DOES GOVERNANCE MATTER?
THE EFFECT OF GOVERNANCE QUALITY ON GENDER AND SCHOOL ENROLLMENT

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By

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ABSTRACT

Gender in education is an important and relevant topic because of the benefits countries experience with an educated female population such as improved economic success and improved government success, and because of the general merit of a right to education. The gender structure of a country’s education system also reflects the initiatives of a government, the norms of a society, and a country’s expectations for its female population. As education is mainly a public function, its provision to female students is greatly related, if not dependent on, the functioning of the government—specifically the quality of the country’s governance. The institutions, traditions, and processes of governance can be related to gender in education through four of six of the World Bank’s Governance indicators. These indicators—Voice and Accountability, Rule of Law, Control of Corruption, and Government Effectiveness—will be tested against gender parity enrollment ratios for countries around the globe, along with control variables to account for region and culture. Using cross-sectional data for year 2002 and OLS estimation, these variables will be regressed on both primary and secondary education enrollment ratios. Evaluation of the models leads to the conclusion that the governance is not significantly associated with the enrollment gap. The models do demonstrate that more significance exists for the control variables, suggesting that other cultural factors exude more of an influence on gender in education. These models face many limitations such as completeness of definition and omitted variable bias. However, research and anecdotal data do suggest such that a correlation between education and governance exists, and can possibly be found in future studies if improved or more specified measures of governance are available.
I would like to thank my advisor, Dr. Gillette Hall, for all of her input and patience during the writing of this thesis. I am also grateful for my supportive, helpful, and intelligent thesis seminar group, from whom I learned so much. Thank you to my peer reviewers, Dr. James Habyarimana and Jade Winfree; your input was greatly appreciated. Also thank you to my parents and family, Ryan, and Elizabeth, for your unending support and encouragement.
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Chapter 1: Introduction and Motivation

Women’s education is widely accepted as one of the main keys to any country’s success and development. With more educated and liberated female populations, countries have increased capabilities to reduce poverty, improve welfare, and create a more representative and successful government. But what if the country itself prevents women and girls from achieving this goal and receiving education? How will this circle of education and development be completed? That is why, while most studies have addressed the effects of female education on a government, this paper will reverse the relationship and explore the effect that a government has on the education of its female population. If such an influence exists, the question remains as to how women in such situations are to be educated so that they may contribute to the development of their country.

Gender in education is a relevant means to examine gender equality, as it reflects the initiatives of a government, the norms of a society, and a country’s expectations for its female population. In addition to its merits as a goal in itself, gender equality in education is also a means towards, and indicator of, greater gender equality in general (Kirk 2007). Even with this recognized importance, however, due to low quality of governance many countries fail to provide adequate education to their female population and are home to education systems with uneven gender enrollment—throughout the world, more than sixty million girls are not enrolled in primary school, and seventy percent of these girls are from excluded groups\(^1\) (Lewis and Lockheed 2006, p. 1). As education is regarded mainly a public function, its provision to female students is intertwined with the functioning of government, specifically the quality of the country’s governance. Governance is important because it is a useful means to measure the

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\(^1\) Excluded groups are those that are disadvantaged due to factors such as ethnicity or language.
effectiveness of a country’s institutions, traditions, and processes, all of which can have substantial effects on a country’s education system and its availability to female students.

Most frequently, studies relating gender in education with government examine the effect of increasing women’s education on successful development of the country, and not the effect of the country on women’s education. They conclude, for example, that female access to school is important for women to contribute to positive change and strengthen society (Kirk 2007). While this important conclusion has been made in many studies, this thesis will examine the correlation in the opposite direction, seeking to find whether the quality of governance of a country will have a formative effect on the availability of education to women and girls. Authors have acknowledged that studies making the connection in this direction are less frequent\(^2\), and so by addressing the relationship between governance and gender parity in enrollment, this paper will add to the body of literature evaluating this correlation.

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\(^2\) In his article “Reading, Writing, and Regime Type: Democracy’s Impact on Primary School Enrollment,” David S. Brown states that “Despite the attention these questions have received in the past, surprisingly little work exists on democracy and the accumulation of human capital…” p. 682.
Chapter 2: Literature Review

The analysis presented in this thesis is based on three main components—gender, education, and governance. This section will present how these three elements are related and have been discussed together in literature, as well as how these linkages are important to the study presented here. Gender often has a compounding effect on many areas of life, including the availability of education; therefore addressing the interconnectedness of gender with governance and education is a relevant means to right the issue of unequal school enrollment (Kirk 2008).

While each country faces its own set of constraints in regards to providing education, Sheila Aikman and Elaine Unterhalter acknowledge a common set of issues present in most societies, of which gender and governance are major factors. These include “endemic poverty; the unaffordable costs of schooling; the burden of household labour; shortage of school facilities, especially in rural areas; negative and even dangerous school environments; cultural and social practices that discriminate against girls, including early marriage and restrictions on female mobility; and limited employment opportunities for women” (Aikman & Unterhalter 2005, p 37). Each one of these constraints can be linked to female students and their disproportionately low school enrollment.

A. The Importance of Gender Parity in School Enrollment

Isobel Coleman succinctly states that “women are critical to economic development, active civil society, and good governance, especially in developing countries,” and that focusing on women will lead to, among other things, improved education systems in a given country (Coleman 2004, p 80). For women to be part of development, they must be an integrated element of society, and have access to opportunities comparable to their male counterparts. One of the
most basic of these is a primary and secondary education. Countries will benefit from educating their female population, “for those that suppress women are likely to stagnate economically, fail to develop democratic institutions, and become more prone to extremism” (Coleman 2004, p 81). Thus, countries have multiple reasons for evaluating the gender composition of their school enrollment.

In addition to the development of a country, effort put toward increasing female student enrollment in school is important for many reasons. It is an indicator of how women are affected by the government under which they live, and understanding this can serve to improve the well-being of the women of that country. In many cases, general improvements in education and expanded educational systems have incorporated more students into the system, but in a highly fragmented way—often excluding female students (Fischman and Gvirtz 2001). Efforts to expand education without a conscious effort to do so in an even and widely-supported manner will likely lead to unbalanced results.

It is also important to keep girls in mind when making changes in education because female students will be affected differently than males by reforms. Jackie Kirk believes that results differ for females and males, especially since females start at a disadvantage “as there tend to have been fewer schools or school places available for girls in the first place” (Kirk 2007, p 191). When a choice must be made, for many reasons families often decide to send sons to school before daughters. When parents must make a choice between children, gender is usually a main deciding factor, and this directly impacts the child’s opportunities and future. Choices such as this especially affect marginalized and poor families. For both economic and cultural reasons, they are more likely to keep girls out of school or allow them to drop out early, compared with their sons (Lockheed 2008).
In addition, as Aikman and Unterhalter explain, in most developing countries the more immediate economic benefits to families from sending girls to school are usually lower than those from a boys’ education. Therefore families may be less inclined to work toward more long run effects, such as benefits from education. This is an example of Stromquist’s (2002) argument that gender is an important social dimension that greatly compounds the impact of poverty. For example, even in tuition-free school systems, school is not in reality cost-free because of additional expenses such as books and uniforms. If these costs prevent a family from sending all children to school, it is more likely that the boys will be chosen to attend than girls. This is one example of how the gender gap in school has formed, and how a country’s school system and reforms can direct the gender composition of enrollment.

B. Why Governance?

Understanding the somewhat abstract concept of governance will be useful to apply it to the issues of gender and education. As part of its Worldwide Governance Indicators project, the World Bank defines governance as consisting of

“The traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.”

Georgia Duerst-Lahti and Rita Mae Kelly define governance as “the process of implementing modern state power, of putting the program of those who govern into place” (Duerst-Lahti and Kelly 1995, p 12). Through the combination of state power, policy, and institutions, governance is therefore an appropriate framework by which to analyze how gender disparities in education are influenced, or even created, by a state. Governance indicators are especially important in analyzing the workings of developing states, where the traditions and institutions mentioned above may be more fragile or less developed than elsewhere. Additionally, as opposed to a regional or town level, the state is an important level of analysis because it allows for examination of public institutions and methods, and how these will affect males and females differently. The state plays a central role through the provision of educational opportunities, or lack thereof, and the very structure of most of the educational system. Therefore, looking at the traditions and institutions at work behind a country’s government will lead to insight into how its educational systems function.

Low governance quality is often found in weak or fragile states. Here especially, potential educational improvements are undermined by substantial hurdles such as “severely limited economic and organizational resources, a lack of legitimacy, and peripheral status in the world system” (Buchman and Hannum 2001, p 80). This is a situation in which improved governance throughout the country could lead to an improvement in education and educational opportunities for female students. A government’s approach to the areas of the core function of government, including keeping people safe, managing the economy, and delivering basic needs, could improve the its public institutions (Kirk 2007, p.83). However, even strong states may have a low achievement in one or more areas of governance, which could affect gender parity in education enrollment. For example, a country may have strong rule of law, but low government
effectiveness, which will prevent the schools from responding to the needs of the population. Governance therefore serves as the connection to analyze globally the linkage between a state and its education system.

C. Governance and Education

In the majority of countries, education is a public service administered through government processes involving bureaucracy and funding. While private education is also a major presence in many countries, it mostly follows form with public education, adhering to societal norms in its country. Stromquist identifies the supply of schooling as being shaped by the state’s monopoly of formal education (1995). Therefore, schools are instruments of the state and usually reflect its ideologies, social values, and abilities to provide opportunities to all citizens. In providing education, governments must work to operate a well-functioning delivery of services, and the state should work to “promote good governance of the institutions of the education system” (Kirk 2001, p 195), such as the program provision and administration of schools.

A government’s control over education means that improvement in governance can “spark demand for education by improving school quality, passing laws on compulsory schooling, or emphasizing the benefits of education” (Buchman and Hannum 2001, p 80). Kirk emphasizes the importance that these types of improvements be made at the source, by addressing such governance issues as “corruption, and transparency, safety and security,” even though these are “somewhat outside of the traditional parameters for education policy and planning” (2007, p 193) David Brown also introduces a bridge from governance to education. For Brown, connections can be made between governance and education through “1) theories
that emphasize regime type and its impact of the insulation of policymakers; 2) theories that emphasize the importance of human rights, civil liberties, and the free flow of information in society; and 3) theories that draw a connection between democracy and a stable set of property ‘rights’” (Brown 1999, p683). After a review of these “theories,” he concludes that enrollment will not expand without some form of commitment from the state, further implying the necessity of governance improvements.

John Meyer used an empirical model to demonstrate that political and economic forces have a part in determining educational patterns. He also notes the connection that modern, complex, industrial societies are often home to expanded educational systems (p 29). As governance improves and countries modernize and develop their systems, expanded educational systems are more likely to come into being. Modern societies bring about the need for more educated workers, and thus families will want education to be more evenly distributed. In addition to such demand for education, modern societies with improved forms of governance will be more likely to have the resources necessary to provide increased educational opportunities. However, even with improved opportunities, the question remains as to how available these resources are to the female population.

D. Governance and Gender

A government’s actions have profound effects on women and the ways in which gender affects women’s lives. Nelly P. Stromquist (1995) argues that the state is a key actor in defining gender and subsequently establishing mechanisms to sustain this definition. The state does this through “legislation, the bureaucracy composing the governmental machinery, and the various institutions that operate within these state subsidies.” Even more, she claims that “the state is not
neutral towards women, and its definition of gender tends to restrict women to the domestic sphere and to ignore how domesticity links with other forms of social control” (1995, p 424). The state exerts this power through its means of governance, frequently materializing in an unequal distribution of education. If a state’s definition of gender restricts women to domestic roles, it follows that the state’s institutions for education and activities outside of the home would be geared toward male students. In addition, Duerst-Lahti and Kelly argue that since men have controlled social and political institutions, these institutions have been constructed in a way to suit themselves and exclude women. If this is the case, then even females who are enrolled in school might not obtain the same benefits as their male counterparts, and may not go as far in school if they find that they are generally excluded.

In her article “Education and Fragile States,” Jackie Kirk addresses the link between state and gender, identifying three areas of influence. First, elites occupying official positions of the state can lead to personal bias having large effects on the function of state programs, as well as misallocation of funds. Second, the state’s actions and policy regarding gender can create institutions, such as education, that systematically benefit one group over the other. Finally, “the collectivity of norms, laws, ideologies, and patterns of actions that shape the meaning of politics and the nature of the political discourse” can perpetuate gender disparities over time and embed them in the functioning of the state and state institutions. These authors make clear the ability of a government to influence the roles of gender in its society. These influences will then permeate through the government’s institutions and traditions—or governance—resulting in an education system with uneven gender distribution.
Chapter 3: Conceptual Framework

This thesis hypothesizes that governance has a determining influence on a country’s gender could improve educational gender parity the most. This theory suggests that a country’s governance quality improves, that its gender parity in school enrollment should also improve (become more equal).

Specific areas of governance have considerable effects on education and the enrollment of female students. These areas, specifically, relate to the relationship between a government and its educational system, and the interaction between the schools and the country’s population as influenced by the government.

Firstly, the educational system must be responsive to needs and demands of the population, and this relationship must be supported and enabled by the government. This area also includes freedom of the press and association, and transparency of government proceedings, as essential to those making an effort to improve education access to female students. David S. Brown has supported this link by finding that in governments with leaders that are more responsive to voters and the population, educational opportunity is more widespread. Improved accountability on behalf of the government will lead to more equal school enrollment since, as John Meyer explained, “expanding cultural or ideological conceptions of the rights of the individual lead to the extension of educational rights of broader groups of citizens,” (1971, p 37). If citizens trust in the responsiveness of the government, new support for laws or efforts to increase the presence of female students will become more powerful.

The effectiveness of government and its use of public resources is also an overarching influence on the enrollment in schools. A government with more efficient public services and evaluation should have a more equal gender enrollment in school. Such effectiveness
encompasses the allocation of funds, which affect the supply of supplies, teachers, and enrollment availability that could increase the number of female students (Lewis and Lockheed 2006). The capacity of teachers to effectively reach female students is important to improve gender parity in enrollment and to improve the quality of education that these girls will receive.

Thirdly, success of schools is largely dependent on respect of others in society, both for the health of the learning environment and the well-being of the actual facilities (Lewis and Lockheed 2006, p. 7). A country with these characteristics has strong rule of law, and with this should have balanced gender enrollment. This also affects the safety of children, especially girls, and parents’ willingness to send their children out in public to go to school. Safety and respect for women in general affects girls’ security in school and public places (Kristoff and WuDunn 2009), and if parents fear for their daughters’ well-being, they may find it a better option to keep them out of school. With strong rule of law, regulation and law enforcement are more effective and efficient, and the educational system will be able to grow. When rule of law is low and society is permeated by violence and disregard for law and rights within the state, the volatile culture that results can serve as a serious hindrance to girls receiving an education.

Finally, one of the most crippling hindrances to public services is corruption. Therefore, a government that controls corruption should have improved services and an equal gender enrollment ratio. The appropriate use of funds and the selection of competent people in power will both be undermined if corruption is present in the country. Additionally, if people are working for private gain, they may be less willing to do what will benefit society, but instead will be doing what will benefit themselves. School systems in themselves work much less efficiently and at much lower quality with corrupt officials and if schools do not receive proper resources due to funds corruption. In such cases, monitoring is ineffective because of the need to
keep the corruption hidden, furthering the obstacles the schools face. Therefore, corruption can undermine any efforts to increase school quality and can also enhance male elite’s ability to keep girls out of the education system.

Governance is a complex issue with many related facets that can affect the enrollment of female students. This complexity leads to some difficulty in defining governance and the vast number of ways that it can influence education. While difficult to completely define, the theory presented here offers four distinct areas of governance that are important to consider. The theory suggests that an improvement in each of these areas is correlated with an improvement in the enrollment of female students.
Chapter 4: Data and Methodological Plan

The data used in this analysis comes from multiple United Nations and World Bank sources. The independent variables of interest addressed in the hypothesis are the World Bank Governance Indicators. The hypothesis that will be tested is whether governance has a positive influence on education enrollment ratios. As a country moves up along the index for any of these indicators, its governance is improving (value increasing), and therefore the gender parity in education should also improve (value increase). In most cases, this will mean that the dependent variable will move closer to one.\footnote{In some cases the ratio will be greater than one, indicating the more girls are enrolled in school than boys. However, since the direction of change in value is more important than the actual numerical values for the dependent variable, this will not be an issue. The main concern is that they have a positive relationship.} It is important to note that correlation does not indicate causation, but linking governance to gender parity will establish an important relationship.

The population used in the regressions is composed of the countries for which data is available for the year 2002.\footnote{The list of countries and the models they appear in are in Appendices B and C.} Some countries have missing values for one or more variables, and these observations then drop out of the regression test. To test the effect of governance on gender parity in school enrollment for the year 2002, an Ordinary-Least-Squares regression is used.\footnote{The data for the population density variable is from year 2000, the closed year to 2002 for which a complete sample was available.} This is a linear model that will reflect the point changes in the enrollment ratio related to the point changes in the governance indicators.\footnote{Multiple years of the same variables can be constructed into panel data, from which a fixed effects model can be evaluated. While this type of model is useful for a multi-year comparison, it does not allow for other control variables, such as region. This type of test did not yield significant results, so the model was changed to allow for the inclusion of the very important influences of region and culture.} Using such a model will allow for additional independent control variables to be added to the model to further specify the determinants of gender parity in education. Both primary and secondary school enrollment ratios will be

\textsuperscript{4}In some cases the ratio will be greater than one, indicating the more girls are enrolled in school than boys. However, since the direction of change in value is more important than the actual numerical values for the dependent variable, this will not be an issue. The main concern is that they have a positive relationship.
\textsuperscript{5}The list of countries and the models they appear in are in Appendices B and C.
\textsuperscript{6}The data for the population density variable is from year 2000, the closed year to 2002 for which a complete sample was available.
\textsuperscript{7}Multiple years of the same variables can be constructed into panel data, from which a fixed effects model can be evaluated. While this type of model is useful for a multi-year comparison, it does not allow for other control variables, such as region. This type of test did not yield significant results, so the model was changed to allow for the inclusion of the very important influences of region and culture.
\textsuperscript{8}These models were also estimated with logarithms (which required a rescaling of the governance indicators to a range of 0 to 5) of the governance indicator scores to allow for more variation than exists in the five-point range of the scores, but this did not increase significance or present any drastically different results. Therefore, the results of the linear OLS models will be presented.
regressed on the governance indicators and control variables. For each dependent variable, additional control variables will be added to the model so as to further define the model and to highlight the effect of the governance indicators. The OLS models for the estimations are:

Model 1:
School Enrollment Gender Parity Ratio = $\beta_0 + \beta_1$Voice and Accountability 2002 + $\beta_2$Rule of Law 2002 + $\beta_3$Control of Corruption 2002 + $\beta_4$Government Effectiveness 2002 + $\beta_5$GNI per Capita 2002

Model 2:
School Enrollment Gender Parity Ratio = $\beta_0 + \beta_1$Voice and Accountability 2002 + $\beta_2$Rule of Law 2002 + $\beta_3$Control of Corruption 2002 + $\beta_4$Government Effectiveness 2002 + $\beta_5$GNI per Capita 2002 + $\beta_6$Caribbean + $\beta_7$East Asia + $\beta_8$Eastern Europe + $\beta_9$Former Soviet Union + $\beta_{10}$Latin America + $\beta_{11}$Middle East/North Africa + $\beta_{12}$South Asia + $\beta_{13}$Subsaharan Africa

Model 3
School Enrollment Gender Parity Ratio = $\beta_0 + \beta_1$Voice and Accountability 2002 + $\beta_2$Rule of Law 2002 + $\beta_3$Control of Corruption 2002 + $\beta_4$Government Effectiveness 2002 + $\beta_5$GNI per Capita 2002 + $\beta_6$Caribbean + $\beta_7$East Asia + $\beta_8$Eastern Europe + $\beta_9$Former Soviet Union + $\beta_{10}$Latin America + $\beta_{11}$Middle East/North Africa + $\beta_{12}$South Asia + $\beta_{13}$Subsaharan Africa + $\beta_{14}$Educ Expen as %GDP 2002

Model 4:
School Enrollment Gender Parity Ratio = $\beta_0 + \beta_1$Voice and Accountability 2002 + $\beta_2$Rule of Law 2002 + $\beta_3$Control of Corruption 2002 + $\beta_4$Government Effectiveness 2002 + $\beta_5$GNI per Capita 2002 + $\beta_6$Caribbean + $\beta_7$East Asia + $\beta_8$Eastern Europe + $\beta_9$Former Soviet Union + $\beta_{10}$Latin America + $\beta_{11}$Middle East/North Africa + $\beta_{12}$South Asia + $\beta_{13}$Subsaharan Africa + $\beta_{14}$Educ Expen as %GDP + $\beta_{15}$Men’s Right to Job

Variable Definitions and Descriptive Statistics

Gender Parity in Primary and Secondary Education:

Data collected by the United Nations as part of the Millennium Development Goals\(^9\) will serve as the dependent variables in the model. These data are the gender enrollment ratios of

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\(^9\) The United Nations established eight Millennium Development Goals (MDGs) with target date of 2015 for completion. Two of these goals are Universal Education and Gender Equality, leading to the collection of the data used in this analysis.
female to male students in 200 countries for both primary and secondary education. Using a ratio enables cross-country comparisons, even when vastly different actual population numbers exist. Also, a ratio is useful because researchers widely acknowledge that measuring educational enrollment and attainment in poor countries is deceptively difficult (Filmer 2008).

The values of the dependent variable represent the ratio of the number of female students enrolled at primary and secondary levels of public and private schools to the number of male students. As the United Nations Millennium Development Goals state, these ratios are both a “measure of both fairness and efficiency.” The values represent the ratio of students enrolled in each level or school, counting males and females both for one unit. The data was gathered by countries’ ministries of education or derived from surveys and census. Household data was occasionally used when ministry data were not available, although this could lead to inaccuracies.

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<th>Table 1: Descriptive Statistics for Enrollment Ratios</th>
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<td>Primary Education Parity 2002</td>
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<td>Secondary Education Parity 2002</td>
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**Governance Indicators:**

For use as independent variables of interest, this model uses indices created by the World Bank to represent countries’ government functionality regarding the elements of governance. The model in this paper will use four of these six indicators that apply to girls and education,

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10 Due to the high number of ratio values close to 1, the mean statistics do not represent the range of values actually present. The chart presented in Appendix A includes a small selection of countries graphically demonstrating the range of these values. It shows more of the unequal distribution than the descriptive statistics may convey.

excluding two that do not directly apply to the provision of education and/or the state’s posture toward women. The four indicators used are “Voice and Accountability,” “Government Effectiveness,” “Rule of Law,” and “Control of Corruption.”

Scores for each governance indicator are a weighted average of the sources for each country that estimate the governance for that country. The resulting values have an expected value of zero, with a standard deviation of one. This implies that all scores will lie between -2.5 and 2.5, with better outcomes corresponding to higher scores. The sampling method for this data used aggregated perceptions of a diverse group of respondents including surveys of individuals or domestic firms with first-hand knowledge of the governance situation in the country; country analysts at major multilateral development agencies; NGOs; and commercial risk rating agencies.

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12 Governance Indicators Not Used: Two of the World Bank’s six governance indicators will not be used in this analysis because they are not adequately linked to gender parity in education. Political Stability and Absence of Violence is “the likelihood that the government will be destabilized by unconstitutional or violent means, including terrorism.” The second, Regulatory Quality, is “the ability of the government to provide sound policies and regulations that enable and promote private sector development.”

13 The World Bank defines Voice and Accountability as “the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, association, and the press.” Voice and accountability therefore represent the way in which the school system is created in response to public requests and pressures.

14 The Government Effectiveness indicator is defined by the World Bank as “the quality of public services, the capacity of the civil service and its independence from political pressures; the quality of policy formulation” (World Bank 2009). Government effectiveness is important to education and policies regarding girls’ enrollment by directly contributing to the type and quality of education provided.

15 The World Bank defines Rule of Law as “the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the policy, and the courts, as well as the risk of crime” (World Bank 2009). With an improved rule of law, education will be an increasingly accepted and accessible element of society, and the government will encourage more of an equal participation in the schools.

16 Control of Corruption is “the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as elite ‘capture’ of the state” (World Bank 2009). Control of corruption affects both the quality of education in a country as well as the ability of schools to function efficiently and independently.

17 World Bank Governance Indicators Project
Additional Control Variables:

Additional controls will be included in the model to further define the impact governance has on gender enrollment.

1. GNI Per Capita

Gross National Income per Capita will serve as a general income control variable, so that the true effects of the variables of interest may be captured by the regressions. Data for the Gross National Income per Capita, measured in current U.S. dollars, are taken from the World Bank’s World Development Indicators, compiled by the World Bank’s Data Group.

2. Region

Region controls will be included to account for general culture, tradition, and government type trends. These regions are Caribbean, East Asia, Eastern Europe and the Baltics, Former Soviet Union, Latin America, Middle East and North Africa, South Asia, Subsaharan Africa, with OECD\(^{18}\) countries serving as the baseline. Countries included in this model are grouped according to their classification in the governance indicators dataset.\(^{19}\)

3. Education Spending as Percentage of GDP

Data on a country’s education expenditure as a percentage of its GDP are taken from the United Nations, UNESCO Institute for Statistics for UNdata as part of the Human Development Program. This represents the percentage of a country’s GDP that is allocated to public education spending. While the Government Effectiveness indicator takes into account the use of this


\(^{19}\) Listing of countries by region is included in Appendices C and D.
money, this percentage value will serve as a control for the actual amount. In this way, countries with very different GDPs, and therefore different relative levels of education spending, can be compared.

4. *Population Density*

This variable measures a country’s population per square kilometer for year 2000. It is collected by the United Nations Population Division for the World Population Prospects Database. This is included because governments will face higher costs and more difficulties in providing education for large countries or large populations. This will control for the actual general provision of education, so that gender effects will be more prevalent in the regressions. If such high costs stretch thin the provision of education throughout a country, its supply will be limited and male students will likely occupy more of the enrollment spaces.

5. *Men Should Have More Right to a Job than Women*

This variable measures the percentage of a country that feels when jobs are scarce, men should have more right to a job than women. Data for this variable comes from the World Values Survey which is comprised of representative national surveys given in 97 societies. This serves as a culture control in that it takes into account a society’s common perceptions of women’s roles, the value of educating the female population, and a country’s general view on gender. It is also relevant because the less a country desires to have women in its workforce, the less likely females in that country will be encouraged to attend school.

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Source: World Values Survey
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</tr>
<tr>
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<tr>
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<tr>
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<tr>
<td><strong>% Believing Men Have More Right to a Job than Women</strong></td>
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<tr>
<td>N: 79, Mean: 33.22, Standard Dev: 18.44, Minimum: 4.5,</td>
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<tr>
<td>Maximum: 89.6</td>
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</table>

**Econometric Issues**

Despite the model being specification according to the literature, the sourcing of the data from international organizations, and the care taken to not over-specify the model, potential issues with using OLS for a worldwide cross-sectional study still exist:

_Omitted Variable Bias_ is present in these models, both due to lack of data availability and due to unobservable variables that affect countries and education. Governance and education can both be complex and somewhat difficult to evaluate. The control variables included in the models take into account a range of influences on education enrollment, but the models are cannot be perfectly defined. Many more culture and cost factors would more narrowly define the model, but the number of control variables that can be included is also limited by the degrees of
freedom. As the models get progressively more specified, more influences are taken into account, gradually alleviating some of the omitted variable bias.

*Endogeneity* may also pose a problem for the models. First, it may be present because of the reciprocating relationship between education and government. As stated earlier, it is often hypothesized that education leads to improvement in the quality of public institutions and governance, as much as improvement in governance will lead to improvement in education. If the governance indicators are significant, this will indicate correlation, which is not causation.

*Multicollinearity*\textsuperscript{21} is present among the governance indicator variables because a county that is home to institutions stable and effective enough to warrant a high score for one governance indicator will generally have high governance scores for the remaining indicators. The same is true for countries with low scores, and there is generally little variation among scores within one country.\textsuperscript{22}

\textsuperscript{21} A correlation matrix of the four governance variables of interest is provided in Appendix B.

\textsuperscript{22} As a way to address this issue, the models were run with only one governance variable at a time. This did not improve the significance of any models or variables, so are not presented here.
Chapter 5: Regression Results and Analysis

The following is a presentation and analysis of the regression results described in the previous section. The first table contains the results of the regressions on primary education parity, and the second table presents the results for secondary education parity. Model 1 includes the governance indicators as well as GNI per capita for a control. Model 2 adds region indicator variables to control for differences between areas of the world. Model 3 adds Education Spending as Percentage of GDP to control for the amount of money spent so that this value will not affect the significance of the governance indicators. Model 4 adds the variable representing the percentage of a country that believes men have more right to a job than women. Neither level of education has significant results with the governance indicators, but some significance does exist with the control variables.
<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
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<td>.0125</td>
<td>.0084</td>
<td>.0064</td>
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<td>-.0289*</td>
<td>-.0410***</td>
<td>-.0381**</td>
<td>-.0491</td>
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<td><strong>Government Effectiveness</strong></td>
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<td>.0120</td>
<td>.0317*</td>
<td>.0333*</td>
<td>.0270</td>
</tr>
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<td><strong>GNI Per Capita</strong></td>
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<td>1.62e-06</td>
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<td><strong>Caribbean</strong></td>
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<td>.0509*</td>
<td>.0504</td>
<td>.0239</td>
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</tr>
<tr>
<td><strong>East Asia</strong></td>
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<td>.0147</td>
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<tr>
<td><strong>Former Soviet Union</strong></td>
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<td>.0717</td>
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<tr>
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<td>.0400</td>
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</tr>
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<td>.0287 (.967)</td>
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<td></td>
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</tr>
<tr>
<td><strong>Baseline</strong></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Educ Expen as % GDP</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Population Density</strong></td>
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<td></td>
<td></td>
<td>.0001*</td>
<td>.0001*</td>
</tr>
<tr>
<td><strong>Men’s Right to Job</strong></td>
<td></td>
<td></td>
<td></td>
<td>.0002</td>
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<td><strong>R2</strong></td>
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<td>.1382</td>
<td>.1449</td>
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<td>.3402</td>
<td>.3877</td>
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<td>100</td>
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</tr>
</tbody>
</table>

****Significant at 99%; ***Significant at 95%; **Significant at 90%; *Significant at 80%
Primary Education Parity

Model 1

The only significant variable in Model 1 is Control of Corruption. However, this is a negative relationship, which is counterintuitive to the idea that better control of corruption will lead to a better school system which will educate more female students. The $R^2$ indicates that this model predicts 4.31% of the variation in primary school gender enrollment.

Model 2

Model 2 also has a significant coefficient for Control of Corruption, even though it is still counter intuitively negative. Middle East/North Africa is a slightly significant control variable, suggesting that countries in this region have similar enrollment ratios, and that factors attributed to this region have significant effects on enrollment. With the addition of the region controls the $R^2$ has increased, and the model now predicts 11.81% of the variation in enrollment ratios, with the same number of 138 observations.

Model 3

In this model, Control of Corruption is significant at the 95% level, but still with a negative relationship to enrollment ratios. GNI per capita also became significant at the 80% level, with the expected positive relationship with enrollment ratios. The significant region controls in this model are the Caribbean and Former Soviet Union. The additional control of Education Expenditure as a percentage of GDP for Model 3, however, is not significant. The $R^2$ increased only slightly, to 13.82%, but the model experienced a drop in observations, from 138 to 100.
Model 4

Control of Corruption and Government Effectiveness are still significant in this model, as is Former Soviet Union and Education Expenditure as Percentage of GDP. This is the first model where the expenditure variable is significant. This model also has 100 observations and the $R^2$ improved slightly to .1449.

Model 5

The addition of the Men’s Right to Job variable severely restricted the number of observations to 51. There only significant variables in this model are Education Expenditure and Population Density at 80%. The prediction power continued to increase, with a new $R^2$ of .2673.

General Observations

None of the models identified here resulted in a significant joint F-test. This statistic demonstrates that in none of these models are the four Governance Indicators jointly significant. Also, in the first four models, Control of Corruption is significant, but in a direction opposite of what was proposed in the Conceptual Framework. Strong control of corruption could possibly indicate that corruption is widespread through a government, and that it is this existence of corruption that results in a lower gender parity ratio.
<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
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<tbody>
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<td>.8039****</td>
<td>.8019****</td>
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<td>Baseline</td>
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<tr>
<td>Educ Expen as %GDP</td>
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<td>.0162*</td>
<td>.0489**</td>
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<td>Job</td>
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<td>95</td>
</tr>
</tbody>
</table>

***Significant at 99%; **Significant at 95%; *Significant at 80%
Secondary Education Parity

Model 1

The only significant variable in model 1 is GNI per capita and the model has an $R^2$ of .0292.

Model 2

GNI per capita is significant at 90% in Model 2, with the expected positive relationship with gender parity. The region of Former Soviet Union are significant at 80% with a negative relationship to gender parity, suggesting that characteristics of these regions result in less girls being enrolled in school than in OECD countries. Latin America and East Asia are significant at 80% with a positive relationship, suggesting that this region has a higher gender parity in enrollment than the group of OECD countries. The predictive power of this model has increased to 7.08% with the addition of the region controls.

Model 3

In Model 3, only Latin America and the new variable, Education Expenditure as Percentage of GDP are significant, and only at 80%. The new variable on expenditure does have the expected positive relationship with gender parity, and this model predicts 10.25% of the variation in secondary education gender parity.

Model 4

In Model 4, Latin America and Education Expenditure are the only significant variables. The predictive power has increased a negligible amount with this model, to .1029.
Model 5

For secondary education, this is the model with the most significant variables and with an $R^2$ of .4178, the most explanatory power. But with only 46 observations it does not give a wide representation of all the countries included in this analysis. Voice and Accountability and Government Effectiveness are both significant at the 80% level. Voice and Accountability has a positive value, suggesting that as governance in this area improves, so do the gender enrollment ratios. However, Government Effectiveness has a negative value, leading to a counterintuitive result similar to that of Control of Corruption in the primary education models.

The Middle East/North Africa is significant at 90% suggesting that the Middle East and North Africa have lower education parities as compared to OECD countries. Education Expenditure as Percentage of GDP is also significant at 90%, with the expected positive relationship. The new variable to this model, Men’s Right to Job, is significant at the 99% level, but the sign is not what was expected. The positive sign on this variable indicates that as a greater percentage of the country believes men have more right to scarce jobs than women, that the enrollment of female students in school will also increase.

General Observations

Again, no F-test for these models indicates a joint significance between the Governance Indicator variables. Also, even though none are significant, the Control of Corruption values have negative relationships with enrollment parity as they did in the Primary Education models.
Summary

Overall, the Governance Indicators did not lead to any significant results and cannot influence any conclusions relating these characteristics of governance to gender enrollment composition in primary and secondary school. The lack of significance for the governance indicators in all models suggests that these are not adequate variables to predict gender parity in education, and that there are other factors that exert a greater influence.

Perhaps the most intuitive and somewhat significant results come from the region controls, suggesting that culture and tradition have a strong bearing on education enrollment. These values relate the regions to the OECD countries in ways that would be expected due to region characteristics. Also, including the Men’s Right to Job variable and increasing predictive power by such a large amount, especially in the secondary education model, suggests that culture and public opinion are very important in predicting education enrollment.

The hypothesis proposed in this paper—that a higher quality of governance will increase the ratio of girls to boys enrolled in school—is not supported by the results here. The following section will discuss this in more detail and suggest improvements to address this question more completely.
Chapter 6: Policy Implications and Conclusion

This paper has discussed the linkage between quality of governance and gender parity in school enrollment, both for primary and secondary levels of education. The qualitative research and anecdotal evidence point to a connection between governance and the availability of education to a country’s female population. However, the models tested here do not produce significant results in the expected direction.

One possible reason for the lack of significance rests in the composition of the data, both in its inconsistency and lack of availability. In order for this hypothesis to be studied more carefully and end with significant results, the data collected and recorded on governance must be improved. Governance is a notably difficult area to measure, with no established definitive scale or measurement. The data from the World Bank used in this analysis is not available for all countries and is based on perception surveys, which can sometimes be inefficient or even inaccurate. A macro-level study such as this will likely face such problems, as well as difficulty in creating a fully-specified model. Standard models of education outcomes often use variables that are on a more local level than is possible to use in a country-comparison analysis. Such a contribution to omitted variable bias also influenced the lack of robust results.

The insignificance of the governance indicators along with the significance of some control variables, especially the addition of the Men’s Right to Job variable in Model 4, may also suggest that it might not be governance that is most related to gender parity in education, but a society’s culture and traditions. The significance of “Men’s Right to Job” and the much improved R² of the model including this variable suggest that such societal views are extremely important to the gender composition of schools. The significance of many of the region controls also support this theory, as the regions represent cultures and norms of similar countries.
If the significance of these variables is to be taken as an indication that culture has more of an effect on gender composition of enrollment than characteristics of the government, any policy addressing unequal gender enrollment must address societal characteristics as well as governance. Governance can be incorporated into such movements by the government working to change cultural perceptions. Changing the common views of education and the education of girls can be used as tools to improve the gender parity. Culture is not static, and with effort of such means by the government, more girls may be sent to school.

Further research in this area will be improved by a more thorough examination of culture and tradition. Governance and society are closely linked, as explored in the literature review, so together their joint effect is important. The inclusion of more representative and thorough culture and society variables will likely lead future research to more robust results. This data must be carefully compiled, as culture is yet another area that is difficult to measure and quantify. Carefully defined cultural data along with improved governance data will serve well to better evaluate the determinants of school enrollment.

In addition to improved data, an even more specific way to study this correlation would be on a smaller country-level scale, utilizing indicators of governance quality that are only available on such a limited level. While looking closely at a individual or group of countries, more precise governance indicators such as election transition success, police arrest rate, etc., would be available and useful. If such research is undertaken, it will be functional in drawing conclusions and creating policy since country-specific policies are often seen as the best way to address education shortfalls. 25

While the models included in this analysis did not significantly link governance to gender parity in education, theoretical support still exists for their relationship. Further research and

25 Filmer, Deon. P 96
future changes in governance quality around the world will support this connection and hopefully influence the inclusion of more female students into schools.
Appendix A
Primary and Secondary Education Parity of Selected Countries

Countries selected to represent a range of regions and parity values.

---

26 Countries selected to represent a range of regions and parity values.
Appendix B
Correlation Matrix for Governance Indicators

<table>
<thead>
<tr>
<th></th>
<th>Voice and Accountability</th>
<th>Rule of Law</th>
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<th>Government Effectiveness</th>
</tr>
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<tbody>
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<td></td>
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</tr>
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<tr>
<td>Government Effectiveness</td>
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<td>0.9426</td>
<td>1.0000</td>
</tr>
</tbody>
</table>
Appendix C
Countries by Region and Observations Included in Primary Education Models

Caribbean
Anguilla
Antigua and Barbuda
Aruba
Bahamas¹ ¹ ²
Barbados¹ ² ³ ⁴
Belize¹ ² ³ ⁴
Bermuda
Cayman Islands
Cuba
Dominica¹ ²
Dominican Republic¹ ² ³ ⁴ ⁵
French Guiana
Grenada¹ ² ³ ⁴
Guyana¹ ² ³ ⁴
Haiti
Jamaica¹ ² ³ ⁴
Martinique
Netherlands Antilles
Puerto Rico
St. Kitts and Nevis¹ ² ³ ⁴
St. Lucia¹ ² ³ ⁴
St. Vincent and the Grenadines¹ ² ³ ⁴
Suriname¹ ²
Trinidad and Tobago¹ ² ³ ⁴
Virgin Islands (U.S.)

East Asia
American Samoa
Brunei
Cambodia¹ ² ³ ⁴
China¹ ²
Cook Islands
Fiji¹ ² ³ ⁴
Guam
Hong Kong
Indonesia¹ ² ³ ⁴ ⁵
Kiribati¹ ²
Korea, North
Korea, South
Laos¹ ² ³ ⁴
Macao
Malaysia¹ ² ³ ⁴

(East Asia con’t.)
Marshall Islands¹ ²
Micronesia
Mongolia¹ ² ³ ⁴
Myanmar
Nauru
New Caledonia
Niue
Palau
Papua New Guinea¹ ² ³ ⁴
Philippines¹ ² ³ ⁴ ⁵
Reunion
Samoan
Singapore
Solomon Islands¹ ² ³ ⁴
Taiwan
Thailand
Timor-Leste
Tonga
Tuvalu¹ ²
Vanuatu¹ ² ³ ⁴
Vietnam

Eastern Europe and the Baltics
Albania¹ ²
Bosnia-Herzegovina
Bulgaria¹ ² ³ ⁴ ⁵
Croatia¹ ² ³ ⁴ ⁵
Czech Republic
Estonia¹ ² ³ ⁴ ⁵
Hungary¹ ² ³ ⁴
Kosovo
Latvia¹ ² ³ ⁴ ⁵
Lithuania¹ ² ³ ⁴ ⁵
Macedonia
Montenegro
Poland
Romania¹ ² ³ ⁴ ⁵
Serbia¹ ²
Slovakia¹ ² ³ ⁴ ⁵
Slovenia
Turkey

Former Soviet Union
Armenia¹ ² ³ ⁴ ⁵
Azerbaijan¹ ² ³ ⁴ ⁵
Belarus¹ ² ³ ⁴ ⁵
Georgia¹ ² ³ ⁴ ⁵
Kazakhstan¹ ² ³ ⁴ ⁵
Kyrgyzstan¹ ² ³ ⁴ ⁵
Moldova¹ ² ³ ⁴ ⁵
Russia¹ ² ³ ⁴ ⁵
Tajikistan¹ ² ³ ⁴
Turkmenistan
Ukraine¹ ² ³ ⁴ ⁵
Uzbekistan¹ ²

Latin America
Argentina¹ ² ³ ⁴ ⁵
Bolivia¹ ² ³ ⁴
Brazil¹ ² ³ ⁴ ⁵
Chile¹ ² ³ ⁴ ⁵
Colombia¹ ² ³ ⁴ ⁵
Costa Rica¹ ² ³ ⁴
Ecuador¹ ² ³ ⁴
El Salvador¹ ² ³ ⁴ ⁵
Guatemala¹ ²
Honduras
Mexico
Nicaragua¹ ² ³ ⁴
Panama
Paraguay¹ ² ³ ⁴
Peru¹ ² ³ ⁴ ⁵
Uruguay¹ ² ³ ⁴ ⁵
Venezuela

¹ 1. Appears in Model 1
² 2. Appears in Model 2
³ 3. Appears in Models 3
⁴ 4. Appears in Model 4
⁵ 5. Appears in Model 5
Middle East and North Africa
Algeria\textsuperscript{1,2}
Bahrain\textsuperscript{1,2}
Djibouti
Egypt\textsuperscript{1,2}
Iran\textsuperscript{1,2,3,4,5}
Iraq
Israel\textsuperscript{1,2,3,4}
Jordan\textsuperscript{1,2}
Kuwait\textsuperscript{1,2}
Lebanon\textsuperscript{1,2,3,4}
Libya
Malta
Morocco\textsuperscript{1,2,3,4,5}
Oman\textsuperscript{1,2,3,4}
Qatar\textsuperscript{1,2}
Saudi Arabia
Syria\textsuperscript{1,2}
Tunisia\textsuperscript{1,2,3,4}
United Arab Emirates\textsuperscript{1,2,3,4}
West Bank Gaza\textsuperscript{1,2}
Yemen\textsuperscript{1,2,3,4}

South Asia
Afghanistan
Bangladesh
Bhutan\textsuperscript{1,2,3,4}
India\textsuperscript{1,2,3,4,5}
Maldives\textsuperscript{1,2}
Nepal\textsuperscript{1,2,3,4}
Pakistan\textsuperscript{1,2,3,4,5}
Sri Lanka\textsuperscript{1,2}

Subsaharan Africa
Angola
Benin\textsuperscript{1,2,3,4}
Botswana\textsuperscript{1,2,3,4}
Burkina Faso\textsuperscript{1,2}
Burundi\textsuperscript{1,2,3,4}
Cameroon\textsuperscript{1,2,3,4}
Cape Verde\textsuperscript{1,2,3,4}
Central African Republic\textsuperscript{1,2}
Chad\textsuperscript{1,2}
Comoros\textsuperscript{1,2,3,4}
Congo

OECD
Andorra
Australia\textsuperscript{1,2,3,4,5}
Austria\textsuperscript{1,2,3,4,5}
Belgium
Canada\textsuperscript{1,2,3,4,5}
Cyprus\textsuperscript{1,2,3,4}
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Denmark\textsuperscript{1,2,3,4,5}
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Germany\textsuperscript{1,2,3,4,5}
Greece\textsuperscript{1,2,3,4,5}
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Ireland\textsuperscript{1,2,3,4,5}
Italy\textsuperscript{1,2,3,4,5}
Japan\textsuperscript{1,2,3,4,5}
Liechtenstein
Luxembourg\textsuperscript{1,2}
Mexico\textsuperscript{1,2,3,4,5}
Monaco
Netherlands\textsuperscript{1,2,3,4,5}
New Zealand\textsuperscript{1,2,3,4,5}
Norway\textsuperscript{1,2,3,4,5}
Poland
Portugal
San Marino
Slovakia\textsuperscript{1,2,3,4}
Spain\textsuperscript{1,2,3,4,5}
Sweden\textsuperscript{1,2,3,4,5}
Switzerland
United Kingdom\textsuperscript{1,2,3,4,5}
United States\textsuperscript{1,2,3,4,5}

(Subsaharan Afr. \textit{con't.})
Cote D'Ivoire\textsuperscript{1,2,3,4}
Equatorial Guinea\textsuperscript{1,2,3,4}
Eritrea\textsuperscript{1,2,3,4}
Ethiopia\textsuperscript{1,2,3,4}
Gabon\textsuperscript{1,2,3,4}
Gambia\textsuperscript{1,2,3,4}
Ghana\textsuperscript{1,2}
Guinea\textsuperscript{1,2,3,4}
Guinea-Bissau
Kenya\textsuperscript{1,2,3,4}
Lesotho\textsuperscript{1,2,3,4}
Liberia
Madagascar\textsuperscript{1,2,3,4}
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Mali\textsuperscript{1,2}
Mauritania\textsuperscript{1,2}
Mauritius\textsuperscript{1,2,3,4}
Mozambique\textsuperscript{1,2}
Namibia\textsuperscript{1,2,3,4}
Niger
Nigeria\textsuperscript{1,2}
Rwanda
Sao Tome and Principe
Senegal\textsuperscript{1,2,3,4}
Seychelles\textsuperscript{1,2,3,4}
Sierra Leone
Somalia
South Africa\textsuperscript{1,2,3,4,5}
Sudan\textsuperscript{1,2}
Swaziland\textsuperscript{1,2,3,4}
Tanzania\textsuperscript{1,2}
Togo\textsuperscript{1,2,3,4}
Uganda\textsuperscript{1,2}
Zambia\textsuperscript{1,2,3,4}
Zimbabwe

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## Appendix D
### Countries by Region and Observations Included in Secondary Education Models

<table>
<thead>
<tr>
<th>Caribbean</th>
<th>Former Soviet Union</th>
</tr>
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<tbody>
<tr>
<td>Anguilla</td>
<td>Armenia</td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td>Azerbaijan</td>
</tr>
<tr>
<td>Aruba</td>
<td>Belarus</td>
</tr>
<tr>
<td>Bahamas</td>
<td>Georgia</td>
</tr>
<tr>
<td>Barbados</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td>Belize</td>
<td>Kyrgyzstan</td>
</tr>
<tr>
<td>Bermuda</td>
<td>Moldova</td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>Russia</td>
</tr>
<tr>
<td>Cuba</td>
<td>Tajikistan</td>
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<tr>
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<td>Turkmenistan</td>
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<tr>
<td>Dominican Republic</td>
<td>Ukraine</td>
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<td>French Guiana</td>
<td>Uzbekistan</td>
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<td>Grenada</td>
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<tr>
<td>Guyana</td>
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<tr>
<td>Haiti</td>
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<tr>
<td>Jamaica</td>
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<tr>
<td>Martinique</td>
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<tr>
<td>Netherlands Antilles</td>
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<tr>
<td>Puerto Rico</td>
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<tr>
<td>St. Kitts and Nevis</td>
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<tr>
<td>St. Lucia</td>
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<tr>
<td>St. Vincent and the Grenadines</td>
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<tr>
<td>Suriname</td>
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<tr>
<td>Trinidad and Tobago</td>
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</tr>
<tr>
<td>Virgin Islands (U.S.)</td>
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</tr>
</tbody>
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<table>
<thead>
<tr>
<th>East Asia</th>
<th>Latin America</th>
</tr>
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<tbody>
<tr>
<td>American Samoa</td>
<td>Argentina</td>
</tr>
<tr>
<td>Brunei</td>
<td>Bolivia</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Brazil</td>
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<tr>
<td>China</td>
<td>Chile</td>
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<td>Cook Islands</td>
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<td>Fiji</td>
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<tr>
<td>Guam</td>
<td>Ecuador</td>
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<td>Hong Kong</td>
<td>El Salvador</td>
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<td>Guatemala</td>
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<tr>
<td>Kiribati</td>
<td>Honduras</td>
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<tr>
<td>Korea, North</td>
<td>Mexico</td>
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<tr>
<td>Korea, South</td>
<td>Nicaragua</td>
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<td>Laos</td>
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<tr>
<td>Macao</td>
<td>Paraguay</td>
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<tr>
<td>Malaysia</td>
<td>Peru</td>
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<tr>
<td></td>
<td>Uruguay</td>
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<tr>
<td></td>
<td>Venezuela</td>
</tr>
</tbody>
</table>

(East Asia con’t.)
| Marshall Islands                   | Afghanistan                                 |
| Micronesia                         | Bangladesh                                  |
| Mongolia                           | Botswana                                    |
| Myanmar                            | Brunei                                      |
| Nauru                              | Burkina                                     |
| New Caledonia                      | Burundi                                     |
| Niue                               | Cameroon                                    |
| Palau                              | Cape Verde                                  |
| Papua New Guinea                   | Central African Republic                    |
| Philippines                        | Chad                                        |
| Reunion                            | Chine                                        |
| Samoa                              | Colombia                                    |
| Singapore                          | Costa Rica                                   |
| Solomon Islands                    | Cuba                                        |
| Taiwan                             | Cuba                                         |
| Thailand                           | Cuba                                         |
| Timor-Leste                        | Cuba                                         |
| Tonga                              | Cuba                                         |
| Tuvalu                             | Cuba                                         |
| Vanuatu                            | Cuba                                         |
| Vietnam                            | Cuba                                         |

Eastern Europe and the Baltics
<p>| Albania                           | Hungary                                      |
| Bosnia-Herzegovina                | Latvia                                       |
| Bulgaria                          | Lithuania                                    |
| Croatia                           | Macedonia                                    |
| Czech Republic                    | Montenegro                                   |
| Estonia                           | Poland                                       |
| Hungary                           | Romania                                      |
| Kosovo                            | Serbia                                       |
| Latvia                            | Slovakia                                     |
| Lithuania                         | Slovenia                                     |
| Macedonia                         | Turkey                                       |</p>
<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle East and North Africa</td>
<td>Algeria(^1, 2), Bahrain(^1, 2), Djibouti(^1, 2), Egypt(^1), Iran(^1, 2, 3, 4, 5), Iraq(^1, 2, 3, 4), Israel(^1, 2), Jordan(^1, 2), Kuwait(^1, 2), Lebanon(^1, 2, 3, 4), Libya, Malta(^1, 2), Morocco(^1, 2, 3, 4, 5), Oman(^1, 2, 3, 4), Qatar, Saudi Arabia, Syria(^1, 2), Tunisia(^1, 2, 3, 4), United Arab Emirates(^1, 2, 3, 4), West Bank Gaza, Yemen(^1, 2, 3, 4)</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>Angola(^1, 2, 3, 4), Benin(^1, 2, 3, 4), Botswana(^1, 2, 3, 4), Burkina Faso(^1, 2), Burundi, Cameroon, Cape Verde, Central African Republic, Chad(^1, 2), Comoros(^1, 2, 3, 4), Congo, Congo, Dem. Rep.(^1, 2, 3, 4)</td>
</tr>
<tr>
<td>OECD</td>
<td>Andorra(^1), Australia(^1, 2), Austria(^1, 2, 3, 4, 5), Belgium(^1, 2, 3, 4, 5), Canada(^1, 2, 3, 4, 5), Cyprus(^1, 2, 3, 4), Czech Republic(^1, 2, 3, 4, 5), Denmark(^1, 2, 3, 4, 5), Finland(^1, 2, 3, 4, 5), France(^1, 2, 3, 4, 5), Germany(^1, 2, 3, 4, 5), Greece, Hungary, Iceland(^1, 2, 3, 4, 5), Ireland(^1, 2, 3, 4, 5), Italy(^1, 2, 3, 4, 5), Japan(^1, 2, 3, 4, 5), Liechtenstein, Luxembourg(^1, 2), Mexico(^1, 2, 3, 4, 5), Monaco, Netherlands(^1, 2, 3, 4, 5), New Zealand(^1, 2, 3, 4, 5), Norway(^1, 2, 3, 4, 5), Poland, Portugal, San Marino, Slovakia, Spain(^1, 2, 3, 4, 5), Sweden(^1, 2, 3, 4, 5), Switzerland(^1, 2, 3, 4, 5), United Kingdom, United States(^1, 2, 3, 4, 5)</td>
</tr>
</tbody>
</table>
References


<http://www.worldvaluessurvey.org/>. 