begin with, and then survey the more recent papers; attempting to synthesize both arguments.

4.3.1. Women Are Officially the ‘Fairer Sex’ in 2001

Both published in 2001, the papers support the hypothesis that gender inequality may indeed be harmful for institutions. The first is by Dollar, Fisman and Gatti and titled ‘Are women really the fairer sex?’, and the second is by Swamy, Knack, Lee and Azfar, titled ‘Gender and corruption’.
Following the behavioural theory studies mentioned in the previous section, these studies were the next logical step in the study of gender inequality and governance, and it is surprising that such models were not presented sooner.

To quote Dollar et al (2001) further quoting Professor Vladimir Tishkov in 1993:

“Women bring enriching values (to government), and they “rarely succumb to authoritarian styles of behaviour and prefer not to maintain the sort of expensive entourage which often accompanies high-placed (male) officials. Finally, the presence of women in the higher echelons of the hierarchical structures exercises an extremely positive influence on the behaviour or their male colleagues by restraining, disciplining, and elevating the latter’s’ behaviour”.

A priori, women in parliament and corruption have a very high negative correlation of -0.38 and, consistent with our previous theories, stylized facts and literature surveys, both are also correlated with per capita income as a proxy for the level of development (Dollar et al, 2001).

Dollar et al (2001) regress the proportion of women in parliament on the International Country Risk Guide’s corruption index, controlling for the level of socioeconomic development and level of political and civil freedom. These are controlled for because both socioeconomic development and political freedom levels are expected to affect corruption and the political opportunities available to women. This corruption index actually takes higher values for less corrupted countries, and, it is found that the proportion of women in parliament is significantly positive at the 1% level, with one standard deviation increased in
the proportion of women in parliament resulting in a decline in corruption of 20% of one standard deviation. The findings that more female parliamentarians results in lower corruption is robust in that when outliers are eliminated, there is an even larger effect, and when the model specification is altered to different models and controls, the outcome is barely affected. Estimation using the World Competitiveness Report’s Corruption Index produced almost identical results.

The paper by Swamy et al. (2001) produces almost identical results to that of Dollar et al. (2001) on the representation of females in government and lower corruption, but they go a step further. They show the effect of women and gender equality in the private sector, and then provide an analysis of the behaviour of both sexes. They find gender differences in corruption may be attributable to socialization, networking, and knowledge, among other factors, and that men are more likely to choose options which are the equivalent of defecting in a prisoner’s dilemma. Women are less likely to condone corruption and women managers are less involved in bribery (Swamy et Al, 2001). Using different data sets, the authors find that greater female participation in both the private job market and the public sector is associated with lower levels of corruption. In regressions analysing propensity to accept and partake in bribery, the coefficient on the male gender dummy variable was negative and statistically significant at the 1% level. The likelihood of a female response stating that accepting a bribe is never justified is almost 5% more likely than that for a man and this occurs with utmost consistency.

While the regressions in these studies are quite simplistic in the sense that they are OLS estimates with just a few explanatory variables, they still present strong evidence that although increasing women in government and the private sector should be valued for reasons of equality and poverty alleviation, it is of even greater value for society at large
with great efficiency payoffs resulting from improvements in institutions. If women are truly
less likely to behave in an opportunistic manner, their participation will generate positive
externalities in public policy, better institutions and increased aggregate social welfare. Since
the status quo of a developing country is to typically not have very many women in these
positions, moving more women into such positions is the same as reducing gender inequality
in these institutions.

4.3.2. LIMITATIONS AND COMMENTS ON THESE STUDIES

Firstly, the Dollar et al (2001) paper does clearly admit possible spurious correlation. The
results do not hold when their corruption index is switched with the German Exporter’s
Corruption Index, and different specifications with this index. There is sufficient evidence to
say that some kind of relationship between female participation in parliament and corruption
does exist in their sample, but there is some ambiguity as to which other factors may be
partly responsible for the results. For example, all of the other variables considered – GDP,
civil liberties, schooling, openness, ethnic fractionalisation, regional dummies, colonial
dummies and legal origin—are also highly significant. Let us also note that corruption, by
definition, is quite difficult to detect. It is often self-reported, and it is highly likely that the
results may even reflect a gender gap in acknowledgement of corruption, not actual
incidence – so there may some measurement issues. The second paper uses several different
data sets and they show a male tendency of increased likelihood to partake in and condone
corruption (Swamy et Al, 2001), but like the Dollar et al paper, the sample is mostly Western
countries.
Furthermore, since the study does use cross-country data, there may still be an unobserved variable which is causing increased female participation and lower corruption – although the authors did try to mitigate for such spurious correlation with their controls and different specifications. Possible ways to improve the methodological issues are as follows:

- Use both fixed effects and random effects panel data models to see if the results differ;
- Include developing countries and non-western countries in the sample;
- Use interacting ‘culture’ variables;
- Use dummy variables for ‘geographic continent’;
- Use lagged values, or ‘change in’ values to try to establish some kind of causality.

There are certainly problems in guaranteeing the robustness of the results, but due to the level of significance and coefficient magnitudes of the main regressions, these studies have been still highly influential. Swamy et al (2001) do acknowledge that culture may be responsible for gender differentials in tolerance for corruption, and note that it is worth investigating whether these gender differentials persist as females participate more in the labour market, and society changes. They did find that gender differentials are generally expected to persist in the medium term and any quick change in gender equity may not directly translate to equitable outcomes because (Swamy et al, 2001);

- OECD countries with greater participation still exhibit gender differentials (OECD, 2008);

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5 I would also speculate that this level of influence can be attributed to the prominence of the authors, their highly embedded contribution to ‘Engendering Development’, and the ‘gender’ policy push by almost all United Nations bodies which followed this report.
• Controlling for employment status in an analysis, gender differentials persist (Swamy et al, 2001); and

• Criminologists have long assumed that increased gender equality would lead to gender equalization in US crime rates, but there was little change amidst the progress (Swamy et al, 2001).

4.3.3. Post-2001 Literature

Indeed, these theoretical and methodological limitations outlined in the previous section are a serious problem if we are to critically examine these papers and attempt to come to a definitive conclusion. Since 2001, there has been little evidence in support of these two papers findings, and some strong criticism (Goetz, 2007; Vijayalakshmi, 2008; Alatas et al 2009). These newer papers are highly critical of the 2001 studies and discredit the robustness of the results, arguing that the hypothesis of female participation in parliament lessening corruption does not hold universally.

In a rather critical discussion-style paper, Goetz (2007)\(^6\) writes about how the authors of the 2001 studies work for the largest aid donors and the effect this has on the ‘statistical’ outcomes. Goetz says how the 2001 findings are explained by the fact that the study looks at liberal democracies, and such democracies are less corrupted than less liberal regimes regardless of the level of gender inequality (Goetz, 2007). Consistent with the previous theoretical background, she discusses the political economy of gender and corruption and mentions the way women are generally excluded from male-dominated patronage and power

\(^{6}\) Anne Goetz is the Chief Advisor on Governance, Peace and Security for UNIFEM.
networks in political parties and power bureaucracies, ending her paper with this powerful quote:

‘ Investing in the myth of women’s incorruptible nature instead of investigating the reasons for that behaviour will postpone the institutional reform necessary to a transformation of public institutions in the interests of gender and social equity.’

Alatas et al (2009) point out in their discussion that the Dollar et al (2001) and Swamy et al (2001) studies primarily look at Western countries. In fact, not a single country from the African or South American continents was included in their respective samples. Alatas et al (2009), like Swamy et al (2001), studied whether women were more likely to partake in bribery or not condone corrupt behaviour, and the study did have similar results to the 2001 studies. Women in the only Western country (Australia) were indeed less tolerant of corruption than men. On the other hand, in the three non-Western countries studied (Indonesia, India and Singapore), there were absolutely no significant gender differences. Vijaylakshmi (2008) looks at this relationship between gender and corruption in India more specifically. Nearly 40% of the electoral positions in the institutions of India are occupied by women, and using a Logit model this study found that there is no significant gender difference in attitudes towards rent-seeking of actual corruption between genders (Vijaylakshmi, 2008). These studies do indeed cast some doubt on the previous consensus and suggest that the gender differences in corruption may not be as universal as previously stated. The gender differences in corruption may actually be culture specific, for example; Gneezy et al (2007) find that - what was once binding - male and female attitudes towards competition are completely reversed in patriarchal and matriarchal societies, respectively.
The key criticism of these papers on the 2001 papers is the limited capacity brought about by the incomplete sample and other variables such as culture. These are valid concerns, but these papers certainly do not address them by simply providing convincing rhetorical criticism. Their studies use a far smaller sample with a maximum of three countries, which is hardly enough to discredit the previous work. Dollar et al (2001) and Swamy et al (2001) use far larger samples, and do acknowledge the interference of other unknown variables which may influence the results. Vijayalakshmi (2007) and Alatas et al (2009) merely select some outlier cases (‘cherry-pick’), proving that the Dollar et al (2001) hypothesis does not hold all of the time and therefore is not robust. Every large cross-country regression is going to have outliers, and some cases will indeed not hold to the stylized trend, but this does not mean that the hypothesis does not generally hold. Vijayalakshmi (2007) and Alatas et al (2009) do not provide a better analysis and sufficient evidence to doubt the general trends confirmed by the 2001 papers. Goetz’s (2009) discussions are more relevant, although she also cites the limited sample size, and limited application of a ‘one-size-fits-all’ approach, she focuses more on the deeper issue; which is the complex relationships and power networks which reinforce corrupt societies and breed inequality, and the fact that the other significant variables are highly relevant.
These few studies also attempt to cast doubt on the 20 years of work by feminist economists insisting that men collectively contribute to pervasive corruption by maintaining the social structures which allow them to continue their privileged position and rent-seeking behaviour (Sen 1990; Agarwal, 1997; Purkayastha, 1999; Braunstein, 2008). A valid point is indeed that economically and socially costly rent-seeking behaviours may not arise simply because of male gender but because they are in the positions of power and have the opportunity to claim these rents in an unjust society. Women may be just as likely to perpetuate such activity, and it is history and society which seems to have placed men in these positions. There is insufficient evidence to say that this same problem would not have occurred if we were living in heavily matrilineal societies. Instead, as speculated, the relationship between men and women may indeed have very much in common with the relationship of the rich and the poor in unjust societies, and theories of income equality and equality of opportunities may be just as fitting to gender differences as they are to differences in income. Behavioural differences with regard to corruption are attributable to the position of power and the opportunity to capture rents. Those in the privileged positions seeking to prolong and perpetuate their power are clearly influenced by their power and the incentives in place. They may not be so clearly influenced by their respective gender, but as it stands corruption tends to be more of a male issue. Instead of making a universal policy recommendation which has been adopted by international institutions, perhaps economists should have studied further exactly why these cross-cultural and cross-country differences persist. The fact that the developing world is the target of most of the multilateral ‘gender’ policy is a bit alarming as no such countries were included in the studies which formed the basis for this policy.
4.3.4 Further Empirics

The author conducted some further empirical estimation in response to the 2001 articles and their criticisms. The key concern of the 2001 papers was the details of the sample, yet no one has addressed this concern by running a similar estimation with a larger and more diversified sample. I have amalgamated a number of different data sets and executed a regression specification similar to Dollar et al (2001) in order to confirm whether or not the results will differ upon using a larger sample of more recent data. As stated at the beginning of the project, this is just some preliminary evidence and not to be taken as definitive as two main econometric problems are not addressed - endogeneity and other omitted variables.

To address the concerns of Goetz (2007), Vijayalakshmi (2007), and Alatas et al (2009), I ensured that my sample:

- Always had a minimum of 161 countries;
- Included liberal democracies, not-so liberal democracies, authoritarian states, socialist states and everything in between;
- Included countries from every continent;
- Included countries with different cultures, religions, and ethnicities.

My data has been drawn from a wide range of sources, and a more detailed description of the variables and their sources can be found in Appendix A, with the raw data in Appendix Two.

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See Appendix Two for complete data sets
As the principle measure of corruption, I used the Control of Corruption Index (CCI -- denoted as ‘controlcorruption’) from the World Bank’s World Governance Indicators (WGI) database. The Transparency International Corruption Perceptions Index (CPI) was also used as a dependent variable in order to confirm the robustness of my results amidst concerns that the dependent variable for Voice and Accountability may cause problems, as it is also from the WGI database. Both of these indices rate high corruption with a low figure and low corruption with a high figure, so positive coefficients represent a positive change in the explanatory variable corresponding to lowered corruption.

As corruption and gender inequality tend to decrease with economic development, the log of per capita GDP has been put in the model to proxy control for the level of economic development. The percentage of parliamentary seats occupied by women (parlfem) was the key explanatory variable. Voice and Accountability and Civil Liberties were also included as both factors - which are quite similar - are highly related to gender inequality and corruption, and their neglect would lead to an omitted variable bias in the estimation. They both come from different sources: the World Bank, and Freedom House, respectively. As the effects of gender inequality on policy decisions are expected to take effect in the medium to long term, a simple change has been made to the Dollar et al (2001) model. The explanatory variables have been lagged by six years to imply some possible medium-term causality and allow the explanatory variables to actually take effect. Explanatory variables were from 2000, and the corruption dependent variables are from 2006. The model was also estimated with just 2006 data and produced very similar results.
My basic estimation was:

\[ \text{controlcorruption}_i = \alpha + \beta_1 \text{femparl}_i + \beta_2 \log(\text{GDPPC}_i) + \beta_3 [\log(\text{GDPPC}_i)]^2 + \beta_4 X_i + \epsilon_i; \]

where \( i \) represents each country and \( X \) represents the measure of voice and accountability or civil liberties.

Table 4.1 shows the findings of this analysis and the variant specifications, with the coefficients listed in the columns for each regression. Table 4.2 shows the findings using the Transparency International Corruption Perceptions Index to check the validity of results across different measures of corruption. In every single OLS regression conducted the coefficient for the percentage of women in parliament is positive and significant at the 5% level, and often at the 1% level. Every model was overall significant at the 1% level when subject to an F test, and the basic estimation resulted in a moderately high R squared value of 0.715, indicating that almost 72% of the variation in the control of corruption index is represented by the basic model.

While this analysis is only preliminary and not very rigorous, there is sufficient evidence to say that the Dollar et al (2001) conclusions do hold, and higher numbers of females in parliament are indeed associated with lower levels of corruption when considering a larger and more diversified sample. While the criticisms of sample size were valid at the time, when these problems are addressed empirically the results do not differ, so these concerns can be discarded.
Table 4.1 – OLS Estimates using WGI Control of Corruption Index

**Dependent Variable: Controlcorruption**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.527***</td>
<td>-3.595***</td>
<td>0.763</td>
<td>2.647***</td>
<td>2.428**</td>
<td>1.595**</td>
<td>2.449**</td>
<td>1.288</td>
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<tr>
<td>Parlfem</td>
<td>0.031***</td>
<td>0.021***</td>
<td>0.017***</td>
<td>0.011**</td>
<td>0.012***</td>
<td>0.013***</td>
<td>0.0199**</td>
<td>0.011**</td>
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<tr>
<td>logGDP</td>
<td>0.425***</td>
<td>-0.740**</td>
<td>-0.947***</td>
<td>-0.900***</td>
<td>-0.796***</td>
<td>-0.924***</td>
<td>-0.675**</td>
<td></td>
</tr>
<tr>
<td>logGDP squared</td>
<td>0.076***</td>
<td>0.084***</td>
<td>0.08027***</td>
<td>0.070***</td>
<td>-0.082***</td>
<td>-0.060***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civillib</td>
<td>-0.195***</td>
<td>-0.179***</td>
<td>-0.157***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiceaccount</td>
<td></td>
<td>0.030</td>
<td>0.339***</td>
<td>0.150</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiceacc*parlfem</td>
<td></td>
<td></td>
<td></td>
<td>0.013***</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Civillib*parlfem</td>
<td></td>
<td></td>
<td></td>
<td>-0.002</td>
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<table>
<thead>
<tr>
<th></th>
<th>0.095</th>
<th>0.566</th>
<th>0.600</th>
<th>0.715</th>
<th>0.716</th>
<th>0.661</th>
<th>0.717</th>
<th>0.678</th>
</tr>
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<tbody>
<tr>
<td>R²</td>
<td>18.898***</td>
<td>109.487***</td>
<td>84.192***</td>
<td>102.334***</td>
<td>81.209***</td>
<td>80.373***</td>
<td>82.176***</td>
<td>69.126***</td>
</tr>
<tr>
<td>N</td>
<td>182</td>
<td>171</td>
<td>171</td>
<td>168</td>
<td>167</td>
<td>170</td>
<td>168</td>
<td>170</td>
</tr>
</tbody>
</table>

* Denotes significance at the 10% level
** Denotes significance at the 5% level
*** Denotes significance at the 1% leve

- All decimals have been rounded off to three decimal places
- Please refer to Appendix One for detailed explanation of variables
- Please refer to Appendix Two for raw data tables
Table 4.2 - OLS Estimates using Transparency International’s Corruption Perceptions Index

**Dependent Variable: CPI**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parlfem</td>
<td>0.068***</td>
<td>0.046***</td>
<td>0.036***</td>
<td>0.022**</td>
<td>0.024**</td>
<td>0.026**</td>
<td>0.045**</td>
<td>0.023**</td>
</tr>
<tr>
<td>logGDP</td>
<td>0.893***</td>
<td>-1.788***</td>
<td>-2.139***</td>
<td>-2.082***</td>
<td>-1.878***</td>
<td>-2.090***</td>
<td>-2.090***</td>
<td>-1.62***</td>
</tr>
<tr>
<td>logGDP squared</td>
<td>0.174***</td>
<td>0.186***</td>
<td>0.182***</td>
<td>0.162***</td>
<td>0.181***</td>
<td>0.140***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civillib</td>
<td>-0.400***</td>
<td>-0.388***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiceaccount</td>
<td></td>
<td>0.013</td>
<td>0.693***</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Voiceacc*parlfem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.030***</td>
<td></td>
</tr>
<tr>
<td>Civillib*parlfem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.006</td>
<td></td>
</tr>
</tbody>
</table>

| R²       | 0.106  | 0.571  | 0.614  | 0.696  | 0.696  | 0.665  | 0.699  | 0.684  |
| F stat   | 19.950***| 107.010***| 84.911**| 90.072***| 70.881***| 78.465***| 72.49***| 67.96***|
| N        | 171    | 164    | 164    | 162    | 161    | 163    | 162    | 163    |

* Denotes significance at the 10% level
** Denotes significance at the 5% level
*** Denotes significance at the 1% level

• All decimals have been rounded off to three decimal places
• Refer to Appendix One for detailed explanation of variables
• Refer to Appendix Two for raw data tables
Furthermore, Civil Liberties and Voice and Accountability are also significant at the 1% level when included alone in the regressions, but Voice and Accountability loses significance when included with Civil Liberties, indicating they may account for much of the same effects. It is interesting to note that when these variables are interacted with women in parliament, the interaction between voice and accountability and women in parliament is very strong and significant at the 1% level, whereas the interaction between civil liberties and women in parliament is insignificant. This may be worth further investigation.

While these results are not definitive and only intended to provide a better understanding of the discourse in the literature, the lagging of the explanatory variables in my estimation does imply some degree of causality, but cannot be confirmed. Further study would need to be conducted to confirm causality, better understand the role of the other important variables such as voice and accountability and civil liberties, and address the endogeneity issue which is clearly a problem. Until then, there is sufficient evidence to confirm that higher numbers of women in parliament are indeed associated with lower levels of corruption and improved governance, while we cannot make any definitive inferences on the extent to which they cause this lowered corruption, or if it is caused by some other unknown variable.
4.3.5. **Chapter Summary**

To conclude this chapter, we unfortunately cannot provide concrete evidence of the extent to which gender inequality causes improvements in institutions through lowered corruption. It is clear that gender inequality in political structures, as proxy by the presence of women in parliament, is highly associated with lower levels of corruption, and can be classified as a key determinant of corruption. However, it is also clear that there are many other factors which affect institutions, and many of these different factors, including gender inequality, are endogenously determined.

We do certainly know that institutional improvements have positive effects on socioeconomic development. To what extent these institutional improvements are brought about by gender equality highly ambiguous, as is the extent of how much of the gender equality improvements in growth and social development are captured by the conduit of institutions. From institutional theory at the start of this chapter we can state that income inequality is bad for institutional development, and income inequality can often be highly representative of gender inequality. There is not only a high raw correlation between the two variables, but gender inequality is also a highly significant explanatory variable at the 1% level when regressed on gender development, as shown in table 4.3.

*Table 4.3– Simple OLS estimate of Income Inequality and Gender Development*

<table>
<thead>
<tr>
<th>Dependent Variable: GDI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.9227***</td>
</tr>
<tr>
<td>Gini</td>
<td>-0.0060***</td>
</tr>
<tr>
<td>R²</td>
<td>0.07</td>
</tr>
<tr>
<td>F-test p-value</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>104</td>
</tr>
</tbody>
</table>
For the last decade a key focus of development and international organisations has been on gender equality: to drive growth, to improve governance, to reduce poverty, to do basically everything. While the poverty, growth and social development effects of gender inequality are quite clear and strong, the same cannot be said for institutions, governance and corruption. There is a clear association between gender inequality and improved institutions, but the actual causality is still ambiguous as it is still simply linked back to the behavioural traits of each gender. The policy consensus towards gender equality which was largely driven by the World Bank addresses how gender inequality is harmful towards governance. It is clear now that the studies and statistical evidence which propelled this policy consisted of a biased sample consisting mostly of liberal democracies, not the countries which policy would actually be targeted - developing countries. It may have been a case of the study saying what the publisher wants it to.

Since this big gender push, there have been studies released which cast doubt on the findings that women are less corrupt than men, indicating that; corruption propensity may indeed be more of a cultural issue, cross-country differences may have been underestimated, and there is not yet a universal answer to whether male or female is the less corrupt sex around the world. I addressed these sampling concerns in my estimation and found that gender inequality is indeed associated with higher levels of corruption across a sample including all cultures, continents, religions, types of government and stages of development, but this is a general trend with many outlier cases and is not a universal answer. The specific circumstances of each target country must still be considered when making policy decisions.
Recent literature points out that male or female propensity to corruption can no longer be interpreted as binding evidence that gender inequality is bad for institutions, but there may be other relationships which are more important. For example, good institutions are often represented by and correlated with increased political voice and civil liberties, and reduced gender inequality is also representative of increased political voice and civil liberties. This is confirmed by my own analysis. In particular, empirical evidence shows that increased women’s social and economic rights are associated with lower corruption (Kauffman et al, 2003). There is insufficient evidence to state that gender inequality is bad for institutions simply because it discriminates against women and women are less corrupt and fair than men, although this is what some studies would lead us to believe. However, we can say that the improved political voice, civil liberties, increased participation in governance and overall female empowerment brought about by improved gender equality are good for institutions. There is certainly no reason to even suspect that gender equality is bad for institutions.

Integrating gender equality into institutions is not a simple process. A 2008 OECD report enumerated several problematic barriers to women in governance, and they are as follows:

- Historically male dominated;
- Harmful female stereotypes about women’s leadership capabilities;
- Public sector leadership tends to mirror private sector leadership;
- Men tend to have more experience and self-confidence in the political realm;
- Women may have limited understanding of political processes;
- Women may not have time due to their ‘double’ roles in the household.
Furthermore, the current consensus regarding institutional reform implies that market-based institutions are the key to prosperity and development. These market-based institutions tend to reinforce the current social structures and gender imbalances, and it is likely that policy makers may neglect some important considerations when designing institutional reforms in both developing and developed countries (Swamy et Al, 2001), neglecting to address the roots of both corruption and gender inequality.

Nonetheless, the gender policy push has already made its mark. Many countries are adopting quotas of male and females in the private and public sector to remove corruption and promote efficiency. France now requires all political parties to field equal numbers of male and female candidates by law. In Mexico and Peru in 2001 the police chiefs took ticket writing authority away from the city’s 900 male traffic policemen, replacing them with women to try and weed out corruption (Swamy et al, 2001). Even the Australian media and government are pressuring private companies to have equal numbers of women on the board for the sake of improved corporate governance (AFR, 2010). There is insufficient evidence to universally state that women are less prone to corruption, and to support forced policy outcomes on this assumption. Increased female presence is indeed associated with lower corruption, and they are certainly a powerful contributory factor in the determinacy of corruption, but there are many other key determinants. Gender inequality is more likely to affect these other determinants directly, like civil liberties for example, than directly influence corruption levels because of female behavioural traits. The focus should be on gender equality in institutions for the sake of inclusive governance and overall equality of opportunities, less discrimination, and fair civil and political liberties for all -- not because one gender is rumoured to be ethically superior.
Gender equality is indeed associated with improved institutions, although probably not for the reasons we once thought. There has been a fall in corruption as many countries increase gender equality in parliament, and this institutional improvement is directly representative of more equitable political opportunities provided to these women, and to more equitable societies (OECD, 2008), not a superior gender. This is consistent with our previously cited theories about inequality and corruption. The mechanisms of transmission from gender inequality to corruption are well represented by these theories of income inequality and corruption, and women are indeed often underrepresented and face the same circumstances as the poor in these models.

These women who are now in government tend to place a far greater emphasis on social welfare, legal protection and transparency throughout the public and private sector. They also tend to introduce more socially-oriented legislation, such as social security, education, land redistribution and labour rights (IPU, 2008), and are passing more laws which benefit families, women, and traditionally marginalized groups (OECD, 2008). We can speculate again that this pro-poor, education and health focused style of policy will have positive effects for socioeconomic development – so indirect effects will indeed by yielded by reducing gender inequality in institutions.
CHAPTER FIVE:

DISCUSSION AND CONCLUSION
5.0. SUMMARY OF THE PROJECT RESULTS

From this extensive survey of relevant literature and empirical trends, there is a general theme that gender inequality is generally directly harmful for socioeconomic development, and indirectly harmful through institutional effects.

On growth, the net effect of gender inequality is quite unclear; it can be a major obstacle to growth or only circumstantially promote it. It depends on the type of gender inequality, the specific economy, and which transmission mechanisms are considered. Wages and income are quickly affected and can change aggregate demand. These gaps in wages and income determine the incentive systems which shape investment in human capital, which in turn determines growth. Gender gaps in education are detrimental to long term growth, due to the large positive externalities generated by female education, improved parental human capital transmission and lowered fertility. Gender inequality in health and life expectancy deter long term growth and productivity due to shortened working lives and lower productivity levels. These health and education effects are the impediment caused by gender inequality to social development. Female capital per worker has been shown to have a higher return than male capital per worker, so inequality in access to capital will hinder growth and productive efficiency. Conversely, gender inequality in wages previously promoted growth by stimulating investment in cheap labour, but such a policy is not sustainable. It is important to consider the circumstances in each case and which transmission mechanisms are the most relevant to achieving a given set of growth-related policy objectives.
On social development, gender inequality is generally harmful, as equality improves societal health and education outcomes, as well as generating large externalities for society as whole. Addressing gender inequalities alone does not reduce poverty. The transmission mechanisms discussed in this project – health, education, growth, productivity – are powerful tools to address poverty, but evidence suggests that gender inequality has limited direct effect on poverty. Gender inequality and poverty are both systemic and discriminatory, requiring a process-oriented approach to the address forces that reinforce them.

Economic growth and social development can both be impeded indirectly through institutions. There is a strong association between gender equality, female participation and reduced corruption. Furthermore, institutional development is impeded by gender inequality that is often representative of income inequality. Gender equality in opportunities is therefore consistent with optimal outcomes in the long-term and there is no efficiency-equity trade off to achieve dynamic efficiency. Note the terminology in that statement: equality of opportunity. The evidence in this paper shows that equality of opportunities is optimal – particularly in health, education, labour markets, capital and credit markets, and governance. I do acknowledge that inequalities naturally reinforcing themselves and equal opportunity may not result in equal outcomes, but I do not have sufficient evidence to contend that forced outcomes through direct intervention are optimal as well, and would require much further research and rigorous testing.
5.1. Policy Analysis

The centrality of women’s roles in economic and social processes has been recognised for some decades (Rathburger and Vainio-Mattila, 2005). However, it is only in the last decade that gender equality has also been established as a central economic issue in development, and the practice of ‘gender mainstreaming’ has become truly common. It is now safe to say that gender is at the centre of much policy and many programmes in the private and public sector, and at the local, national and international level, although there will always be critics saying that gender issues are still marginalized and that there is a gap between the rhetoric and what is actually practiced (Sohal, 2005).

In Australia, gender equality is prominent in the media currently, with mounting pressure on the private sector to raise female participation quotas at senior levels, and our current parliament comprising over 30% women. On the international front, AusAID manage our development efforts with gender equality as a guiding principle (AusAID, 2009).

More specifically, AusAID’s specific gender policy goals are to:

- “Improve the economic status of women”
- “Promote equal participation of women in decision making and leadership, including in fragile states and conflict situations”
- “Improve equitable health and education outcomes for women, men, girls and boys”
- “Ensure gender equality is advanced in regional cooperation efforts” (AusAID, 2009).
Note that these carefully worded policy goals are consistent with this project, focusing on participation and not interfering in market processes. They however do suggest intervention with respect to human capital, but cite equity for all. Given that health and education are arguably both public goods subject to failure in their provision, this is still consistent with the logic of not forcing any outcomes, and improved gender equity there is indeed consistent with our findings on social development and long-term economic growth.

At an international level, the United Nations have a number of agencies dedicated to gender equality and integrated gender into many other established departments. 2009 marked the 30th anniversary of the Convention on the Elimination of All Forms of Discrimination against Women at the UN, and there is clearly policy consensus against gender inequality, consistent with those here in Australia. At the higher international ‘economic’ institutional level, namely the IMF and World Bank, gender equality is also now a mainstream concern. Consistent with this economic project, the World Bank (2009) website states that:

‘The empowerment of women is smart economics. Studies show that investments in women yield large social and economic returns”; and “The World Bank is working to increase women’s economic opportunity by investing in better access to jobs, land rights, financial services, agricultural inputs and infrastructure”.

In 2005 at the World Congress in Vienna, the IMF rules were changed to increase the participation of women in all IMF structures and the IMF Action programme. The IMF has also released policy working papers acknowledging and discussing the macro-economic importance of gender inequality (Stotsky, 2006; IMF, 2007), with gender being used as a key topic on international economic forums (IMF, 2007; IMF, 2005).
5.2. PROJECT IMPLICATIONS AND POLICY RECOMMENDATIONS

The economic effects of gender inequality are now well recognized, despite the lack of a specific and extensive body of research and literature. I have been able to draw some definitive policy recommendations from the research conducted in this project, but there is still much to understand if we are to act effectively and decisively.

International development practitioners have adopted the policy of ‘gender mainstreaming’, but despite this involving both sexes by definition, there is a recurring and persistent focus on women. In advanced economies, women are now more educated than men and male tertiary enrolments are declining (WDI, 2009), meaning that we should expect to see a decline in aggregate male human capital. This may be a concern, especially if men are better at maths and technical sciences. Furthermore, the declining fertility rates of these advanced economies has led to serious skill shortages, population shortages, and structural labour market problems in areas such as the US, EU and even Australia. In developing countries, while women have a disproportionate share of problems exacerbated by severe gender inequality, there are many distinctly male problems which may not be receiving the attention required for equitable development outcomes. The point I would like to make is that we must establish gender equality of opportunities. It is not only in the interest of equity, but also long-term dynamic efficiency in growth, social development, and institutional development. This means striving to eliminate gender discrimination of all kinds; education, health, labour markets, wages, political representation, policy making, private-sector management. Consistent with Becker (1971), discrimination is simply economically inefficient and a burden on competitiveness and the whole economy. Earmarking the majority of aid and development policy action towards women is effectively discriminating against men and will only intensify gender relations, making the goal of gender equality even more elusive. We
must provide both males and females with equal opportunity to choose and participate, and then allow the competitive market to decide the outcomes. The complexities of the markets are beyond the scope of this paper, but they are clearly signalling problems which have prevented equality of opportunity resulting in equality of outcomes, and they need to be properly understood before we can move on.

Chapters Two and Three stress the importance of gender equality in education and health as both are key determinants of growth and social development. It is important to continue this focus to reap the benefits from increased female education – whilst exercising care not to neglect men’s own gender specific problems. For example, unemployed, uneducated poor men are far more likely to engage in violence (World Bank, 2006).

As capital is more complementary to females than to males, it is important to address the labour market, capital market and societal imperfections acting as a barrier between women and capital in developing countries, in order to capture the expected productivity and growth gains which are theorized to result from increased female human capital stock. It is also important to address similar issues in advanced countries which are preventing nations from capturing the full gains of an educated female workforce.

Consistent with the first two points and not neglecting men, gender inequality against females may be a second best solution to men suffering severe inequality. The latter can result in militarization and political conflict, with dire consequences for socioeconomic development. It would be worth investigating to what extent recent conflicts have occurred in areas where development efforts are focused on women and perhaps neglecting men. For example, Collier (2007) discusses how a key policy on preventing war in post-conflict areas
is to employ young men, keep them busy, satisfied with government and unlikely to
remilitarize.

Chapter Three discussed how Islamic societies are not bound into a rigid state of high gender
inequality, although commonly associated with it. Islam is not synonymous with gender bias
against women. The inclusion of Islamic societies is recommended when addressing global
gender inequality, and, as with most developing countries, gender inequality can always
dissipate to some degree regardless of religion, geography, history, culture or other factors.

In corrupt regimes, we must ensure female participation in governance and decision-making
structures beyond a minimum point, but exercising caution with the minimum quota and
representative suitability. Addressing the barriers to female participation is most important.
Specifically, the addition of women to parliament needs to be accompanied by sufficient
civil liberties, political freedom and government accountability, which are also key
determinants of corruption.

UNIFEM (2009) states how gender equality is a powerful force to reduce poverty. They
report that it leads to feminized poverty declining, but with little discussion of the effect on
male poverty. While women “perform 66% of the world’s work, produce 50% of the food
but earn 10% of the income and own 1% of the property” (UNICEF, 2007), there are clear
systemic issues. This project offers clear evidence that gender equality may assist in poverty
reduction through a number of different channels, but that it cannot be expected to directly,
independently and systematically reduce poverty. It is recommended that gender equality is
never viewed as a ‘magic-bullet’ solution to poverty reduction or ‘development’.
Gender equality is indeed a powerful economic tool for economic and social development, requiring the establishment of opportunities for both sexes to sustain long-term growth, economic efficiency, social development and good governance. I recommend avoiding the popular practice of just implementing quota systems in the private-sector and in governance until the systemic problems and dynamics are confronted and understood. Forced outcomes through interventionist policy may well undermine the efficient allocation of labour skills and have negative effects, but there is not enough evidence yet to state the consequences with any degree of certainty. When there is a pressing problem of insidious corruption, it may be worth gambling on the hasty implementation of quota systems, as the costs of corruption could dwarf the possible efficiency trade-offs which may arise.

5.3. AVENUES OF FUTURE RESEARCH

Areas of future research have been identified during the course of this project. In the second chapter we found that gender inequality is harmful for productivity, so it would be interesting to investigate the extent to which this productivity can be captured in the Solow residual/TFP. We also saw that some countries exhibit a gender inequality ‘Kuznets Curve’. Perhaps this could be modelled correctly to see if it is an overall trend that most countries would go through in their stages of economic development.

When studying education, there were some contradictions in the literature. Barro and Sala-I Martin (2005) found that female education had a negative coefficient in their studies, indicating that it was not beneficial. It would be worth further investigating why these results were produced, and better understanding the determinants of enrolment contrasted with the determinants of educational investment, and the similarities they share. How different are the male and female determinants of education levels and how can we shape these incentives?
Conflict and political instability is brought up a number of times throughout the project. Further investigation could determine whether reducing gender inequality by targeting women increases political instability and the likelihood of conflict by neglecting and dissatisfying men. Furthermore, how much does a reduction in gender inequality reduce male and total poverty rates? Does fighting poverty by addressing gender inequality only lift one half of gender out of poverty and not the other?

In the previous chapter, a preliminary analysis was conducted on gender inequality as a determinant of corruption. An analysis should be conducted which can actually establish proven causality between female participation whilst accounting for the many other determinants of corruption related to gender inequality. It is important to address the constant problems of endogeneity and reverse causality which plague such estimation.

Moreover, this was clearly not the only relationship which could be modelled across the topics surveyed in this project. Gender inequality research in development economics is still in its infancy and greater understanding may require an interdisciplin ary approach, and the crossing of different schools of economic thought. It would be an asset to policymakers and private companies if we could effectively model the complexity of gender inequality, labour markets and incentive systems which prevent equal opportunities from resulting in equal outcomes. For example, complexity economics could be applied to these many endogenous relationships in a similar style of modelling to that done in complex systems analysis at the Santa Fe Institute in California. Understanding these societal dynamics and power structures will allow policy makers to address the links and processes which are preventing the progress we should be seeing.
5.4. **CONCLUDING REMARKS**

The relationship between gender inequality and socioeconomic development is complicated beyond doubt, and has consequences far beyond common perceptions. There are many interdependent relationships which shape outcomes, many channels through which gender inequality passes in the economy and society, and even more variables and measures by which to try and analyse these relationships.

I have reached the conclusion that gender inequality generally has adverse affects on all aspects of socioeconomic development. Furthermore, there is very little evidence to suggest that any economic efficiency vs. gender equity trade off exists - gender equality is also gender efficient. Gender inequality is now slowly becoming recognised as an important macroeconomic variable, but still not regarded as a major determinant of growth.

With governments worldwide, international institutions, and the private sector all paying so much attention to gender mainstreaming and addressing gender imbalances, and since gender inequality in development economics is still in its infancy, it is crucial that economists respond to this demand. With ageing populations, women living longer than men, financial crises, skills shortages, male-dominated conflict and political turmoil around the world; the time is now to hasten research in this field and provide credible evidence for informed policy decisions. More robust and thorough understanding of the complex relationships which prevent gender equality in opportunity from resulting in equal outcomes is necessary to prevent distorted incentives and imbalances from further retarding policymakers in their efforts to achieve universal gender equality.
Even the most advanced economies have progressed gender equality of opportunities to a point where it is often favourable now to be a female, and still cannot remove gender inequality from the system. The task at hand is to develop a framework to understand and deal with the reinforcing social and economic structures of gender inequality. We must start to quantify and understand the productivity costs of forcing gender equality from the top-down as we are starting to see in the public and private sectors worldwide, where there may well be an efficiency and equity trade off soon resulting from excessive intervention.
6.0 BIBLIOGRAPHY


AUSAID WEBSITE, 2009, available online at: www.ausaid.gov.au

AUSTRALIAN FINANCIAL REVIEW, 2009. 'Smart curve: more women in top roles' AFR 19th Jan 2010, also available online at: http://www.afr.com/p/national/the_smart_curve_more_women_in_top_ANxtTlkpeE3YOheEH3UXWqK


CHEN, D. 2004. 'Gender Equality and Economic Development: The Role for Information and Communication Technologies.' *Knowledge for Development Program, World Bank, Washington, D.C.*


ECONOMIST, 2006. 'Women's pay in Britain', The Economist March 2\textsuperscript{nd} 2006.


FREEDOM HOUSE WEBSITE, 2009, available online at: http://www.freedomhouse.org


GLOVER, S., BUMPUS, M., LOGAN, and CIESLA, J. 1997 'Reexamining the influence of individual values on ethical decision-making.' *Journal of Business Ethic*. 16:12, 1319-1329.


IMF WEBSITE, 2009, International Monetary Fund, available online at: http://www.imf.org

INTER-PARLIAMENTARY UNION WEBSITE, 2008, available online at http://www.ipu.org


KLASEN, S. 2008. 'The Efficiency of Equity.' Review of Political Economy. 20:2, 257-274.


MANDEVILLE, T., and KARDOYO, K., 2009, ‘Services, ICTs and the changing nature of economic development processes in the KBE era’, Prometheus, 27.


MCINTIRE, D., THIEDE, M., DAHLGREN, G., and WHITEHEAD, M. 2005. 'What are the economic consequences for households of illness and pay for health care in low- and middle-income country contexts?' Social Science and Medicine, 72:4, 858-865


MEIER, G., and STIGLITZ, J., 2001. 'Frontiers of Development Economics', The International Bank for Reconstruction and Development (IBRD) and Oxford University Press, Washington, DC, USA


OECD WEBSITE, 2009, available online at http://www.oecd.org


ONES, D., and VISWESVARAN, C. 1998. 'Gender, age, and race differences on overt integrity tests: results across four large scale job applicant data sets.' Journal of Applied Psychology. 83:1, 35-42.


SEGUINO, S. 2008. 'Gender, Distribution, and Balance of Payments (revised 10/08)'. *Political Economy Research Institute, University of Massachusetts at Amherst, Working Papers.*


TRANSPARENCY INTERNATIONAL WEBSITE, 2009, available online at: http://www.transparency.org/

TSUCHIYA, A. and WILLIAMS, A., 2005. 'A "fair innings between the sexes: are men being treated inequitably?" Social Science and Medicince. 60, 277-286.


UNFPA WEBSITE, 2009, available online at: http://www.unfpa.org

UNIFEM WEBSITE, 2009, available online at: http://www.unifem.org


WIKIPEDIA, 2009, *Lawrence Summers*, available online at:
http://en.wikipedia.org/wiki/Lawrence_Summers


WORLD BANK, 2009, *World Development Indicators, WDI Online*


**APPENDIX ONE: LIST OF VARIABLES**

<table>
<thead>
<tr>
<th>Variable Eviews &amp; Excel Shorthand</th>
<th>Source</th>
<th>Year</th>
</tr>
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<tr>
<td>GDP Per Capita GDPPC</td>
<td>World Development Indicators</td>
<td>2000, 2006</td>
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<td>Gender Development Index as a proportion of the Human Development Index gdi % HDI</td>
<td>UNDP</td>
<td>2006</td>
</tr>
<tr>
<td>Civil Liberties Index CL</td>
<td>Freedom House</td>
<td>2000, 2006</td>
</tr>
<tr>
<td>Control of Corruption Index</td>
<td>Control Corruption World Governance Indicators</td>
<td>2006</td>
</tr>
<tr>
<td>Corruption Perceptions Index cpi</td>
<td>Transparency International</td>
<td>2006</td>
</tr>
<tr>
<td>Female School Enrolments enrolfem</td>
<td>UNDP</td>
<td>2006</td>
</tr>
<tr>
<td>Male School Enrolments enrolmale</td>
<td>UNDP</td>
<td>2006</td>
</tr>
<tr>
<td>Total Enrolments enroltotal</td>
<td>UNDP</td>
<td>2006</td>
</tr>
<tr>
<td>Gender Development Index gdi</td>
<td>UNDP</td>
<td>2006</td>
</tr>
<tr>
<td>GDP Index gdpindex</td>
<td>UNDP</td>
<td>2006</td>
</tr>
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<td>Average GDP Per Hour/worker GDPperhour</td>
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<td>Gender Empowerment Measure gem</td>
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<td>2006</td>
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<td>Gini Index of Income Inequality Gini</td>
<td>World Development Indicators</td>
<td>2000-2008</td>
</tr>
<tr>
<td>Government Effectiveness Index govteff</td>
<td>World Governance Indicators</td>
<td>2006</td>
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<td>Human Development Index HDI</td>
<td>UNDP</td>
<td>2006</td>
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<tr>
<td>Labour Productivity Growth labour prod growth</td>
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<td>2006</td>
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<td>Female Senior Managers and Legislators Legi_senior_managersfem</td>
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<td>World Development Indicators</td>
<td>2006</td>
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<td>Life Expectancy Index Lifeindex</td>
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<td>2006</td>
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<tr>
<td>Total Life Expectancy lifetotal</td>
<td>World Development Indicators</td>
<td>2006</td>
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<td>Poverty Rate at $1.25US per day Poverty1.25</td>
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<td>2006</td>
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<td>Female Technical and Professional profandtechfem</td>
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<td>2006</td>
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<td>Voice and Accountability Index voiceaccount</td>
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<td>2006</td>
</tr>
<tr>
<td>Average Male Income ymale</td>
<td>UNDP</td>
<td>2006</td>
</tr>
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</table>
APPENDIX TWO:

RAW DATA