DOES OPEN GOVERNMENT PAY?

THE IMPACT OF OPEN GOVERNMENT ON TRUST IN PUBLIC INSTITUTIONS

by

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STATEMENT BY AUTHOR

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Dedication

This thesis is dedicated to the many that have supported me in writing it. First and foremost, I'd like to dedicate this thesis to Dr. Tauhidur Rahman for giving me the support and guidance throughout the research process. Second, I'd like to dedicate this thesis to my family, especially my father Joe Navelski Sr., for always believing in me and for always supporting my ambitious goals. Third, I'd like to dedicate this thesis to all of the friends and co-workers that I have come across in my life and my travels. Every person I have met has had a unique impact on me during my pursuit of my life goals. Those experiences have shaped my research capability and giving me the courage to investigate. For this, I have learned to think about and question worldly problems in many different ways. Lastly, I would also like to dedicate this thesis to the loved ones I have recently lost. In secrecy, I will not name them in this dedication, but I am dedicating this thesis to them because each person that has passed has left a strong and everlasting mark on my perception about life. In each experience, I have loved, lost, and grown. I cherish my relationship with these people, and each one of these passings has elevated my courage to love more.

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Abstract

Trust in public institutions plays a vital role in many economic and social outcomes. Studies have documented strong economic payoffs to trust, but less attention has been paid to the determinants of public trust in public institutions. Stevenson and Wolfers (2011) study the impact of the business cycle on public trust and show that a rising unemployment rate decreases public trust in institutions. This study builds upon Stevenson and Wolfers (2011) and systematically investigates the impacts of open government on trust in public institutions. We construct a new panel data set that covers 134 countries over 2006-2016. Using alternative measures of open government, we document that open governments, in general, have higher level of public trust in a variety of public institutions. This study supports the finding in Stevenson and Wolfers (2011), and finds that different aspects of open government influences trust in an array of public intuitions.

Keywords:

Trust, Institutions, Open Government, Transparency, and Accountability

1. Introduction

> Virtually every commercial transaction has within itself an element of trust.
>
> Kenneth Arrow (1972)

Public trust, defined as cooperative attitudes outside the family circle, is an important aspect of social capital. Social scientists have discussed its positive role in economic growth and in desirable social outcomes (Banfield, 1959; Knack and Keefer, 1997; Coleman, 1974; and Putnam, 2000; Algan and Cahuc, 2013). Public trust is vital for conducting efficient economic activity and it helps in explain inequality of development across countries (Acemoglu et al., 2001). Critics argue that public trusts role in explaining economic growth across countries is far from well established because it and its interrelationships are difficult to measure (Durlauf, 2002; Sabatini, 2006). Either positive or negative, the drivers of public trust cannot be ignored.

Public trust at the institutional level has received particular attention in recent years, and some theorize that it is a driver or public trust in general. The Organization for Economic Cooperation and Development (OECD) has been at the forefront of studying the drivers of public trust in institutions (OECD, 2012), which is largely motivated by the fact that an increase in trust in public institutions will increase citizen engagement and enhance support for government programs, leading to lower enforcement costs (OECD, 2016).[1] A key driver of public trust in government institutions is government openness and transparency (OECD, 2017), where government openness refers to the transparency of government actions, the accessibility of government services, information and the responsiveness of government to new ideas, demands and needs.

While the literature on institutional trust and its determinants is vast, it is largely theoretical. This paper explores the determinants of public trust in the institutions that are highly regulated by the government, with a particular focus on the roles of open, transparent and accountable government. To investigate this relationship, we construct a unique and suitable panel dataset from eight different macroeconomic data sources. It covers 134 countries annually from the periods of 2006-2016. Results from both random and fixed effect models show that government openness, captured by alternative measures and proxies, positively influences public trust in institutions (*government, judicial, financial, military and policing*).

This paper provides the first empirical evidence, to the best of our knowledge, on the impact of government openness on the levels of public trust in five public institutions. This paper compliments the findings of Stevenson and Wolfers (2011) on the drivers of trust in public institutions. To investigate this relationship, this paper also provides, to the best of our knowledge, some of the first theoretical proxies of government openness. The remainder of the paper is organized as follows. In section 2, the background and motivation is provided. In section 3, the data and empirical strategy is provided. In section 4, the empirical model is provided. In section 5, the methodology of the sensitivity analysis is provided. In section 6, the multivariate regression results are provided. In section 7, the summary and conclusion are provided.

[1] Public trust in institutions is subjectively defined, but it is generated when citizens perceive public institutions as trustworthy, efficient, fair and honest (Easton, 1965; Blind, 2007; OECD, 2017).

2. Background and Motivation

Every commercial transaction requires some level of trust among the parties involved. Greater public trust minimizes transaction costs in any social, economic and political relationship, and trust in institutions is one of the most important foundations of legitimate and sustainable political systems (Arrow, 1972; Fukuyama, 1995). Trust is essential for societal well-being because it enables institutions to act without public coercion. Coercion has costs, and greater public trust drives down these costs. Greater public trust encourages individuals to support political outcomes that are meant to improve the general wellbeing of civil society but are not necessarily deemed economically efficient at that moment. This helps institutions implement structural reforms that have high up-front costs to citizens (i.e. taxation policies meant to reduce the effects of climate change), and have greater long-term benefits (i.e. the agriculture industry will have more predictable and reliable climatic conditions). In an environment with low public trust, the public may prioritize immediate and less beneficial opportunities. This behavior will encourage lawmakers to seek short-term and opportunistic gains knowing that free riding and populists attitudes exist in society (OECD, 2013; Gyorffy, 2013).

Public trust is necessary for the fair and effective functioning of a government, and a high level of public trust may increase the efficiency and effectiveness of institutional and governing processes (Knack and Keefer, 2007). Institutions are required not only to adhere to the law, but also to impose effective rule of law that delivers basic public services. Financial and political decisions depend on well-functioning institutions, making public trust a critical component for increasing economic growth and development (Knack and Keefer, 2007; Dasgupta, 2009; Algan and Cuha, 2013). Public trust in institutions can deter individuals from engaging in opportunistic behavior, such as free-riding behaviors that yield from the "tragedy of the commons." Rules and regulations are always, to some extent, vulnerable to abuse, but greater public trust in institutions can reduce this opportunistic behavior. Once this opportunistic behavior decreases and regulatory compliance improves, the cost of enforcing these rules also decreases and the revenues from these lowered costs can be redistributed to society. In essence, a greater level of public trust will incentivize the public to comply with the rules because their over-all satisfaction will increase from the gain in the services the institution provides (Murphy, 2004).

Lastly, greater public trust allows institutions to collect valid information about the dynamics of the economy. If society trusts the institution's intentions for using the public's behavioral and economic data, such as consumption data, to champion effective and mutually beneficial policies, then the institution can implement policies that are more representative of the public's needs and wants. Essentially, an increase in public trust in institutions increases the total factor productivity of the institution and fosters growth. This also enables the institution to extend the planning horizon of economic agents and increases economics dynamism (Dasgupta, 2009).

In all, economics supports the notion that higher quality public institutions positively influences economic growth, makes it easier to manage inequality, and increases all standard measurements of wellbeing, social trust, public trust, and political legitimacy (Hausman & Rodik, 2003; Rothstein, 2012; OECD, 2017). With that said, the OECD estimates that an average of 43% of the world's citizens trust their governments, and Huntington (1991) states that in spite of the expansion of democracy, which is seen as the most trustworthy form of governance, democracies have seen a decline in both civic participation and confidence in the governmental institutions. Gallup World Poll data supports Huntington's (1991) findings, and shows that although there has been an increase in the average percent of the population that trusts their country's judicial, military and policing institutions from 2006 to 2016, there has been a steady decline in the average percent of the population that trusts their country's government and judicial institutions. The data also shows that the average percent of the population that trusts their country's institutions varies significantly according to the country's income level (*see figure 2.0.0*). This variability and lack of trust makes it difficult to implement policies that require behavioral responses from the public and decreases the confidence of the investors and consumers that interact with that institution.

2.1. Drivers of Trust in Public Institutions

In order to write policy geared towards increasing public trust in public institutions it is first important to deconstruct, disentangle and identify the factors that drive *the public's trust in general* and *at the institutional level. Social trust* and *systematic/institutional trust* are the two main components of public trust *(see figure 2.1.0)*. *Social trust* is the confidence the public has in the social community, and *systematic/institutional trust* is a measure of the trust that citizens

have with government, its institutions, and its ability to regulate institutions (Blind, 2007; OECD, 2017).[23] Another definition of *systematic/institutional* trust is the public's confidence in the government's ability to do what is right and perceived fair (Easton, 1965). In this case, society collectively decides what is right and fair and interprets the functioning of the institution (Bouckaert and Van de Walle, 2003). This paper uses Easton's (1965) definition of *systematic/institutional* trust and considers *societal trust* as exogenous and separate from *systematic/institutional trust*.[4]

Stevenson and Wolfers (2011) investigated the effect the business cycle had on the public's trust in three different public institutions from 2006-2011. They used panel data from The Gallup World Poll and International Monetary Fund (IMF) to assess the effects the 2008 world financial crisis had on the public's trust in the national government, financial and banking institutions, and the judicial and court systems. They used unemployment as a proxy for the financial crisis and collected data on approximately 65 countries. They found that a country's unemployment rate has a strong negative relationship with a country's level of trust in its national government, financial, and judicial institutions. Specifically, for every one percent increase in unemployment, a country's average level of trust in the national government drops by 1.59%, in the financial institutions by 1.93%, and in the judicial system by .87%. Stevenson and Wolfers (2011) is the only empirical analysis, to the best of our knowledge, that has investigated the drivers of public trust in institutions, and this paper is meant to complement and further their research. To do this, we first need to revisit the elements that theoretically make up the public's trust in institutions.

The two branches that make up the public's trust in institutions are the public's *trust in the institution's competence* and *it's values.* Institutional *competence is the operational efficiency, capacity, and good judgment* an institution has to actually deliver on mandates, and it's institutional *values are the underlying intentions and principles* that guide it's actions and

[2] Blind (2007) defines *systematic/institutional trust* as *political trust* because Blind specifically reviews the literature that surrounds trust in governmental institutions. This paper opens the narrowed scope of *political trust* by looking at the drivers of trust in the institutions that are highly regulated by the political systems. This paper re-defines *political trust* as *systematic/institutional trust* and combines this definition with OECD's (2017) theoretical breakdown of public trust.

[3] Inherently, social and systematic/institutional trust are difficult concepts to disentangle from themselves because institutions are typically managed or represented by members of society. This means that the public may trust the people that are managing or representing the institution, but may not trust the institutional framework itself.

[4] This paper assumes that each measurement of trust is a signal of perception as it is difficult to obtain a completely objective measure of *systematic/institutional trust*.

behaviors. Both the *competence* and *values* of an institution are interesting research topics, but this paper specifically focuses on *the values* of an institution. Values are important because institutions have power, and without values, this power is easily abused, corrupted and manipulated. Understanding how this power is administered and accessed are both important in the creation and management of a high quality governing institution. How well the power is administered is easily measured by policy effectiveness, but how the power is accessed and managed is more difficult to assess. It is more difficult to assess because institutions need to abide by a set of values that allow stakeholders to engage with institution (Farber, Rothstein, & Valletta, R., 2015). The more stakeholders can engage, the more the stakeholders can hold the institution accountable, and institutional quality will increase.

Increasing quality is important because a high-quality institution has strong values and holds stakeholders' trust. For example, the rule of law and independent judiciary are important and key drivers of public trust in institutions (Knack and Zak, 2003; Johnston, Krahn & Herrison, 2006; Blind, 2007). The three ways to strengthen the values of an institution are to increase the *integrity, openness, and fairness* of the institution (Choi and Kim, 2012; OECD, 2014, 2017). Essentially, the citizenry uses these three perceptions to evaluate the values of the institution, and being more open and transparent allows the citizenry to gather more information for their evaluative process. This is important because a public institution is supposed to represent the public's wants, needs and values, and if a public institution is not open and transparent, then the public will not have the information needed to be able to hold that institution accountable for its representative actions.

2.2. Government Openness and Trust in Public Institutions

Emmette Redford states in his 1969 book, *Democracy in the Administrative State*, that democratic morality centers on the individual's relationship with the administrative state. He postulates that civic participation is necessary during the decision-making process, and that in order for the decision making process to be effective, participants need "access to information based on education, open government, free communication and open discussion." (Redford, 1969, p. 8). Since Redford's book the issue of government openness, transparency and accountability has risen to the frontier of championing effective economic development policies, and the research interests surrounding government openness continues to grow. For example,

former U.S. President, Barack Obama ran his 2008 campaign on the principle that government reform should be open and transparent to the civil society it represents, and in 2009 he signed the Memorandum on Transparency and Open Government. The memorandum stated the Administration's commitment to creating openness in government increasing government transparency, public participation and political collaboration (Coglianese, 2009; Gasco-Hernandez & Xu, 2014). The idea was that a more open and transparent government will enable the actors in civil society to hold the government more accountable in the development and implementation of reforms. The administration believed that giving civil society access to unbiased information about the government's decision-making processes was a central component of governmental transparency and openness. They believed that a more open and transparent government would ensure accountability and increase efficiency (Gasco-Hernandez & Xu, 2014). Since the signing of this memorandum, World Leaders have pushed reforms geared towards increasing government transparency and have created organizations specifically meant to "open" governments. An example organization is the Open Government Partnership (OGP). The OGP was created in 2008 as a sister project to the U.S.'s OpenTheGovernment.org movement, and the OGP's goal is to shorten the "representation" gap between the world's governments and the civil societies these governments represent. To do this, OGP encourages representatives, from both the government and civil society, to co-draft and submit a National Action Plan (NAP) to OGP. The NAP is an outline of realistic and attainable openness and transparency goals (IDRC, 2015). The OGP started with seven participating countries, and since 2008, 77 countries have pledged to the OGP cause.

It is crucial to deepen our understanding of the effect of government openness in order for state and non-state actors to produce effective political reforms. Giving the public access to the internal workings of the government has been debated because some believe that it is in the best interest of civil society for governments, including democracies, to maintain a certain level of secrecy to effectively govern (Mani and Mukand, 2007; Kono 2006; Rejali 2007; Stiglitz, 2002). On the contrary, there is a wealth of literature that outlines the benefits of having a more open, democratic and transparent government (Acemoglu et al., 2015, 2005; BenYishay & Betancourt, 2008, Nduo, 2004). Understanding the empirical nature of how government openness affects institutional trust is important, and will contribute to the aforementioned debate. This paper focuses on the relationship between government openness and how it affects the

public's trust in the institutions it regulates in an attempt to aid policy makers write reforms that will yield higher quality and more representative institutions.

3. Data and Empirical Strategy

3.1. Data

We construct a suitable panel dataset using eight different data sources.[5] The data used in the panel dataset is procured from academic researchers and research organizations that openly disseminate their data to aid research innovation. In the selection of the variables used in the analysis, we consider the variable's data generation process, its empirical definition, and its constructions methodology. The data files procured from these sources are all in unique file formats and are all disseminated in their own unique data frame structure. All of these file formats are merged using their country name, country code, and time interval, and to maintain a high level of transparency and to ensure replicability, we construct the dataset and employ analysis using only statistical software and the raw data in its original file format. All data management and panel data construction is done using SAS, and all econometric analyses are conducted using STATA. The final panel dataset covers 134 unique countries in an 11-year time series that spans from 2006 to 2016. A list of the data sources, the chosen variables and their descriptive statistics can be found in *table 3.1.0 & table 3.1.1.* An overview of the countries included in the analysis is presented in *figure 3.1.0.*

3.2. Measuring Trust in Public Institutions

Public trust in institutions is difficult to measure empirically for a number of reasons. First, there are many layers of trust that contribute to institutional trust, and these layers are difficult to disentangle and quantify. The formal definition of institutional trust is typically based on perception, and the data points used to quantify institutional trust are often collected by surveys administered to citizens, businesses and/or experts. These surveys tend to ask questions

[5] Data sources include Acemaglu et al. (2014), The Gallup World Poll, World Bank, Transparency International, the HRV Transparency Index (2010), the United Nations, Freedom House, The World Values Survey, and the Open Government Partnership. All primary data sources are used in the analysis, and all secondary sources are used in an effort to cross-reference our analysis.

about the respondent's trust and/or confidence in the government, leadership, and/or a specific institution (OECD, 2013).

Several international organizations administer surveys that focus on, or have questions that focus on, the stakeholder's level of public trust in institutions. The two main international organizations that collect and publicly publish data on institutional trust are Gallup and the World Values Survey. Their surveys cover a wide range of topics and capture a variety of behavioral economic data, including specific questions geared towards public trust in institutions. Gallup administers an annual survey, called the Gallup World Poll, to over 160 countries in 140 different languages, and they have a multitude of questions that ask about the public's confidence in a wide range of institutions (Gallup, 2018). The World Values Survey administers an annual survey, which is released in 5-year waves, to over 1200 residents in each country, and the survey has questions that ask about the respondent's confidence in over 19 institutions/organizations (World Values Survey, 2012).

The Gallup World Poll and the World Values Survey are the only cross-national datasets that assess public trust in institutions and are published frequently and recently enough to investigate how government openness explains and predicts public trust in institutions. Other organizations collect data on institutional trust, like the Eurobarometer, Edelman Trust Barometer, and Latiobarómetro, but most of their data is not publically accessible and regionally focused.[6] With that said, this paper uses Gallup World Poll data for the "trust in public institutions" variables. To collect this data, the Gallup World Poll uses proportional stratified probability sampling, and administers an annual survey to about 1,000 people in 155 countries. The survey asks about 140 core questions that are based on Business, Economics, Citizen Engagement, Technology, Education, Family, the Environment, Energy, Housing Conditions, Government, Health, Law and Order, Religion and Ethics, Social Issues, Well-Being, and Work conditions within that country. The Gallup World Poll survey asks: "In [country], do you have confidence in each of the following, or not?" It proceeds to list an array of institutions, including "national government," "financial institutions or banks," the "judicial system and courts," the "military" and the "police." Respondents are allowed to answer with a "yes", "no" or "don't know" response, and Gallup aggregates and reports all responses at the national level for each

[6] This would not normally be a problem, but this analysis employs a fixed effect model because of the complex relationship between open government and trust in institutions.

country in each year. Responses to questions are usually aggregated to the country level to ensure respondent anonymity and that all human subject guidelines are followed. Each observation value for each variable is the percentage of the country's population that responded with a "yes" response. These variables are considered to be adequate proxies for trust in institutions because they follow the same economic intuition presented in the *Trust in Public Institutions Over the Business Cycle* by Stevenson and Wolfers (2011).[7]

3.3. Measuring Government Openness

Governance is the process through which state and non-state actors interact to design and implement policies within a given set of formal and informal rules that shape and are shaped by power (World Development Report, 2017). For this process to be open and transparent, governments must provide access to public sector information and ensure the public can interpret and use this information effectively (OECD, 2017). Measuring how well the government provides information and services used to interpret the information is difficult, but many international organizations and academics have developed novel ways of measuring openness and transparency.

Government openness is a broad term, but it can be defined as a governing structure that allows citizens to have the right to access the documents and proceedings of the government to allow for effective public oversight (Lathrop and Ruma, 2010). The International Monetary Fund's (IMF) definition of government openness is similar, but they chose to focus more on the level of transparency within the government. The IMF's Fiscal Transparency Guidelines states that ''fiscal transparency requires providing comprehensive and reliable information about past, present, and future activities of government, and the availability of this information informs and improves the quality of economic policy decisions'' (IMF, 2016). Mitchell (1998) and many other researchers follow the "transparency as government openness" trend, and define transparency as the dissemination of regular and accurate information. Vishwanath and Kaufmann (1999, pg. 3) also agree, and define transparency as the ''increased flow of timely and reliable economic, social and political information, which is accessible to all relevant stakeholders." Some researchers define government openness as having two distinct components.

[7] The author does consider the *trust in institutions* variables adequate proxies for the analysis, but were not chosen because of the lack of previous literature that has used the World Values Survey data in empirical analyses. This data should and will be used in future analyses to cross reference results.

The first component is whether or not the government regulates the freedom of media/speech in the best interests of the electorate (e.g., Freedom of Information Act, Sunshine Policy). The second component is about the willingness of a government to regulate and disseminate information that can be used to evaluate and hold that government accountable (Kaufmann and Bellver, 2005; Hollyer, Rosendorff and Vreeland, 2011).

Theoretically, "government openness" is a concept in its infancy, and this paper's intention is to propose a baseline metric for future analyses. The Open Government Partnership's criteria of "openness", in terms of what they accept for goals in proposed National Action Plans, is a valid conceptual definition of government openness. Furthermore, the type of a governmental institution, a government's openness to international trade, regulatory freedom of the media, amount of corruption in the public sector, transparency and e-governance level all have been used to theoretically quantify and influence government openness. In this study, we use these theoretical definitions as proxies for government openness to investigate their relationship with public trust in institutions empirically *(see figure 3.3.0)*. All open government proxies, their definitions, their data generation method, and unit of measurement can be found in *table 3.3.0*.

3.3.1. Democracy as Government Openness

A democracy is one of the most open and transparent political frameworks. Schumpter (1942) defines a political regime by the method of filling political offices, and labels a political regime a democracy if the executive and the legislature branches are both filled by ''contested elections.'' Contestation implies multiple parties compete, incumbents have some probability of losing the elections, and all parties comply with the results (Schumpeter, 1942; Przeworski et al., 2000). Dahl (1971) claims that in order for there to be contention at the ballot box, voters must make informed decisions, and these decisions require strong civil liberties such as freedom of speech, assembly, and press (Dahl, 1971). In essence, Dahl claims that for a government to be considered a democracy, it needs to be open, transparent and have the ability to facilitate the unbiased free flow of information between the government and the electorate.

Although Dahl makes a valid point, democracy and openness have a multidimensional relationship that is difficult to disentangle. Mani and Mukand (2007), Kono (2006), and Rejali (2007) agree that government openness is important, but they also propose that that the decisions

of democratic governments are shaped in part by the degree of obfuscation they enjoy. They theorize that democratic governments may even have incentives to promote opacity with respect to their policy-making decisions. They argue that democratic governments are only open to some degree because governments chose to only disseminate the information about their policymaking that will ensure their reelection. This argument is supported by case studies and empirical evidence, and it makes it difficult to deviate from that minimalist definition of democracy proposed by Schumpeter (1942) and Przeworski et al. (2000).

With that said, researchers do use this minimalist definition of democracy to investigate its effects on economic growth, and its empirical effects have always been at the forefront of debate. Some researchers discern democracy because their findings show that it has no effect on economic growth, and in some cases, that it has a negative effect on economic growth (Friedman, 2009; Barro, 1997; Gerring et al., 2005). Others marginally agree, but argue that democracy and capitalism are contradictory, and that wealth redistribution discourages economic growth (Lindblom, 1977; Schumpeter, 1942; Alesina & Rodrik, 1994; Persson & Tabellini, 1994). Contrary to these view points, many researchers argue that democracy is not only important for the fundamental civic rights of the public, but it actually has a strong and significant impact on economic growth (Rodrik and Wacziarg, 2005; Persson and Tabellini, 2008; Bates, Fayad and Hoeffler, 2012). Acemoglu et al. (2015) recently supported this argument by creating a democratic binary variable using it as an independent variable of interest in a dynamic fixed-effects model. They find that the year before a country became democratic has a highly significant and positive 1% effect on that country's GDP per capita in the next year. This result is important because if being or becoming a democracy, which Dahl (1971) defines as open and inclusive, then the electorate can make a more informed decision when selecting a political candidate that supports policies meant to increase citizen wellbeing. By this logic, democracy can be used as a proxy for transparency, and it would imply that having a more open and democratic political system would contribute to an increase in trust public in institutions, and therefore, and increase in economic growth.

With that said, this paper uses the Acemoglu et al. (2015) dichotomous democratic indicator as a proxy for government openness. Daron Acemoglu is a prominent economist and faculty member at the Massachusetts Institute of Technology (MIT). He has collaborated with other academic researchers to develop a dichotomous index of democracy, and used this index to

help argue that democracy does cause growth. The Acemoglu et al. (2015) index construction and analytical methodology can be found in their most recent publication, "Democracy does Cause Growth," and within this publication there are directions on how and where to access their sourced data, their code, and their constructed democratic indicator. The Acemoglu et al. (2015) dataset contains annual country level data on 184 countries from 1960-2010, and they primarily source their data from Freedom House and Polity IV to construct the democratic indicator. This indicator is a binary variable, 1 for democratic regime and 0 for a non-democratic regime, and about 80% of observations are listed as democratic (Acemoglu et al., 2015).

3.3.2. Trade Openness as Government Openness

Trade openness and growth has been a controversial subject at both the theoretical and empirical levels. In the standard neoclassical model of exogenous growth, changes in trade openness (or trade policy) can affect the pattern of product specialization but not the long-term economic growth rate. In the new growth theory, changes in trade policy can influence long-term economic growth rates, and the majority of new growth theory holds human capital and labor fixed while introduction introduce "openness" or "transparency" as a variable of technological change (Barro, 1991). Some researchers present models where an increase in trade between a developed country and less developed countries (LDC) can reduce long-term growth rates for all trading parties (Young, 1991; Stokey, 1991; Spilimbergo, 2000). On the other hand, Grossman and Helpman (1991) present a model where trade between a developed country and LDCs can, under certain conditions, improve long-term growth rates in LDCs. Theoretically, there are many different arguments, and empirically there are many different results. In general, opening up trade barriers typically increases foreign direct investment (FDI) and revenue, but the mixed results urges us to deepen our empirical research.

With that said, the empirical research focal point then becomes about how these trade barriers are managed and enforced because these practices are key players in deciding economic outcomes (World Bank, 2017). The empirical research that focuses on "trade openness" starts with Solow's classical growth model and yield mixed results (Musila & Yiheyis, 2015; Solow, 1956). Some cross-country regression analyses find a positive relationship between trade openness and economic growth (Harrison, 1996; Barro, 1991; Dollar, 1992; Dollar & Kraay, 2001, 2003; Edwards, 1998; Frankel & Romer, 1999; Sachs & Warner, 1995). Others find a

negative relationship and show that instead there is a positive relationship between tariffs and a country's long-term growth rate (Clemens & Williamson, 2001; Irwin, 2002; O'Rourke, 2000). Most of these early cross-country empirical studies suffer from a number of problems including weak theoretical foundations, poor data quality, inappropriate econometric techniques, and failure to adequately address the possibility of mutual causation (Baldwin, 2003; Rodriquez & Rodrik, 2001; Samman, 2005; Srinivasan & Bhagwati, 2001). These problems were diminished when Dr. Ann Harrison, from the University of Pennsylvania, used a panel dataset, with seven different trade openness indicators, to explain and predict the effect trade openness has on economic growth. She found that most of the trade openness indicators positively affect economic growth, and her conclusion is significant because if trade openness positively affects economic growth then it could also have a positive effect on the public's trust in institutions (Harrison, 1996).

Ann Harrison's results nudged researchers and research organizations to more deeply research the relationship between trade openness and growth. One organization that has been investigating the trade openness more recently is The World Bank. The World Bank funds an organization to investigate and quantify a nations ability to facilitate business transactions efficiently. The organization is named *Doing Business*, and each year *Doing Business* works with academia to construct a standardized questionnaire about the business environment in each country. This questionnaire is then administered to over 12,500 local experts, including lawyers, business consultants, accountants, freight forwarders, government officials and other professionals routinely administering or advising on legal and regulatory requirements across the globe. The *Doing Business* team then cross-validates these respondents, and in 2018 the team visited 26 different economies to ensure response validity.

This paper uses the World Bank's Ease of Doing Business Indicator as a proxy for trade openness and for government openness. The Ease of Doing Business Indicator is constructed using aggregate data from 10 different sub-indices about. Each sub-index represents a factor that goes into the ease of doing business, and the sub-indexes are: Ability to start a business, dealing with constructing permits, access to electricity, registering a property, getting credit, protecting investors, paying taxes, trading across boarders, enforcing contracts, and resolving insolvency. Each year *Doing Business* publishes 24,120 indicators (120 for each country), and these indicators are used to make the composite indicator for the time-series variable "Ease of Doing

Business." The methodology for constructing the Doing Business Index has changed four times since 2010 in an attempt to make the index more representative in measurement, but the scale has never changed. For every methodological change between years, the World Bank re-estimates the index score for the previous year using the new methodology. This tactic makes it easier to compare across all years from 2010 to 2018, and to mitigate bias between methodologies. The average score between the two estimated scores for that year is then used to create an aggregate measure for that year. The scale of the index ranges from 0, the most difficult to do business, to 100, the easiest to do business with, and the final dataset has 1798 observations for over 200 countries within the years of 2010 to 2018 (Doing Business, 2011).

3.3.3. Corruption as Government Openness

With the inherent difficulties of quantifying government openness, it is also difficult to quantify some of the proxies used to mimic a government's level of openness. One theory is that the more corrupt a government is the less it is perceived to be open because an increase in corruption is associated with a decrease in the local media's freedom, internet access, and government online service delivery (Starke, Naab, & Scherer, 2016). Another theory is that democracies and countries with more liberal international trade policies are typically seen to have lower corruption levels. The trouble is, is that theses theories do not hold for all countries. Therefore, defining corruption independently and empirically has long been a daunting task for researchers. The United Nations Development Programme (UNDP) defines corruption as the "misuse of entrusted power for private gains" (UNDP, 2008, pg. 18). Organizations, such as the Berlin-based NGO Transparency International (TI), the World Bank and Freedom House have built indicators that represent the corruption levels in governments. These organizations use a wide range of data generation techniques, such as collecting survey data with variables that closely represent corruption, and then use the data to construct world-renowned corruption indices. These indicators are not flawless, and have been heavily criticized in the past.

Some researchers suggest that corruption might be beneficial, to things like economic growth, because it allows for a more efficient way of conducting entrepreneurial practices that bypass inefficient government regulations (Leff, 1964; Huntington, 1968; Acemoglu and Verdier, 1998). The majority argue that this is not the case, and that corruption tends to hurt innovative and entrepreneurial activities because research and development still needs

government-supplied goods, such as permits and import quotas, and the more established producers wean off innovators by strengthening the barriers to entry through excessive bribes. Furthermore, unlike established producers, innovators are often credit-constrained and cannot find the cash to pay bribes (Murphy et al., 1993).

Studies suggest that high corruption levels are unfavorable for economic development (Gould and Amaro-Reyes, 1983; United Nations, 1990; Mauro, 1995). In 1995, Mauro conducted an empirical analysis of corruption by investigating the relationship between investment and corruption for 58 countries, and he found that corruption had a significant negative effect on the ratio of investment to GDP (Mauro, 1995). In 2000, Pak Hung Mo used an ordinary least squares model to empirically investigate the channels through which corruption affects economic growth, i.e. investment, human capital, and political instability. He finds that a 1% increase in the corruption level reduces the growth rate by about 0.72%. Furthermore, Pak Hung Mo finds that political instability accounts for 53% of total effect of corruption, and that an increase in corruption reduces the level of human capital and share of investment (Hung Mo, 2000).

Additionally, research has shown that higher corruption levels have a negative effect on voter turnout. Stockemer, LaMontagne, and Scruggs employed an empirical analysis, using an instrumental variable regression methodology, and they found that for every one-point increase in the country's ability to control corruption there is a 6% increase in voter turnout. This research is important because it aids in quantifying the causal relationship between corruption and the civic engagement within a country (Stockemer, LaMontagne, and Scruggs, 2011).

With that said, a more corrupt institution is typically considered to be less transparent, and corruption is seen to be an adequate indicator for a more open and transparent government. This paper uses two different proxies for the perceived level of corruption within the government and for government openness. The first proxy used for the perceived level of corruption is procured from Transparency International. Transparency International (TI) is a non-profit human rights organization that specializes in combatting corruption and the criminal activities that arise from corruption. To combat corruption in the public sector, TI annually publishes the Corruption Perception Index (CPI). Transparency International's CPI is considered one of the world's strongest indicators for the world's perception of government corruption within a country. The CPI is a composite measurement of corruption within each countries public sector,

and the indicator is constructed with data from 13 corruption-based surveys from 12 different reputable institutions stationed all over the world. The CPI was first created in 1995, and from 1995 to 2011 the index is based on a 10.0-point scale. Essentially, the more corruption a country is perceived to have, the lower the CPI score, and the less corruption a country is perceived to have, the higher the CPI score. In 2011, TI increased the CPI scale to a 100-point scale to make it more representative of a percentage-based unit of measurement. To adjust for this change and to use TI's CPI in the analysis, all other previous years were increased from the 10.0-point scale to the 100-point scale.[8] The CPI can be interpreted as a proxy for the "world's perception of corruption and openness within the public sector" because the data sources used to construct the indicator are stationed all over the world.

To cross reference results, this paper uses another measurement of corruption from the Gallup World Poll. The Gallup World Poll investigates corruption within each country by asking the worlds citizens about corruption within the public sector. The Gallup World Poll asks: "Is corruption widespread throughout the government in this country, or not?" Respondents are allowed to answer with a "yes", "no" or "don't know" response, and Gallup aggregates all responses to the national level and presents the data in terms of the percent of the population that has responded with the aforementioned options. This proxy represents the perception of corruption within the country (domestically), and this variable has 1224 observations over 155 countries between the years of 2006 to 2016.

3.3.4. Freedom of Media as Government Openness

As mentioned before, one of the two components that make up government transparency is its ability to facilitate and manage freedom of speech laws. Promoting the freedom of the press and speech has long been a driving component in the promotion of democracy around the world. Having these laws enables a country's citizenry to become more informed about the decision-making processes within the government. Additionally, freedom of speech has been linked to a theoretical increase in economic growth. For example, in their study of the growth of English cities from the 1860s to the 1960's, Simon and Nardinelli (1996, pg. 391) state that "The creativity of the market economy – the increasing returns so important in modern growth theory

[8] The author does not believe this changes any economic interpretation of the results since the same change was made for each year across all countries.

– in large part arises from what happens when people with information get together and talk. The talk is necessary to turn information into productive knowledge."

Douglas North's research about intuitional economics gained momentum in the 1990's, and since then, researchers have tried to link the impact of institutional regulatory power and economic growth. In particular, many researchers have tried to deepen their understanding of how the rule of law and the protection of civil liberties, such as the freedom of expression and belief, impacts growth (Yishay & Betancourt, 2008; Acemoglu & Johnson, 2005). In Yishay and Betancourt's (2008) paper, they investigate how the subcategories of Freedom House's indicators affect growth rate. Freedom House is a human rights organization that publishes a range of indicators that measure civil liberties societies have within a country, and one of these indictors is the Freedom of Expression and Beliefs. Even though it did not have the strongest impact on economic growth, Freedom House's Freedom of Expression and Beliefs has a positive, significant and robust impact on economic growth (Yishay & Betancourt, 2008). This result is important because if a country has the ability to open up to the public's opinion about their governing system, then they could increase economic growth and/or the public's trust in the institutions it governs.

The freedom of the media proxy used in this paper is procured form the Gallup World Poll dataset. The Gallup World Poll asks: "Do the media in this country have a lot of freedom, or not?" Respondents are allowed to answer with a "yes", "no" or "don't know" response, and Gallup aggregates all responses to the national level and presents the data in terms of the percent of the population that has responded with the aforementioned options. From the years of 2006 to 2016 the World Poll has 851 observations of this aggregated data. This freedom of media indicator can be interpreted as a measurement of the opinions or behaviors of the domestic population.

3.3.5. Transparency as Government Openness

Theoretically, transparency is the strongest proxy for government openness, and most of the literature uses these terms synonymously. Stasavage (2003) believes that a government's level of transparency reflects the willingness of that government to provide information about their decision-making process to the public. The willingness to provide policy related information to the public is important because a more transparent government is considered to be

more accountable for their political actions (Barro, 1973; Ferejohn, 1986). "Transparency is a tool to facilitate the evaluation of public institutions, and the information provided needs to account for their performance (Kaufmann & Bellver, 2005, pg. 5)." Accountability is important because a more accountable government will be more representative of civil society. Simply put, a transparent political regime is one that provides accurate information about itself, its operations, and the country as a whole, or permits that information to be collected and made available, and this is important because governments are supposed to represent civil society.

Acquiring a proxy for government openness is important for this paper's analysis and for constructing effective political reforms, but its succinct measurement remains elusive. Stasavage (2003) theorizes that a government's level of transparency can be measured using the government's public announcements for policy decisions and the information used to make decisions. This is a great base theory, but measuring the characteristics of a political announcement and how the information is inherently difficult. Furthermore, the measurement becomes even more difficult when a researcher factors in the uniqueness of each mechanism used to disseminate announcements and political information.[9] The four main mechanisms of information transmission are the media, Freedom of Information Laws (FOILs), open decision-making processes, and the collection of aggregate data. These mechanisms transmit information in different ways, and this makes it difficult to create a comparable and valuable aggregate measure of transparency. Proxies have been used to circumvent this challenge, and things like citizen's retrospective voting decisions, the country's type of government structure, and the method in which political information is disseminated to the public have been used to represent government transparency. Data for these proxies are typically sourced from Freedom House's Freedom of the Press index measures (i.e. the laws and regulations that constrain media content, the degree of political control over the media, and the structure of the media ownership), the World Bank (i.e. the circulation of newspapers), and the International Monetary Fund (i.e. the degree to which central banks publish economic forecasts).

Researchers use these proxies to investigate the impact of governmental transparency on

[9] The author recognizes that the transmission of government information can be affected by the freedom, structure, and size of the mass media market (Adserà, Boix and Payne, 2003; Besley and Burgess, 2002; Djankov et al., 2003). Additionally, research has shown that social capital and/or ethnic divisions may affect the flow of information between citizens, thus affecting their ability to hold political agents accountable (Habyarimana et al., 2009; Grief, 2006). This paper's purpose is not to fully disentangle the different factors that are a function of transparency, and therefore, will treat these factors as exogenous in the analysis.

economic growth, but most of the research investigates the associations and not the causations of this relationship. Adserá, Boix and Payne (2003) use the level of democracy, developed by Jaggers and Gurr (1995), and the free circulation of daily newspapers per person, an indicator developed by the World Bank, to determine the effect government transparency has on government corruption, bureaucratic quality, rule of law, and risk of expropriation of property. The authors find that the presence of a well-informed electorate, through the circulation of newspapers, in a democratic setting has a strong positive relationship with governmental performance and a strong negative relationship with corruption.

In economics, proxies are seen to be useful in analyses, but are also obtuse in their measurement. Researchers tend to use other tools to help quantify behaviors that are difficult to measure. A second tool that has been used to help quantify government transparency is an indicator. Indicators are useful because they can be created to replicate human behavior using data and a set of finite assumptions. The World Bank is the front-runner in terms of publishing perception based transparency indicators. The World Bank produces three indicators that are close proxies to transparency. Two of the proxies can be found in the 2017 World Development Indicator (WDI) panel dataset, which is one of the largest and most frequently cited macroeconomic datasets. The WDI dataset is a country level panel dataset that ranges from the years 1960 to 2017. It has a plethora of physical capital, human capital and social capital data points, and has over 1,100 variables and 1,500 observations for approximately 264 countries and regions in the world. Within this dataset is a range of control variables used in previous empirical analyses, and it contains data collected from the World Banks' Country Policy and Institutional Assessment (CPIA).

The World Bank's CPIA assess the quality of a countries present policy and institutional framework according to how conducive the framework is in promoting and facilitating poverty reduction, sustainable growth, and the effective use of development assistance. The CPIA is crucial in guiding the allocation of development resources from the International Development Association (IDA) and other development organizations. The CPIA is conducted during a consultation with the World Bank's chief economists and the IDA eligible country's political team. In this consultation the World Bank outlines the preliminary assessment, and then the country's political team makes an effort to provide all documentation needed for the assessment. The World Bank's team reviews the documents and then assigns a score for 16 different criteria

in 4 different indicators. Two of the indicators assess the *Quality of Budgetary and Financial Management* and *Transparency, Accountability, and Corruption in the Public Sector*. These indicators are ranked on a scored from 1 to 6, where 1 corresponds to a very weak ranking and 6 corresponds to the strongest. Intermediate scores can also be given in intervals of .5, but no scores can be less than the integer of 1 or greater than the integer of 6. The *Quality of Budgetary and Financial Management* assesses the extent to which there is a comprehensive and credible budget linked to policy priorities, an effective financial management system to ensure that the budget is implemented as intended in a controlled and predictable way, and timely and accurate accounting and fiscal reporting, including timely audit of public accounts and effective arrangements for follow up (CPIA, 2017, pg. 35). The *Transparency, Accountability, and Corruption in the Public Sector* assesses the extent to which the executive, legislators, and other high-level officials can be held accountable for their use of funds, administrative decisions, and results obtained. The criterion covers the accountability of the executive and other top officials to effective oversight institutions, the access of civil society to timely and reliable information on public affairs and public policies, including fiscal information (on public expenditures, revenues, and large contract awards), the state capture by narrow vested interests, and the integrity in the management of public resources, including aid and natural resource revenues (CPIA, 2017, pg. 45). This paper uses both of these transparency indicators as proxies for government openness (table 1b). Another useful World Bank dataset is the World Governance Indicator (WGI) dataset.

Since 1996, the World Bank has funded The Worldwide Governance Indicators (WGI) research project in an attempt to develop cross-country indicators that evaluate countries all over the world. The WGI dataset has six composite indicators that capture the different dimensions of governance. These indicators are created using several hundred variables obtained from 31 different data sources, and the data from the 31 sources is compiled from survey responses, non-governmental organizations, commercial business information providers and public sector organizations. Using this data, the WGI team creates indicators that capture the perception of governance in six broadly defined categories, and these indicators are used widely by donor agencies, risk rating agencies, scholars, students and policy analysts. One indicator, the *Voice and Accountability* Indicator, captures the "perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression,

freedom of association, and free media." This indicator is typically used to evaluate the process by which governments are selected, monitored, and replaced, and is used in this paper's analysis as an indicator for government transparency and as a proxy for government openness. The WGI dataset has 3732 observations for approximately 200 countries ranging from the years of 1996 to 2016. The aggregate unit of measurement of the WGI is presented as a percentile that is rank against all other country scores. The percentile ranking ranges from 0 (lowest) to 100 (highest) (Kaufmann, D., Aart, K., & Mastruzzi, M., 2011).

The most comprehensive and objective indicator that has been constructed to model government transparency is the HRV Index. Named after Hollyer, Rosendorff and Vreeland (2011, 2012), they use this indicator to (1) investigate how democratic political regimes explain and predict the transparency level of that political regime, and (2) see how the transparency level of a government is effective in causing growth. They define transparency as the willingness of a regime to publicly disseminate economic and policy relent information, and use the missing and non-missing information disseminated yearly to the World Bank by each participating country to derive a transparency index. The authors construct their estimator using a logit regression model with 172 HDI variables across 149 counties through 1982 to 2010, and the dataset consists of only binary values where there is a "1" for if the data is present and a "0" for if data is not present. They assume that if the data is missing, it is because (1) that country's government is not willing to disseminate data to the World Bank, thus a lack of willingness to be transparent, and/or (2) if that country has an "inability" to disseminated data it is not because the World Bank is not proactive enough to help disseminate/gather data, it is because that country is not willing to cooperate in dismantling this inability, thus a lack of willingness to hurdle the challenges to become transparent. With these assumptions, each country's transparency level is then normalized into an index that spans from -10 to +10 units with +10 being the greatest ability of transparency (Hollyer, J., Rosendorff, P., & Vreeland, J., 2012). The authors use an Ordinarily Least Squares (OLS) regression model to explain how democracy influences an institution's level of transparency, and a probit model to compare the predictive power of their transparency indicator compared to using the type of governing institution. The authors find, controlling for GDP per capita, IMF participation, country fixed-effects, and time trends, that democratic governments are more likely to release policy-relevant data than autocracies (4, Rosendorff and Vreeland, 2011). They also find that their indicator is a better predictor of government

effectiveness than the type of government, mostly in autocratic regimes, and the circulation of newspaper proxies used by Adserá, Boix and Payne (2003). This result is powerful because if a significant and positive link between democracy, based on the electoral process, and transparency, based on the willingness of a government to provide political and economic information, exists, and if this analysis can use democracy as a proxy for transparency, then this paper can implicitly investigate the effects democratic governments have on other important economic factors. This papers uses 132 observations of the HRV index over 129 countries with an average of 3.3 observations used for each country.

3.3.6. E-Governance as Government Openness

The willingness of a government to keep civil society informed through the dissemination of date is difficult to measure due to the abstract platforms and outlets in which this information is dissimilated. Nonetheless, the UN recognizes in it's 2030 Sustainable Development Agenda that "the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies, as does scientific and technological innovation across areas as diverse as medicine and energy" (United Nations, 2015, paragraph 15). Usually information is disseminated through various media outlets, but these platforms in themselves can contort information for the benefit of their own opportunistic needs. Thankfully, information and communicating technologies have evolved and more channels are becoming available to all industries at lower costs. One of these channels is called e-governance, and e–governance is an all encompassing term for the electronic platform in which governments can spread reliable and unbiased information to it's citizens. E-governance, although broadly defined, has three main contributions. It is meant to improve government processes (e-administration), connecting citizens (e-citizens & e-services), and building external interactions (e-societies) (Heeks, 2001).

One way governments can increase their level of E-governance is by disseminating government data openly to the public. Open Government Data refers to "government information proactively disclosed and made available online for everyone's access, reuse and redistribution without restriction" (United Nations, 2014a, p.163). The United Nations (UN) is the most proactive organization in promoting the availability of Open Government Data because they believe that it enables civic participation in policy making, decreases the waste of resources,

and increases innovation and economic growth (United Nations, 2016, p.21). The theoretical impact of e-governance is important because it aligns perfectly with the previously aforementioned theoretical drivers of economic growth and public trust (i.e. openness, transparency, and accountability). Every two years the UN evaluates and publicly ranks the level of e-governance for each of it's participating countries. Called the E-Governance Development Index (EGDI), they rank each country's government on the scope and quality of online services, also called the Online Service Index (OSI), the development status of telecommunication infrastructure, called the Telecommunication Infrastructure Index (TII), and the inherent human capital, the Human Capital Index (HCI). Mathematically, the EGDI is a weighted average of three normalized scores on these three important dimensions of e-government, and it is ranked from 0 to 1 similar to a percentile scale (United Nations, 2018, Annex). In this panel dataset, the EGDI has 550 observations and covers approximately 129 countries. This indicator is the last open government proxy used in this paper's analysis.

3.4. Controls

The control variables used in the analysis are primarily procured from the World Bank's World Development Index and the Gallup World Poll datasets. Defining public trust in institutions is a difficult concept to define empirically, and most of the empirical analyses that investigate institutional trust uses trust as a driver and not as a variable that is receiving the effect of the driver. This previous research makes it difficult to identify a base set of control variables from the empirical level. Therefore, the economic intuition used to determine the control variables included in the empirical model are based on the limited empirical research that has looked at the drivers of public trust in institutions and the previous theoretical literature that hypothesizes the effect these controls would have on public trust in institutions.

Furthermore, additional variables that are beyond the scope of the public trust in institutions literature are included because they have been used in the previous literature to support the casual relationship social capital and/or public trust has on other economically pertinent variables. For example, many of the control variables used in the analysis are based on the physical and human capital characteristics of a country's population because exhaustive empirical research has been able to explain and predict the relationship physical and human

capital has on the well-being and economic growth of nations (Harrod, 1939; Domar, 1946; Solow, 1956; Romer, 1986; Lucas,1988).

The base empirical model used in this paper closely resembles that of Stevenson and Wolfers (2011) because they follow a similar economic intuition to the one aforementioned in the previous paragraph. They use a set of control variables that represent the sex, age, marital, urban and education status of the respondents. The difference between their controls and this paper's controls are that they use a set of saturated dummies for missing controls and this paper uses the control variables as they are.

To control of the gender, age, marital, urban, and educational status of the respondents within each country, this paper's empirical model uses aggregate data from the Gallup World Poll. The Gallup World Poll typically presents the data for these variables as a percent based metric for the total population that answered each question. The gender and age data is the percent of the total population that is male/female and between the age brackets of 15 to 29, 30 to 49, and above 50 years old.

To identify the marital status of it's respondents, the Gallup World Poll asks, "What is your current marital status?" and the respondents are allowed to answer if they are married or not married. The Gallup World Poll asks if "You live in ...?", and the respondents are allows to fill in the blank using "rural" or "urban" choices. To investigate the Educational Status of the respondent, the Gallup World Poll asks, "What is your highest level of education?" The Gallup World Poll then aggregates the responses to the percent of the population that has an educational level equivalent to that of "elementary or less", "less than tertiary", and "tertiary completed." It is important to note that tertiary education is defined as including universities as well as trade schools and colleges (World Bank, 2018).

In Stevenson and Wolfers (2011) paper they find that the rate of unemployment has a significant negative effect on public trust in institutions, and following these results we have also included an unemployment rate control variable in the analysis. The measure of unemployment this analysis is using comes directly from the Gallup World Poll dataset, and this measure differs from that of Stevenson and Wolfers because they procure their unemployment variable from the International Monetary Fund dataset.

This paper advances the set of controls used by Stevenson and Wolfers one step further by including an additional physical capital and human capital control variable. The economic

intuition behind adding these variables to the controls are from the advancements of the economic growth theories (Romer, 1986; Lucas, 1988). Both economists agree with the previous literature that physical capital plays a key roll in economic growth. Following this intuition, this paper includes the annual percent Gross Domestic Product (GDP) per capita growth rate in it's set of control variables. Additionally, both economists argue the importance of human capital in explaining economic development, and because of this proposition, this paper has included a variable to control for the health of the populations surveyed. The variable that controls for population health is the infant mortality rate out of every 1,000 live births.

4. Empirical Model and Methodology

Typically, two different econometric models are used to when working with a panel dataset. The two different models are the Fixed-effect (FE) Model and Random-effect (RE) Model, and researchers tend to sway towards using the FE Model, when they can, because it is the econometric model that empirical takes advantage of the panel dataset structure.

In this analysis, the FE and RE Models take the basic form,

$$y_{ijt} = \alpha + \beta * OpenGovernment_{ikt} + \delta Z_{imt} + \varepsilon_{it}$$

$$[\, y_{it} = X_{it}\beta + Z_i\delta + \epsilon_{it} \,]$$

where,

y = A Vector of Trust in Intuition Observations

$OpenGovernment$ = A Vector of Open Government Observations

Z = A Vector of Control Variable Observations

&

α = Intercept

β = A Vector of the Coefficients of Interest

δ = A Vector of the Control Variable Coefficients

&

i = Country

t = Year (2006, … , 2016)

j = 1, … , 5 (% of population that trusts the Government, Finance, Military, Judicial and Policing Inst.)

k = 1, … , 10 (Government Openness)

m = 1, … , Z (Number of Controls)

The difference between the FE and RE Models lies within the specification of the error term. The error term for both the FE and RE Model is represented as:

$$\varepsilon_{it} = \gamma_i + \xi_t + \eta_{it}$$

The Fixed-effect Model operates under the assumption that the independent effects in the error term ($\gamma_i + \xi_t$) are individually correlated with the matrix of independent variables ($X_{it}\beta$). This formulation is the simplest way of capturing the notion that two observations from the same country will be more like each other than two observations from the different countries, and that two observations from the same time period will be more like each other than two observations from different time periods. Controlling for these independent effects helps obtain an unbiased and consistent estimate even in the face of highly correlated omitted variables. The RE Model does not control for these effects, hence the term "random", and can yield results that are inconsistent and biased. Essentially, using the FE Model can warn off criticisms the RE Model cant, but it behooves a researcher to fully understand if they can use the FE Model in the first place.

To identify if a FE or RE Model should be used in this paper's analysis a Durnin-Wu-Hausman Test was employed for all 50 of the regressions scenarios. This test detects endogeneity within the independent variables in the regression model. Endogenous variables have values that are determined by other variables in the system, and having endogenous variables within the system may cause the ordinary least squares estimators to fail. The hypotheses, in lemans terms, for the Durbin-Wu-Hausman test are:

$$H_0\colon\ p > .05 \quad (selecet\ RE\ Model)$$
$$H_A\colon\ p < .05 \quad (selecet\ FE\ Model)$$

In short, if the test yields a result of failing to reject the null hypothesis (H_O) then it is better to employ the RE Model because it will yield more consistent and efficient estimator than

the FE Model would. If the test yields a result of rejecting the null hypothesis and accepting the alternative hypothesis, it is better to use a FE Model because it's estimators will yield more consistent and efficient estimator compared to the RE Model. The results of the test for each regression are presented in the *table 4.0.0*. The table has each p-value generated from each test in each regression. If the p-values are greater than .05 (at the 95% C.I.), then we fail to reject the null and chooses to employ a RE Model, and if the p-value is less than .05 we reject the null, accept the alternative, and employ a FE Model on that specified regression. Most models used in the analysis are FE Models. If a RE Model is used, the model specification is denoted by a "**RE"** in above the models open government proxy in the results tables. All RE Models are excluded from the analysis because they loose the advantages acquired using a FE model.[10]

Another criticism that could be faced when running multivariate regression analysis is how a researcher deals with the heterokedasticity problem. Tests do exist to help detect heteroskdaticity and autocorrelation within the model, but to combat both of these criticisms, all FE and RE models were run using the robust errors specification. The robust errors specification was used also because of the exploratory nature of the research. This paper is intended to yield base line empirical results, and to motivate researcher to investigate the causality between more qualitative variables.

Once all models are specified the expected sign for the overall relationship is that if government openness increases, then the public's trust in institutions should increase. More specifically, all independent variable of interest should have a positive relationship with the public's trust in institutions except for the Gallup Yes Corrupt Government variable. This variable should have an inverse relationship due to the corruption scale being reversed. For a summary of the hypotheses (expected results) please refer to *Table 4.0.4.*

5. Sensitivity Analysis

This paper applies a sensitivity analysis to ensure that all of the open government estimator's sign and significance are strong and not just a faux representation of their relationship. The

[10] Although the results from the RE Models are disregarded and not interpreted in this paper, they should not be disregard completely as some do generate significant results. These models should be further explored as they generate a obtuse baseline for future investigatory analyses.

sensitivity analysis is used to theoretically weaken the explaining power of an open government variable on to a trust in public institutions variable. To do this, we do not assume that the data is completely missing at random[11], and only imputes data, using the conditional mean methodology, to lower the variance of the open government variable. Lowing the variance, or tightening the distribution, theoretically reduces the explaining power of open government on to trust in intuitions.

The loss of explaining power should be reflected in the significance and/or sign of $\boldsymbol{\beta}$. Theoretically, the sign if the $\boldsymbol{\beta}$ coefficient should not chance, and the significance level of the $\boldsymbol{\beta}$ should remain the same. All $\boldsymbol{\beta}$ coefficients that do not maintain their sign and/or a significance level at the 95% confidence interval will be dropped. These variables will be considered "sensitive" in their ability to explain the variability of each trust in institution variable, and will be dropped from the analysis.

6. Results

All results will be referred to as the "raw" and "imputed" results in this analysis, and the results overviews are in *table 6.0.0 & table 6.0.1*. All regression results, using both the "raw" and "imputed" datasets, are presented in the order they are listed in this results section. Supplementary results are also included in this paper. The results from the Durbin-Wu-Hausman test using the imputed data, the correlation matrix using, and the regression results for each of the open government regressions that changed from a FE-Model to a RE-Model or vice-versa are listed in *Appendix B.* These results are meant to be used for future analyses, but are not considered strong results in the base analysis.

6.1. The Perceived Level of Corruption Drives the Public's Trust in all Intuitions

The government openness proxy that drives the level of trust in all of the institutions are the population's perceived level of corruption within a country. Gallup's Yes Corrupt Government variable consistently had a negative effect on the public's trust in all of the institutions. An increase in the perceived level of corruption in the government had a negative

[11] Please see logic and rational in relaxing the not completely missing at random assumption presented in Appendix A.

and significant impact on the percentage of societal trust within that country for all Gallup World Poll variables. For every one percent increase in the number of people that perceive the government to be corrupt, there is a .149% to .715% decrease in the percent of the population that trusts public institutions (*see regression 4*). A one percentage point increase in the population that perceives the government to be corrupt has a .715% percentage point decrease in the public's trust in government institutions, a .315% decrease in the public's trust in judicial institutions, a .174% decrease in the public's trust in financial institutions, a .153% decrease in the public's trust in military institutions, and a .149% decrease in the public's trust in policing institutions. This result is interesting because if a government wants to write policy intended to increase the public's trust in the government, financial institutions, judicial institutions, military institutions, and policing institutions then it should focus on policy that will decrease the amount of people that perceive the government to be corrupt.

6.2. The Impact of Government Openness on Public Trust in Government Institutions

In addition to the corruption perception results, the open government drivers of trust in government institutions are the country's score from the World Bank's CPIA Transparency and Accountability Index and the percent of the population that is satisfied with the media's level of freedom. The World Bank's CPIA Transparency and Accountability index has a positive and significant impact on the public's trust in governmental institutions, and fully passes the sensitivity analysis. For every one-unit increase in the CPIA Transparency and Accountability score the public's trust in governmental institutions goes up by .0625% (regression 7). This is a powerful result because it shows that a low to lower-middle income country can raise public trust in their government's institution by working to increase their CPIA Transparency and Accountability score. This score is made up of three different dimensions, and is used annually by the World Bank to determine the amount of development aid that should be administered to a country. Governments should focus on raising this score because it has implications for financial development and the development of the relationship between civil society and state.

The Gallup Satisfied with the Freedom of the Media variable also has a positive and significant impact on the public's trust in governmental institutions. Fro every one percentage point increase in the population that is satisfied with the freed of the media there is .406 percentage point increase in population that trusts government institutions. One would expect

that the perceived freedom of the media would influence the public's trust in government institutions because, in most countries, the media's freedom is highly regulated by the government. In fact, the public's trust in government is somewhat heavily correlated with the freedom of the media at a correlation coefficient of .33 (regression 5).

6.3. The Impact of Government Openness on Public Trust in Financial Institutions

The open government drivers, other than the perceived level of government corruption, of the public's trust in financial institutions are the Gallup Satisfied with the Freedom of the Media and the WB Ease of Doing Business variables. The Gallup Satisfied with the Freedom of the Media model completely passes the sensitivity analysis, and the WB Ease of Doing Business estimator becomes significant after the sensitivity analysis is applied. The percent of the population that is satisfied with the freedom of the media has a positive and significant effect on the percentage of people that trusts financial institutions. More specifically, for every 1% increase in the amount of people that are satisfied with the freedom of the media there is a .258% increase in the population's trust in the financial intuitions. This result is interesting because it is somewhat unexpected, especially at the magnitude of .258%. There is somewhat of a strong correlation between the population's satisfaction of the freedom of the media and trust in financial institutions, but this result is difficult to back with logical economic intuition.

The other interesting result in this analysis is the effect the Ease of Doing Business score has on trust in financial institutions. It has a significant and negative effect on the public's trust in the financial institutions, and gains this significance post imputation analysis.[12] For every one-unit increase in the country's ability to conduct business there is a .00274% decrease in the public's trust in the financial institutions within that country (regression 2). This result is important because it shows that a county's ability to be open to international and domestic business operations does not necessarily positively influence the public's trust in its financial institutions. With that said, we understand and stands by the claim that the data is not completely missing at random and the results can not be interpreted as a causal relationship.

[12] This result is also interesting because the Ease of Doing Business becomes significant post-imputation. The estimator becoming significant is unique because the estimator's significance is primarily driven by the explanatory power of the newly acquired trust in financial institution variables. This increase in the estimator's significance gives the Ease of Doing Business a "pass" for the sensitivity analysis because it is considered to be an interesting result on the margin.

6.4. The Impact of Government Openness on Public Trust in Judicial Institutions

The open government proxy, other than corruption perception, that has an impact on the public's trust in judicial institutions is the CPIA's Quality of the Budget variable. The CPIA's Quality of the Budget variable maintains the sign and significance throughout the analysis, and therefore, passes the sensitivity analysis. This means that for every one-unit increase increase in the CPIA's Quality of Budget score there is a .058% increases the population that trusts the judicial institutions by (regression 6). This is an interesting result because this means that if a low to middle-low income country wants to increase the percent of people that trust the financial institutions then that countries government needs to increase their CPIA Quality of Budget score. There are multiple ways to increase that score, but this result shows that if that government wants to increase trust in the financial sector, they need to open their budget more.

6.5. The Impact of Government Openness on Public Trust in Military Institutions

Perhaps the most interesting result in the analysis is the relationship between government openness and the public's trust in military institutions. Each trust in military institution model successfully passed the Drubin-Wu-Hausman test for all ten of the government openness variables. This means that the model specification was closely representative of the actual multivariate function for trust in military institutions, and that no major endogeneity or omitted variable problem exists. With that said, the government openness variables that impact the public's trust in military institutions, other than the perceived level of corruption within the population, are Acemoglu et al.'s Democratic Indicator, Gallup's Satisfied with the Freedom of Media Variable, the WB's CPIA Quality of Budget score, and the WB's CPIA Transparency and Accountability score. All of these variables maintain their significance at the 5% level throughout the sensitivity analysis. Understanding how these "openness" variables impact the public's trust in the military institutions is important because it will enable policy makers to write reforms that will increase the percentage of the public that trusts the military institutions.

For the first time in the analysis, Acemoglu et al.'s Democratic Indicator has a significant effect on public trust using the raw data with the FE Model. These results suggest that if the country is controlled by a democratic political regime then that country's percent of the population that trust's the military institution decreases by .0947% (regression 1). This is a very interesting result because most literature suggests that having a democrat regime positively

impacts economic growth, but this analysis modestly shows that it may sway the public to trust military institutions less.

The variance of the Gallup's Satisfied with the Freedom of the Media variable has a positive and significant impact at explaining the variance of the percent of population that trusts military institutions. For every one percent increase in the population that is satisfied with the freedom of the media there is a .233% increase in the population that trusts the military institutions (regression 5). This is interesting because many governments uses the media in unique ways to wither spread propaganda about their military power or recruit individuals for military service. One implication of this result is that if the media is perceived to be freer, then the public will be able to better evaluate the military institution's actions.

The WB's CPIA Quality of Budget score has a positive and significant effect on the public's trust in military institutions (regression 6). For every one unit increase in the CPIA Quality of Budget score the percent of the population that trusts military institutions increases by .0654%. This is an important result because if the governments in low to middle-low income countries can be more open about disseminating it's budgetary information and methodology then the public's trust in the military institutions will increase.

The WB's CPIA Transparency and Accountability score has a positive and significant effect on the public's trust in military institutions, and is the only transparency variable that significantly influences trust in military institutions. A one-unit increase in the Transparency and Accountability score increases the percent of the public that trust's military institutions by .093% (regression 7). This result is useful for the policy makers in the low to middle-low income countries because it shows that in order for a government to have a military that is trustworthy the government needs to increase their ability to be accountable.

In all, these results are particularly interesting because one of the most prominent and regulated institutions, in many countries, is the military. Many see the military as an intuition that regulates the mandates created by the government, and most of the time the military is the closest relationship that civil society has to the government. That being said, we postulate that the strong relationship between the open government proxies and trust in military institutions is because of the strong personal relationship the military has with civil society.

6.6. The Impact of Government Openness on Public Trust in Policing Institutions

The government openness variables that drive trust in policing institutions are the United Nations E-governance. The UN's E-gov index has a positive and significant relationship with the public's trust in policing institutions. This is a tremendous result because it is the first and only time the UN E-gov estimator is significant and passes the sensitivity analysis. For every one-unit increase in the UN E-governance index there is a .166% increase in the population that trusts in policing institutions (regression 10). This result is important because if the government can do more to increase openness using novel technological channels and capacitation development strategies, then they can drastically increase their civic trust in their policing institutions.

7. Summary and Conclusions

In all, this paper sets the foundation for how a multitude of government openness proxies drives trust in a variety of public intuitions. Results suggest that government openness, defined ten different proxies and indicators, positively influences public trust across all five institutional types in unique ways. Political reforms that are aimed at improving government openness can and will improve civil society's trust in a number of institutions, but the government needs to identify the exact impact they want to have when implementing open government policies. For example, the results show that reducing the perception of corruption increases public trust in all of the institutions, but if they are looking to specifically increase trust in the financial sector the most, they should look towards increasing the public's satisfaction with the freedom of the media. Another example is that for the low to middle-lower income countries, governments should focus more on improving their World Bank's CPIA Transparency and Accountability score if they would like to improve trust in their government and military institutions.

With that said, this paper should act as a baseline for prolific reform building, and for researchers and research organizations it should act as an empirical foundation to further investigate the effect of government openness on trust in public institutions. It fills the research gap with an exploration of the theoretical relationship between government openness and trust in public institutions, and proposes a set of proxies for government openness. It contributes to the empirical literature because it is the first paper, to the best of our knowledge, to investigate the

causal relationship between government openness and public trust in institutions. This paper complements and further extends the country level econometric model proposed by Stevenson and Wolfers (2011). This paper's econometric methodology and model introduces two more trust in institution variables (the military and police), a range of open government proxies, and adds two more theoretically intuitive control variables.

The greater implications of this paper are that this paper will provide empirical support for more open and inclusive policies as a mechanism to increase a number of societal and economic development factors, and to promote the much needed continuation of research to more succinctly define the true importance and drivers of trust in public institutions at all levels. All research done in is this paper, including the raw data, the code used to construct the panel dataset, the code used for the statistical analyses, and the files containing the results are all available per request. We hope to continue to construct datasets that aid in investigating the relationship between government openness and trust in public institutions, to further refine the econometric models used in each succinct relationship, to disaggregate and research this relationship at the microeconomic level, and we are open to any criticisms and/or evaluations.

Figure 2.0.0: Average Trust in Public Institutions over Time

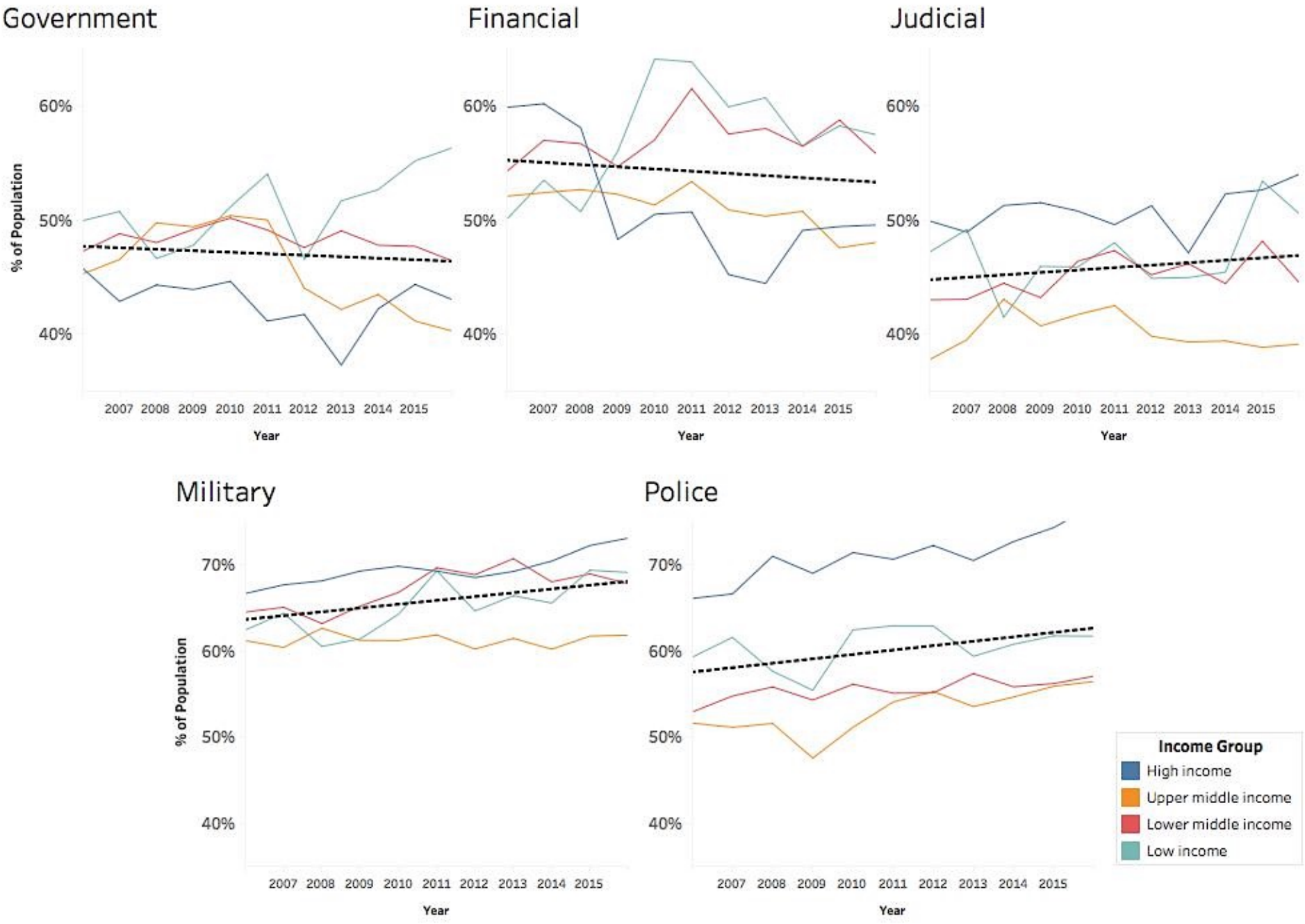
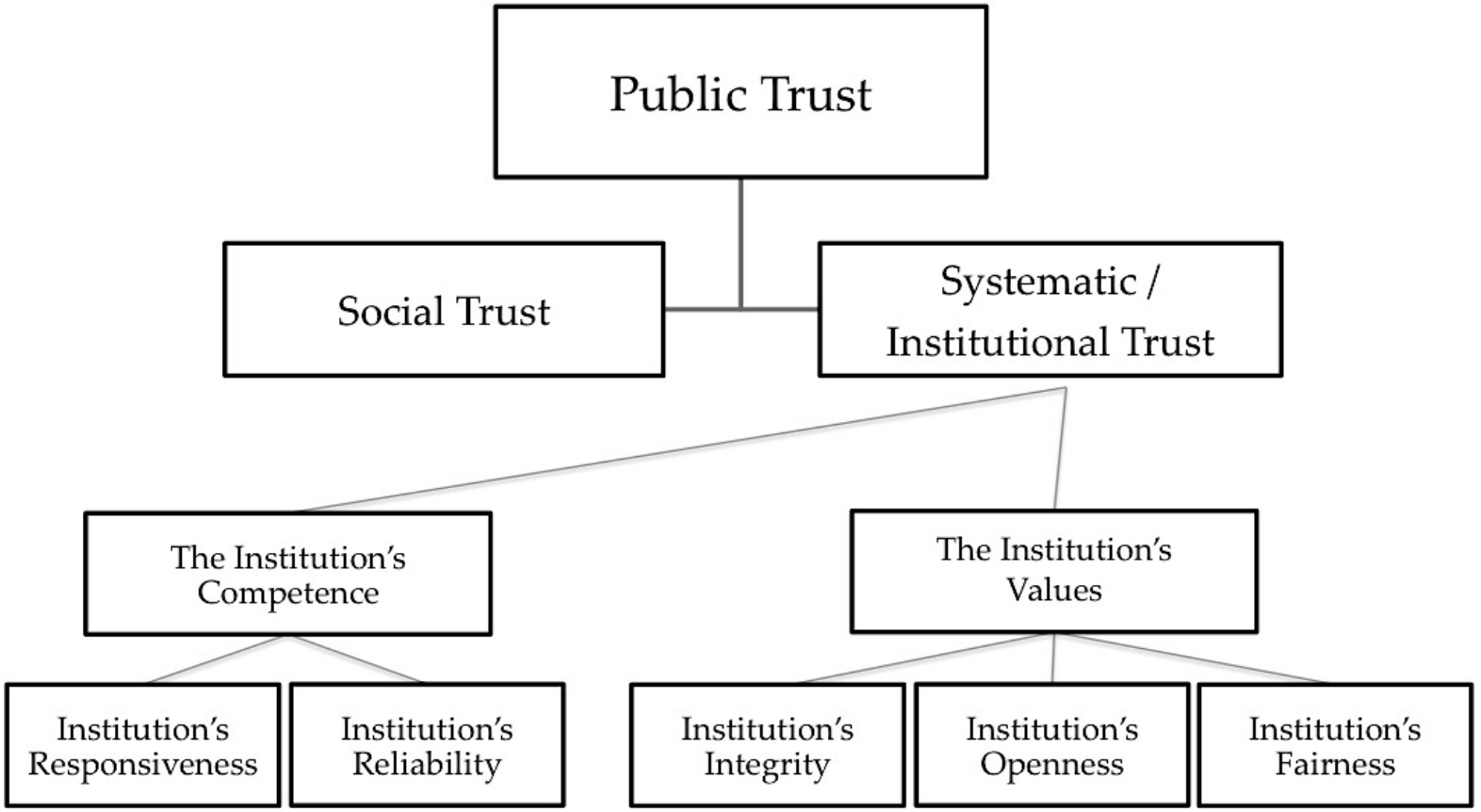
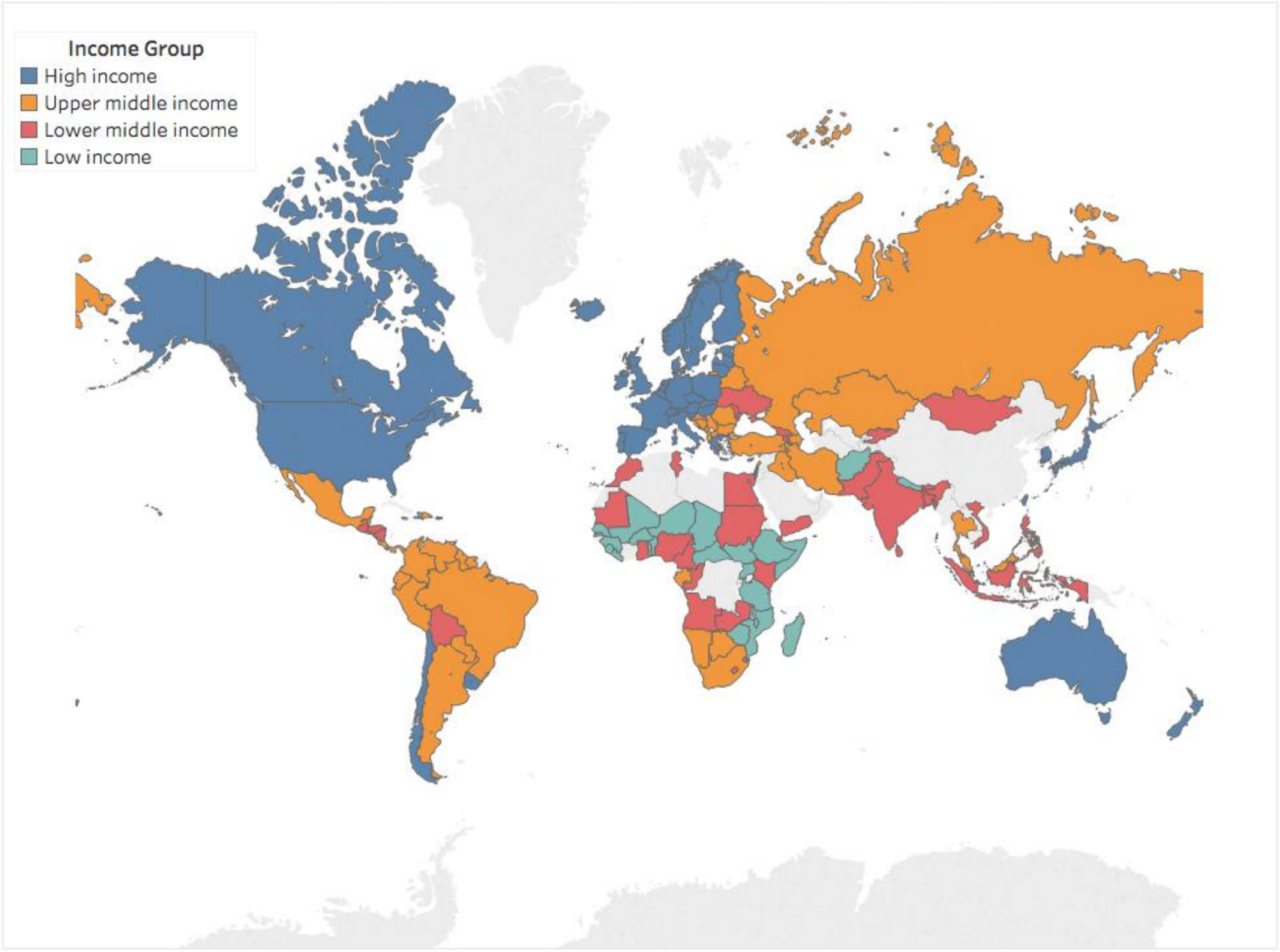


Figure 2.1.0: Theoretical Structure of Public Trust



Source: Easton, 1965; OECD, 2017

Figure 3.1.0: Countries Included in the Analysis



Country Income Group Based on World Bank's 2018 Ranking

Figure 3.3.0: Theoretical Proxies for Open Government

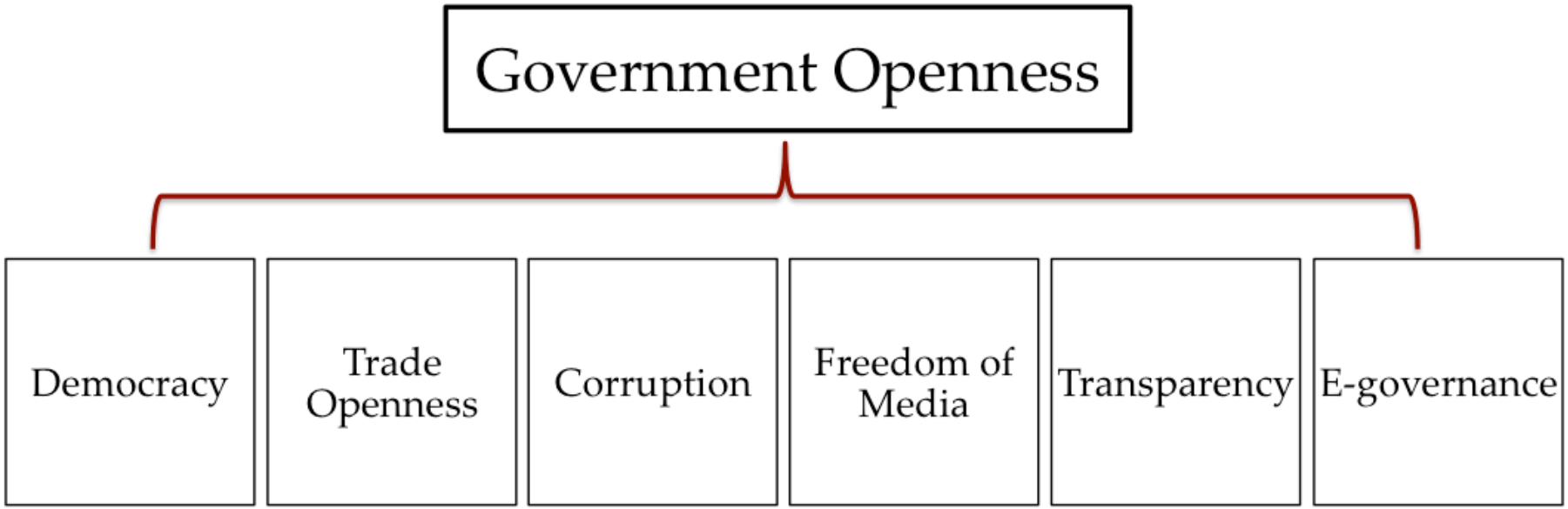


Table 3.1.0: Data Sources

Primary Sources	Number of Countries	Time Interval
Gallup World Poll	155 countries	2006 - 2016
Acemoglu et al.	184 countries	1960 - 2010
Transparency International	225 countries	1998 - 2017
World Bank's Ease of Doing Business	200 countries	2010 - 2018
World Bank's WDI	217 countries	1960 - 2017
World Bank's WGI	217 countries	1996 - 2016
Hollyer, Rosendorff & Vreeland, 2012	149 countries	1982 - 2010
United Nations	193 countries	2003 - 2016
Secondary Sources		
Freedom House	195 countries	1973 - 2017
World Values Survey	184 countries	1981 - 2014
Open Government Partnership	225 countries	2007 - 2017

Table 3.1.1: Descriptive Statistics

Trust in Institution Variables

	N	Mean	Max	Min
Trust in Government Inst.	1210	46%	98%	7%
Trust in Financial Inst.	1218	54%	96%	4%
Trust in Judicial Inst.	1218	46%	97%	4%
Trust in Military Inst.	1189	66%	97%	13%
Trust in Policing Inst.	1218	61%	99%	14%

Open Government Proxies

	N	Mean	Max	Min
Acemoglu et al Democratic Indicator	463	0.8	1.0	0.0
World Bank Ease of Doing Business	808	62.0	90.4	20.2
TI CPI	1175	4.4	9.6	0.8
Gallup Yes Corrupt Government	1202	68%	96%	1%
Gallup Satisfied w/ Freedom of Media	831	64%	97%	17%
WB CPIA Quality of Budget	421	3.3	4.5	1.0
WB CPIA Transparency & Accountability	421	2.8	4.5	1.0
WGI Voice & Accountability %	1211	53.1	100.0	1.0
HRV Transparency Index	383	2.3	9.5	-1.7
UN E-gov	543	52%	95%	6%

Control Variables

	N	Mean	Max	Min
% of Population Ages 15 to 29	1216	36%	60%	12%
% of Population Ages 30 to 49	1216	35%	46%	25%
% of Population that is Male	1218	48%	54%	43%
% of Population that is Married	1208	50%	78%	8%
% of Population that is Urban	1141	40%	100%	1%
Unemployment Rate	901	12%	55%	1%
Age Dependency Ratio	1196	60.05	111.78	33.17
GDP % Growth Annually per capita	1195	2.3%	33.0%	-29.9%
% of Population with Elem School or Less	1149	39%	96%	1%
% of Population with Less than a College Degree	1150	49%	97%	4%
Infant Mortality Rate (per 1000 children)	1186	24.24	124.40	1.60

Table 3.2.0: Public Trust in Institutions

Variable Name	Source	Data Generation	Proxy for Trust	Unit of Measurement
Trust in Government Inst.	Gallup World Poll	In this country, do you have confidence in each of the following, or not? How about governmental institutions?	Confidence as a proxy for trust	% of country that agrees with the statement
Trust in Financial Inst.	Gallup World Poll	In this country, do you have confidence in each of the following, or not? How about financial institutions or banks?	Confidence as a proxy for trust	% of country that agrees with the statement
Trust in Judicial Inst.	Gallup World Poll	In this country, do you have confidence in each of the following, or not? How about judicial system and courts?	Confidence as a proxy for trust	% of country that agrees with the statement
Trust in Military Inst.	Gallup World Poll	In this country, do you have confidence in each of the following, or not? How about the military?	Confidence as a proxy for trust	% of country that agrees with the statement
Trust in Policing Inst.	Gallup World Poll	In this country, do you have confidence in each of the following, or not? How about the military?	Confidence as a proxy for trust	% of country that agrees with the statement

Table 3.3.0: Open Government Proxies

Variable Name	Source	Data Generation	Proxy for Open Government	Unit of Measurement
Acemoglu et al Democratic Indicator	Acemoglu et al Democratic Dataset (2015)	Uses Freedom House and Polity IV to construct a dichotomous democratic binary indicator.	Proxy for Democracy	1 if democratic, 0 if not democratic
World Bank Ease of Doing Business	World Bank Ease of Doing Business	Uses a survey to collect data from over 10,000 professionals in 190 counties that do business within these countries.	Proxy for Trade Openness	0 = most difficult to do business, 100 = least difficult to do business
TI CPI	Transparency International Corruption Perception Index	Uses 16 different survey from 12 different organizations to develop a measure "corruption perception."	Proxy for Corruption Perception	0 = most corrupt, 100 = least corrupt
Gallup Yes Corrupt Government	Gallup World Poll	Is corruption widespread throughout the government in this country, or not?	Proxy for Corruption Perception	% of country that says yes
Gallup Satisfied w/ Freedom of Media	Gallup World Poll	Do the media in this country have a lot of freedom, or not?	Proxy for the Perception of Media Freedom	% of country that says yes
WB CPIA Quality of Budget	World Bank Country Policy and Institutional Assessment	Every year, the World Bank conducts a Country Policy and Institutional Assessment (CPIA), and uses this assessment to allocate development resources to the International Development Assistant (IDA) countries. Country assessments have been carried out annually since the mid-1970s by World Bank staff, and the IDA countries are only eligible if their economies are low & middle-lower income countries. Quality of budgetary and financial management assesses the extent to which there is a comprehensive and credible budget linked to policy priorities, effective financial management systems, and timely and accurate accounting and fiscal reporting.	Proxy for the Perception of Financial Transparency	1 = lowest ranking, 6 = highest ranking (ranked on intervals of .5)
WB CPIA Transparency & Accountability	World Bank Country Policy and Institutional Assessment	Every year, the World Bank conducts a Country Policy and Institutional Assessment (CPIA), and uses this assessment to allocate development resources to the International Development Assistant (IDA) countries. Country assessments have been carried out annually since the mid-1970s by World Bank staff, and the IDA countries are only eligible if their economies are low & middle-lower income countries. The three main dimensions assessed are (1) the accountability of the executive to oversight institutions and of public employees for their performance, (2) access of civil society to information on public affairs, and (3) state capture by narrow vested interests.	Proxy for the Perception of Transparency, Corruption and Accountability in the Public Sector	1 = lowest ranking, 6 = highest ranking (ranked on intervals of .5)
WGI Voice & Accountability %	World Bank World Governance Indicators	Uses 43 variables from 8 different sources to construct an indicator that captures the perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	Proxy for the Perception of Transparency, Inclusion and Accountability in the Public Sector	Percentile ranking from 0 to 100 (0 = low, 100 = highest)
HRV Transparency Index	Hollyer, Rosendorff and Vreeland's Transparency Dataset (2014)	Uses 30 years of World Bank panel data to construct a transparency indicator based on the willingness of a country to publicly disseminate aggregate level data.	Objective Measure of Transparency	Ranking from -10 to +10 (-10 = low transparency, +10 = high transparency)
UN E-gov	United Nations E-governance Assessment	Uses approximately 390+ bi-annual e-government surveys, sent out to 193 countries, to develop a E-gov Index according to three primary indicators: (i) the OSI (Online Service Index), (ii) the TII (Telecommunication Infrastructure Index), and (iii) the HCI (Human Capital Index)	Proxy for the Perception of E-Governance	% ranking from 0 to 100 (0 = lowest, 100 = highest)

Table 3.4.0: Control Variables

Variable Name	Source	Data Generation	Proxy for:	Unit of Measurement
% of Population Ages 15 to 29	Gallup World Poll	Please tell me your age. The age is the aggregated by percent of population that has the age between 15 and 29	Proxy for Age of Population	% of Population that is between the ages of 15 to 29
% of Population Ages 30 to 49	Gallup World Poll	Please tell me your age. The age is the aggregated by percent of population that has the age between 30 and 59	Proxy for Age of Population	% of Population that is between the ages of 30 to 59
% of Population that is Male	Gallup World Poll	Please tell me your gender.	Proxy for Gender of Population	% of Population that is male
% of Population that is Married	Gallup World Poll	Are you married?	Proxy for Marital Status of Population	% of Population that is married
% of Population that is Urban	Gallup World Poll	Do you live in . . . ?	Proxy for Geographic Characteristics of Population	% of country that lives in urban areas
Unemployment Rate	Gallup World Poll	The Unemployment Index measures the percentage of respondents in the workforce who are not employed, who have been actively looking for work within the last four weeks, AND who say they would have been able to begin work in the last four weeks.	Proxy for Level of Unemployment	% of country that is unemployed
Age Dependency Ratio	World Bank World Development Indicators	Age dependency ratio is the ratio of dependents (people younger than 15 or older than 64) to the working-age population (those ages 15-64). Data are shown as the proportion of dependents per 100 working-age population.	Proxy for Amount of Individuals that Need Governmental Assistance	Ratio from 0 to 100 (0 = no dependents 100 = equal amount of dependents to working-age population)
GDP % Growth Annually per capita	World Bank World Development Indicators	Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP per capita is gross domestic product divided by midyear population. GDP at purchasers prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	Proxy for Income or Economic Status of Country	% from - ∞ to +∞ (-∞ = decrease in growth rate, +∞ = increase in growth rate)
% of Population with Elem School or Less	Gallup World Poll	What is your highest completed level of education?	Proxy for Education Level of Population	% ranking from 0 to 100 (0 = lowest, 100 = highest)
% of Population with Less than a College Degree	Gallup World Poll	What is your highest completed level of education? This variable is pegged to if you have less than a college education. Included some years of college.	Proxy for Education Level of Population	% ranking from 0 to 100 (0 = lowest, 100 = highest)
Infant Mortality Rate (per 1000 children)	World Bank World Development Indicators	Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.	Proxy for Health of Population	0 = best infant mortality rate, 1000 = worst infant mortality rate

Table 4.0.0: Durbin-Wu-Hausman Test

P-Values for Durnin-Wu-Hausman Test using Raw Data

Trust in Institutions	*Open Government Proxies*									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.	**0.309**	0.000	0.000	0.011	0.000	0.046	0.000	0.000	**0.288**	0.003
Trust in Financial Inst.	0.001	0.000	0.000	0.000	0.009	0.000	**1.000**	0.000	0.001	**0.817**
Trust in Judicial Inst.	**0.065**	0.000	0.000	0.000	**0.445**	0.001	**0.071**	0.000	**0.064**	0.000
Trust in Military Inst.	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.000
Trust in Policing Inst.	0.001	0.000	**1.000**	0.000	**1.000**	**1.000**	**1.000**	**1.000**	0.002	0.000

Note: **Reject** the H0 if $p<0.05$

Table 4.0.1: Correlation Matrix Using Raw Data

Correlation Matrix Raw

	Trust in Government Inst.	Trust in Financial Inst.	Trust in Judicial Inst.	Trust in Military Inst.	Trust in Policing Inst.	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.	**1**														
Trust in Financial Inst.	0.68	**1**													
Trust in Judicial Inst.	0.81	0.71	**1**												
Trust in Military Inst.	0.62	0.73	0.82	**1**											
Trust in Policing Inst.	0.70	0.65	0.72	0.68	**1**										
Acemoglu et al Democratic Indicator	-0.03	0.22	0.13	0.35	-0.19	**1**									
World Bank Ease of Doing Business	-0.03	0.04	0.10	0.24	-0.10	0.41	**1**								
TI CPI	0.47	0.39	0.48	0.53	0.26	0.38	0.34	**1**							
Gallup Yes Corrupt Government	-0.43	0.04	-0.41	-0.17	-0.33	0.05	-0.08	-0.08	**1**						
Gallup Satisfied w/ Freedom of Media	0.33	0.40	0.32	0.62	0.29	0.60	0.33	0.55	0.03	**1**					
WB CPIA Quality of Budget	0.23	0.13	0.23	0.48	0.28	0.18	0.40	0.35	-0.26	0.48	**1**				
WB CPIA Transparency & Accountability	0.34	0.41	0.36	0.52	0.17	0.56	0.31	0.74	-0.09	0.60	0.55	**1**			
WGI Voice & Accountability %	0.15	0.31	0.15	0.42	-0.02	0.62	0.37	0.68	0.29	0.59	0.36	0.78	**1**		
HRV Transparency Index	-0.02	0.04	0.12	0.27	-0.27	0.53	0.64	0.36	0.03	0.27	0.34	0.32	0.52	**1**	
UN E-gov	-0.07	-0.06	-0.06	0.03	-0.22	0.27	0.79	0.24	-0.16	0.15	0.35	0.17	0.20	0.62	**1**

Table 4.0.2: Hypothesis / Expected Results

Open Government Proxy	Expected Sign
Acemoglu et al Democratic Indicator	+
World Bank Ease of Doing Business	+
TI CPI	+
Gallup Yes Corrupt Government	-
Gallup Satisfied w/ Freedom of Media	+
WB CPIA Quality of Budget	+
WB CPIA Transparency & Accountability	+
WGI Voice & Accountability %	+
HRV Transparency Index	+
UN E-gov	+

Table 6.0.0: Impact of Open Government on Trust in Institions w/ Raw Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.										
	RE								RE	
Variable of Interest	-0.101*	-0.00283	0.00666	-0.715***	0.406***	0.0453	0.0625*	-0.000110	-0.0321***	-0.0892
	(-2.09)	(-1.61)	(0.37)	(-12.22)	(5.46)	(1.76)	(2.03)	(-0.04)	(-3.37)	(-0.92)
N	163	756	829	841	772	289	289	848	132	423
# of Countries	98	131	130	133	133	49	49	133	80	128
T-bar	1.7	5.8	6.4	6.3	5.8	5.9	5.9	6.4	1.6	3.3
Trust in Financial Inst.										
							RE		RE	
Variable of Interest	0.000689	-0.00255	0.00708	-0.174**	0.258***	0.0317	0.0573*	0.0000246	0.00600	0.0615
	(0.01)	(-1.95)	(0.61)	(-2.98)	(4.43)	(1.50)	(2.21)	(0.02)	(0.33)	(0.79)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	135	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3
Trust in Judicial Inst.										
	RE			RE		RE	RE		RE	
Variable of Interest	-0.0536	-0.000305	0.0169	-0.315***	0.261***	0.0581**	0.0730**	0.000637	-0.0288**	0.0526
	(-1.54)	(-0.23)	(1.61)	(-7.69)	(5.30)	(3.09)	(3.15)	(0.38)	(-2.88)	(0.63)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	134	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3
Trust in Military Inst.										
Variable of Interest	-0.0947*	0.00274	0.00614	-0.153**	0.233***	0.0654*	0.0930**	0.00157	-0.000566	-0.0140
	(-2.29)	(1.96)	(0.60)	(-3.25)	(4.11)	(2.13)	(3.02)	(1.83)	(-0.05)	(-0.19)
N	163	747	820	828	759	288	288	835	132	418
# of Countries	98	130	129	132	132	49	49	132	80	125
T-bar	1.7	5.7	6.4	6.3	5.8	5.9	5.9	6.3	1.6	3.3
Trust in Policing Inst.										
		RE		RE	RE	RE	RE	RE		
Variable of Interest	-0.0534	0.00139	0.0354***	-0.149***	0.208***	0.00357	0.0412	0.000541	-0.0135	0.166*
	(-0.85)	(1.30)	(6.85)	(-3.82)	(5.57)	(0.22)	(1.85)	(0.92)	(-0.75)	(2.31)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	134	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3

Note: * p<0.05 ** p<0.01 *** p<0.001
"RE" denotes random effect models

Table 6.0.1: Impact of Open Government on Trust in Institutions w/ Imputed Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.										
	RE								RE	
Variable of Interest	-0.0613	-0.00246	0.00773	-0.715***	0.397***	0.0473	0.0649*	-0.000110	-0.0192**	-0.0950
	(-1.91)	(-1.44)	(0.44)	(-12.22)	(5.51)	(1.85)	(2.15)	(-0.04)	(-2.89)	(-1.08)
N	780	833	840	841	848	327	327	848	624	832
# of Countries	116	131	132	133	133	53	53	133	91	130
T-bar	6.7	6.4	6.4	6.3	6.4	6.2	6.2	6.4	6.9	6.4
Trust in Financial Inst.										
							RE		RE	
Variable of Interest	-0.0421	-0.00274*	0.00802	-0.174**	0.260***	0.0366	0.0767***	0.0000246	-0.00698	-0.0242
	(-1.17)	(-2.11)	(0.70)	(-2.98)	(4.38)	(1.80)	(3.85)	(0.02)	(-0.98)	(-0.34)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4
Trust in Judicial Inst.										
	RE			RE			RE		RE	
Variable of Interest	-0.0584**	-0.000161	0.0181	-0.315***	0.258***	0.0573**	0.0745**	0.000637	-0.00548	0.0322
	(-2.67)	(-0.13)	(1.74)	(-7.69)	(5.29)	(3.23)	(3.24)	(0.38)	(-1.04)	(0.45)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4
Trust in Military Inst.										
Variable of Interest	-0.0876*	0.00242	0.00612	-0.153**	0.228***	0.0633*	0.0937**	0.00157	0.00727	-0.00981
	(-2.37)	(1.73)	(0.60)	(-3.25)	(3.95)	(2.10)	(3.02)	(1.83)	(1.25)	(-0.15)
N	776	824	831	828	835	326	326	835	620	823
# of Countries	116	130	131	132	132	53	53	132	91	129
T-bar	6.7	6.3	6.3	6.3	6.3	6.2	6.2	6.3	6.8	6.4
Trust in Policing Inst.										
			RE		RE	RE	RE	RE		
Variable of Interest	-0.0352	0.00121	0.0356***	-0.149***	0.199***	0.00471	0.0420	0.000541	0.0128**	0.170**
	(-1.29)	(1.13)	(6.95)	(-3.82)	(5.30)	(0.30)	(1.87)	(0.92)	(3.40)	(2.81)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4

Notes: * p<0.05 ** p<0.01 *** p<0.001
"RE" denotes random effect models

Table 6.2.0: Trust in Government Inst. (raw data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
	RE								RE	
Variable of Interest	-0.101*	-0.00283	0.00666	-0.715***	0.406***	0.0453	0.0625*	-0.000110	-0.0321***	-0.0892
	(-2.09)	(-1.61)	(0.37)	(-12.22)	(5.46)	(1.76)	(2.03)	(-0.04)	(-3.37)	(-0.92)
% of Population Ages 15 to 29	0.0283	0.503	0.513*	0.352	0.485	0.294	0.303	0.514*	-0.145	0.922**
	(0.12)	(1.86)	(2.23)	(1.83)	(1.78)	(0.87)	(0.91)	(2.25)	(-0.60)	(2.74)
% of Population Ages 30 to 49	1.183**	0.575*	0.620**	0.496**	0.431	0.973*	0.911	0.574*	0.852	0.691*
	(2.60)	(2.44)	(2.71)	(2.65)	(1.87)	(2.07)	(2.01)	(2.55)	(1.76)	(2.05)
% of Population that is Male	0.528	-1.020*	-1.192**	-0.689*	-1.120**	-1.704*	-1.462*	-1.240**	-0.0632	-1.684*
	(0.66)	(-2.46)	(-3.09)	(-2.13)	(-2.68)	(-2.39)	(-2.11)	(-3.24)	(-0.06)	(-2.51)
% of Population that is Married	-0.125	0.184	0.230	0.156	0.0796	0.0633	0.0879	0.221	-0.118	0.324*
	(-0.82)	(1.51)	(1.95)	(1.69)	(0.75)	(0.40)	(0.57)	(1.89)	(-0.71)	(2.12)
% of Population that is Urban	-0.0444	0.0853	0.0880	0.0209	0.105	0.127	0.160	0.0935	-0.0824	0.0637
	(-0.43)	(1.60)	(1.63)	(0.44)	(1.93)	(1.05)	(1.27)	(1.82)	(-0.70)	(0.89)
Unemployment Rate	-0.478*	-0.385**	-0.383***	-0.204*	-0.415**	-0.457***	-0.443***	-0.368***	-0.570**	-0.655**
	(-2.57)	(-2.98)	(-3.71)	(-2.13)	(-3.29)	(-3.99)	(-3.54)	(-3.82)	(-2.58)	(-2.92)
Age Dependency Ratio	-0.00153	0.00465	0.00403	0.00200	0.00432	-0.00250	-0.00356	0.00406	-0.00346	0.00306
	(-0.83)	(1.49)	(1.39)	(0.98)	(1.53)	(-0.74)	(-1.07)	(1.46)	(-1.84)	(0.94)
GDP % Growth Annually per capita	0.00527***	0.00301*	0.00292**	0.00221**	0.00262*	0.00237	0.00179	0.00299**	0.00221	0.00163
	(3.32)	(2.28)	(2.91)	(2.63)	(2.14)	(1.66)	(1.27)	(2.98)	(1.00)	(0.85)
% of Population with Elem School or Less	0.763**	-0.124	-0.0524	-0.00179	-0.141	-0.0347	0.127	-0.0335	1.001***	-0.215
	(2.83)	(-0.73)	(-0.33)	(-0.01)	(-0.90)	(-0.09)	(0.31)	(-0.21)	(3.56)	(-1.02)
% of Population with Less than a College Degree	0.711*	-0.285	-0.282	-0.119	-0.329	-0.110	0.0307	-0.255	0.918**	-0.313
	(2.52)	(-1.60)	(-1.65)	(-0.87)	(-1.94)	(-0.24)	(0.06)	(-1.53)	(3.07)	(-1.54)
Infant Mortality Rate (per 1000 children)	-0.000748	-0.00611**	-0.00425**	0.0000609	-0.00564**	-0.00283	-0.00264	-0.00455**	-0.00117	-0.00598*
	(-0.53)	(-3.00)	(-2.85)	(0.05)	(-2.77)	(-1.70)	(-1.65)	(-2.89)	(-0.74)	(-2.58)
Intercept	-0.544	0.721*	0.519	0.854***	0.472	1.090	0.865	0.576	-0.130	0.837*
	(-1.31)	(2.18)	(1.66)	(3.98)	(1.54)	(1.84)	(1.38)	(1.73)	(-0.25)	(2.02)
N	163	756	829	841	772	289	289	848	132	423
# of Countries	98	131	130	133	133	49	49	133	80	128
T-bar	1.7	5.8	6.4	6.3	5.8	5.9	5.9	6.4	1.6	3.3
R-Squared: Within	0.10	0.11	0.12	0.34	0.18	0.17	0.18	0.11	0.09	0.17
R-Squared: Between	0.33	0.00	0.03	0.43	0.00	0.00	0.01	0.02	0.35	0.01
R-Squared: Overall	0.29	0.02	0.06	0.42	0.02	0.01	0.01	0.04	0.31	0.05

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.1.1: Trust in Government Inst. (imputed data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
	RE								RE	
Variable of Interest	-0.0613	-0.00246	0.00773	-0.715***	0.397***	0.0473	0.0649*	-0.000110	-0.0192**	-0.0950
	(-1.91)	(-1.44)	(0.44)	(-12.22)	(5.51)	(1.85)	(2.15)	(-0.04)	(-2.89)	(-1.08)
% of Population Ages 15 to 29	0.472**	0.483*	0.538*	0.352	0.472*	0.500	0.508	0.514*	0.277	0.491*
	(2.74)	(2.11)	(2.35)	(1.83)	(2.05)	(1.48)	(1.51)	(2.25)	(1.54)	(2.17)
% of Population Ages 30 to 49	0.673**	0.573*	0.581*	0.496**	0.515*	0.990*	0.942*	0.574*	0.567*	0.549*
	(2.95)	(2.56)	(2.58)	(2.65)	(2.44)	(2.29)	(2.24)	(2.55)	(2.43)	(2.44)
% of Population that is Male	-0.999*	-1.244**	-1.208**	-0.689*	-1.356***	-1.788**	-1.588*	-1.240**	-0.720	-1.240**
	(-2.57)	(-3.27)	(-3.16)	(-2.13)	(-3.60)	(-2.72)	(-2.56)	(-3.24)	(-1.48)	(-3.20)
% of Population that is Married	0.143	0.231	0.225	0.156	0.145	0.0425	0.0647	0.221	0.158	0.227
	(1.59)	(1.92)	(1.90)	(1.69)	(1.32)	(0.23)	(0.35)	(1.89)	(1.62)	(1.91)
% of Population that is Urban	0.0447	0.0909	0.0943	0.0209	0.110*	0.103	0.121	0.0935	0.0426	0.0926
	(0.92)	(1.74)	(1.78)	(0.44)	(2.11)	(0.90)	(1.05)	(1.82)	(0.83)	(1.77)
Unemployment Rate	-0.332**	-0.375***	-0.370***	-0.204*	-0.394***	-0.392**	-0.378**	-0.368***	-0.367**	-0.371***
	(-3.28)	(-3.62)	(-3.59)	(-2.13)	(-3.92)	(-3.29)	(-2.94)	(-3.82)	(-2.75)	(-3.59)
Age Dependency Ratio	0.00166	0.00494	0.00400	0.00200	0.00434	-0.00339	-0.00441	0.00406	0.000421	0.00441
	(1.31)	(1.67)	(1.38)	(0.98)	(1.60)	(-0.99)	(-1.31)	(1.46)	(0.31)	(1.50)
GDP % Growth Annually per capita	0.00346**	0.00279**	0.00298**	0.00221**	0.00248*	0.00270	0.00210	0.00299**	0.00243	0.00286**
	(3.05)	(2.68)	(2.97)	(2.63)	(2.54)	(1.82)	(1.46)	(2.98)	(1.65)	(2.74)
% of Population with Elem School or Less	-0.0379	-0.0676	-0.0273	-0.00179	-0.0929	0.254	0.413	-0.0335	-0.0117	-0.0498
	(-0.25)	(-0.43)	(-0.17)	(-0.01)	(-0.63)	(0.66)	(1.04)	(-0.21)	(-0.07)	(-0.32)
% of Population with Less than a College Degree	-0.133	-0.271	-0.252	-0.119	-0.315*	0.164	0.316	-0.255	-0.115	-0.253
	(-0.82)	(-1.62)	(-1.50)	(-0.87)	(-2.00)	(0.39)	(0.72)	(-1.53)	(-0.61)	(-1.53)
Infant Mortality Rate (per 1000 children)	-0.00134	-0.00522**	-0.00428**	0.0000609	-0.00488**	-0.00295	-0.00277	-0.00455**	-0.00139	-0.00467**
	(-1.17)	(-3.10)	(-2.86)	(0.05)	(-2.77)	(-1.71)	(-1.66)	(-2.89)	(-1.13)	(-2.80)
Intercept	0.552*	0.721*	0.502	0.854***	0.485	0.821	0.612	0.576	0.586*	0.624*
	(2.30)	(2.38)	(1.62)	(3.98)	(1.74)	(1.49)	(1.06)	(1.73)	(2.02)	(2.16)
N	780	833	840	841	848	327	327	848	624	832
# of Countries	116	131	132	133	133	53	53	133	91	130
T-bar	6.7	6.4	6.4	6.3	6.4	6.2	6.2	6.4	6.9	6.4
R-Squared: Within	0.10	0.12	0.11	0.34	0.18	0.17	0.18	0.11	0.09	0.11
R-Squared: Between	0.10	0.02	0.04	0.43	0.01	0.02	0.03	0.02	0.12	0.02
R-Squared: Overall	0.11	0.04	0.06	0.42	0.04	0.02	0.03	0.04	0.13	0.05

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.3.0: Trust in Financial Inst. (raw data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
							RE		RE	
Variable of Interest	0.000689	-0.00255	0.00708	-0.174**	0.258***	0.0317	0.0573*	0.0000246	0.00600	0.0615
	(0.01)	(-1.95)	(0.61)	(-2.98)	(4.43)	(1.50)	(2.21)	(0.02)	(0.33)	(0.79)
% of Population Ages 15 to 29	0.119	0.0126	0.0569	-0.00273	0.0291	-0.321	-0.314	0.0544	0.0559	0.456*
	(0.27)	(0.06)	(0.31)	(-0.02)	(0.15)	(-1.38)	(-1.34)	(0.31)	(0.12)	(2.57)
% of Population Ages 30 to 49	-0.512	0.222	0.113	0.0845	0.158	0.310	0.258	0.104	-0.562	0.344
	(-1.63)	(1.26)	(0.63)	(0.49)	(0.92)	(1.15)	(0.96)	(0.59)	(-1.87)	(1.51)
% of Population that is Male	-0.981	-1.042**	-1.212***	-1.087***	-1.140***	-0.622	-0.423	-1.264***	-0.973	-0.495
	(-1.24)	(-3.28)	(-3.93)	(-3.66)	(-3.53)	(-1.42)	(-0.89)	(-4.01)	(-0.84)	(-1.11)
% of Population that is Married	0.482	0.0141	-0.000287	-0.0407	-0.0521	-0.151	-0.139	-0.00416	0.455	0.0498
	(1.74)	(0.18)	(-0.00)	(-0.55)	(-0.77)	(-1.16)	(-1.04)	(-0.06)	(1.50)	(0.69)
% of Population that is Urban	0.152	-0.0425	-0.0559	-0.0688	-0.0292	-0.102	-0.0758	-0.0533	0.139	-0.0473
	(1.05)	(-0.95)	(-1.20)	(-1.51)	(-0.64)	(-1.05)	(-0.73)	(-1.18)	(0.90)	(-0.91)
Unemployment Rate	0.192	-0.172	-0.134	-0.0946	-0.189	-0.105	-0.0910	-0.132	0.150	-0.449***
	(0.94)	(-1.64)	(-1.51)	(-1.03)	(-1.85)	(-1.26)	(-0.97)	(-1.47)	(0.63)	(-3.96)
Age Dependency Ratio	0.0198	0.00337	0.00217	0.00144	0.00251	0.00150	0.000508	0.00217	0.0305	-0.000980
	(1.40)	(1.49)	(1.10)	(0.82)	(1.26)	(0.60)	(0.22)	(1.16)	(1.97)	(-0.96)
GDP % Growth Annually per capita	0.00133	0.00256*	0.00249***	0.00226**	0.00235*	0.00244*	0.00193	0.00252***	0.00252	0.00519***
	(1.33)	(2.52)	(3.42)	(3.35)	(2.25)	(2.18)	(1.88)	(3.53)	(1.90)	(3.72)
% of Population with Elem School or Less	-0.166	-0.231	-0.194	-0.162	-0.246*	-0.653*	-0.534	-0.178	-0.00486	-0.0563
	(-0.49)	(-1.80)	(-1.45)	(-1.20)	(-2.07)	(-2.08)	(-1.75)	(-1.36)	(-0.01)	(-0.44)
% of Population with Less than a College Degree	-0.272	-0.189	-0.206	-0.149	-0.220	-0.505	-0.396	-0.183	-0.140	-0.0670
	(-0.86)	(-1.48)	(-1.66)	(-1.20)	(-1.83)	(-1.61)	(-1.27)	(-1.50)	(-0.38)	(-0.51)
Infant Mortality Rate (per 1000 children)	-0.0178	0.000994	0.000951	0.00172	0.00166	0.00140	0.00162	0.000660	-0.0177	0.00169**
	(-1.51)	(0.83)	(0.86)	(1.44)	(1.45)	(1.25)	(1.50)	(0.59)	(-1.46)	(2.74)
Intercept	0.267	1.097***	1.083***	1.210***	0.924***	1.347***	1.149***	1.132***	-0.473	0.574*
	(0.31)	(4.35)	(4.58)	(5.21)	(3.80)	(4.77)	(3.85)	(4.72)	(-0.46)	(2.03)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	135	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3
R-Squared: Within	0.23	0.09	0.07	0.09	0.14	0.11	0.13	0.07	0.24	0.10
R-Squared: Between	0.05	0.04	0.05	0.11	0.07	0.02	0.01	0.04	0.01	0.24
R-Squared: Overall	0.04	0.06	0.07	0.12	0.09	0.01	0.00	0.05	0.01	0.23

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.3.1: Trust in Financial Inst. (imputed data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
							RE		RE	
Variable of Interest	-0.0421	-0.00274*	0.00802	-0.174**	0.260***	0.0366	0.0767***	0.0000246	-0.00698	-0.0242
	(-1.17)	(-2.11)	(0.70)	(-2.98)	(4.38)	(1.80)	(3.85)	(0.02)	(-0.98)	(-0.34)
% of Population Ages 15 to 29	0.0947	0.0159	0.0788	-0.00273	0.0324	-0.115	0.180	0.0544	-0.0438	0.199
	(0.52)	(0.09)	(0.44)	(-0.02)	(0.19)	(-0.39)	(0.65)	(0.31)	(-0.24)	(1.33)
% of Population Ages 30 to 49	0.141	0.107	0.108	0.0845	0.0710	0.523	0.625	0.104	0.134	0.222
	(0.78)	(0.63)	(0.62)	(0.49)	(0.42)	(1.65)	(1.58)	(0.59)	(0.66)	(1.29)
% of Population that is Male	-1.291***	-1.256***	-1.244***	-1.087***	-1.344***	-0.863*	-0.388	-1.264***	-0.833*	-0.890**
	(-3.94)	(-4.04)	(-4.04)	(-3.66)	(-4.23)	(-2.17)	(-0.96)	(-4.01)	(-2.58)	(-2.79)
% of Population that is Married	-0.0107	0.00241	-0.000661	-0.0407	-0.0546	-0.148	0.0317	-0.00416	-0.0834	0.0246
	(-0.14)	(0.03)	(-0.01)	(-0.55)	(-0.89)	(-1.23)	(0.30)	(-0.06)	(-1.00)	(0.42)
% of Population that is Urban	-0.0624	-0.0602	-0.0561	-0.0688	-0.0432	-0.147	-0.146	-0.0533	-0.0573	-0.0499
	(-1.31)	(-1.30)	(-1.23)	(-1.51)	(-0.94)	(-1.54)	(-1.69)	(-1.18)	(-1.16)	(-1.20)
Unemployment Rate	-0.140	-0.137	-0.131	-0.0946	-0.150	-0.0460	-0.0818	-0.132	-0.188	-0.183*
	(-1.41)	(-1.52)	(-1.48)	(-1.03)	(-1.70)	(-0.55)	(-0.79)	(-1.47)	(-1.62)	(-2.07)
Age Dependency Ratio	0.00235	0.00335	0.00230	0.00144	0.00234	-0.0000982	0.000161	0.00217	0.00112	0.000394
	(1.19)	(1.72)	(1.17)	(0.82)	(1.30)	(-0.03)	(0.12)	(1.16)	(0.54)	(0.38)
GDP % Growth Annually per capita	0.00256***	0.00228**	0.00251***	0.00226**	0.00218**	0.00279*	0.00283**	0.00252***	0.00177	0.00292***
	(3.41)	(3.12)	(3.45)	(3.35)	(2.93)	(2.36)	(2.61)	(3.53)	(1.86)	(3.91)
% of Population with Elem School or Less	-0.149	-0.206	-0.169	-0.162	-0.221	-0.740*	0.0967	-0.178	-0.112	-0.102
	(-1.10)	(-1.56)	(-1.28)	(-1.20)	(-1.76)	(-2.38)	(0.31)	(-1.36)	(-0.72)	(-0.83)
% of Population with Less than a College Degree	-0.153	-0.199	-0.176	-0.149	-0.226	-0.586	0.154	-0.183	-0.0965	-0.112
	(-1.24)	(-1.62)	(-1.45)	(-1.20)	(-1.94)	(-1.94)	(0.47)	(-1.50)	(-0.67)	(-0.94)
Infant Mortality Rate (per 1000 children)	0.000415	-0.000166	0.000897	0.00172	0.000427	0.00196	0.000723	0.000660	0.000864	0.00108
	(0.36)	(-0.14)	(0.81)	(1.44)	(0.36)	(1.66)	(1.13)	(0.59)	(0.73)	(1.49)
Intercept	1.127***	1.282***	1.059***	1.210***	1.082***	1.443***	0.141	1.132***	1.019***	0.906***
	(4.54)	(5.06)	(4.52)	(5.21)	(4.57)	(4.83)	(0.38)	(4.72)	(4.20)	(4.04)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4
R-Squared: Within	0.07	0.08	0.07	0.09	0.12	0.12	0.09	0.07	0.05	0.06
R-Squared: Between	0.08	0.02	0.06	0.11	0.02	0.03	0.41	0.04	0.13	0.13
R-Squared: Overall	0.07	0.03	0.07	0.12	0.04	0.06	0.34	0.05	0.11	0.13

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.4.0: Trust in Judicial Inst. (raw data w/ FE & RE std. robust errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
	RE				RE		RE		RE	
Variable of Interest	-0.0536	-0.000305	0.0169	-0.315***	0.261***	0.0581**	0.0730**	0.000637	-0.0288**	0.0526
	(-1.54)	(-0.23)	(1.61)	(-7.69)	(5.30)	(3.09)	(3.15)	(0.38)	(-2.88)	(0.63)
% of Population Ages 15 to 29	-0.185	0.0270	0.0863	0.00748	0.00721	0.132	0.197	0.0669	-0.262	0.180
	(-0.79)	(0.14)	(0.56)	(0.05)	(0.05)	(0.54)	(0.80)	(0.42)	(-1.14)	(0.78)
% of Population Ages 30 to 49	0.350	0.180	0.224	0.157	0.185	0.350	0.270	0.201	0.0516	0.151
	(0.92)	(0.98)	(1.37)	(1.02)	(1.13)	(0.99)	(0.73)	(1.25)	(0.13)	(0.62)
% of Population that is Male	0.443	-0.710*	-0.621*	-0.462	-0.473	-1.684***	-0.988*	-0.684*	0.396	-1.137**
	(0.55)	(-2.33)	(-2.32)	(-1.92)	(-1.55)	(-4.41)	(-2.35)	(-2.56)	(0.46)	(-2.93)
% of Population that is Married	0.0548	0.0844	0.0645	0.0372	0.0616	0.0584	0.113	0.0755	0.144	0.147
	(0.35)	(0.99)	(0.79)	(0.46)	(0.89)	(0.41)	(0.98)	(0.93)	(0.90)	(1.36)
% of Population that is Urban	-0.175	0.0231	0.00208	-0.0388	0.0278	-0.0510	-0.0447	-0.00391	-0.258*	0.0251
	(-1.72)	(0.50)	(0.05)	(-0.88)	(0.67)	(-0.64)	(-0.59)	(-0.09)	(-2.14)	(0.44)
Unemployment Rate	-0.0836	-0.0575	-0.0539	0.00486	-0.113	-0.00422	0.0133	-0.0579	-0.216	-0.172
	(-0.52)	(-0.66)	(-0.78)	(0.07)	(-1.40)	(-0.04)	(0.12)	(-0.86)	(-1.17)	(-1.20)
Age Dependency Ratio	0.00123	0.00473*	0.00422*	0.00371*	0.00326**	-0.00140	-0.000713	0.00455*	-0.00169	0.00441
	(0.62)	(2.23)	(2.32)	(2.24)	(2.67)	(-0.51)	(-0.46)	(2.58)	(-0.81)	(1.85)
GDP % Growth Annually per capita	0.00177	0.0000635	0.000182	-0.0000483	-0.000238	-0.000551	-0.00117	0.000289	-0.000633	0.000983
	(1.78)	(0.06)	(0.26)	(-0.07)	(-0.24)	(-0.47)	(-1.04)	(0.41)	(-0.57)	(0.67)
% of Population with Elem School or Less	0.223	-0.0462	-0.116	-0.0751	-0.0790	-0.220	0.524	-0.0933	0.287	-0.0665
	(0.74)	(-0.37)	(-1.11)	(-0.80)	(-0.71)	(-0.82)	(1.75)	(-0.87)	(0.85)	(-0.42)
% of Population with Less than a College Degree	0.174	-0.216	-0.290**	-0.197*	-0.244*	-0.270	0.377	-0.248*	0.280	-0.196
	(0.51)	(-1.71)	(-2.76)	(-2.10)	(-2.08)	(-0.99)	(1.17)	(-2.26)	(0.72)	(-1.33)
Infant Mortality Rate (per 1000 children)	-0.00169	-0.00358*	-0.00263*	-0.00146	-0.00170	-0.000752	-0.000708	-0.00317*	-0.00165	-0.00337*
	(-1.57)	(-2.54)	(-2.17)	(-1.43)	(-1.95)	(-0.62)	(-0.96)	(-2.46)	(-1.47)	(-2.20)
Intercept	0.0770	0.636*	0.553*	0.779***	0.442*	1.274**	0.173	0.596**	0.381	0.742**
	(0.15)	(2.47)	(2.51)	(4.26)	(2.40)	(3.25)	(0.50)	(2.62)	(0.59)	(2.70)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	134	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3
R-Squared: Within	0.03	0.06	0.07	0.16	0.12	0.13	0.12	0.06	0.00	0.09
R-Squared: Between	0.15	0.01	0.10	0.25	0.10	0.00	0.24	0.02	0.30	0.01
R-Squared: Overall	0.13	0.01	0.12	0.27	0.14	0.00	0.30	0.03	0.31	0.02

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.4.1: Trust in Judicial Inst. (imputed data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
	RE				RE		RE		RE	
Variable of Interest	-0.0584**	-0.000161	0.0181	-0.315***	0.258***	0.0573**	0.0745**	0.000637	-0.00548	0.0322
	(-2.67)	(-0.13)	(1.74)	(-7.69)	(5.29)	(3.23)	(3.24)	(0.38)	(-1.04)	(0.45)
% of Population Ages 15 to 29	-0.0492	0.0774	0.125	0.00748	0.0414	0.0968	0.205	0.0669	-0.000555	0.0897
	(-0.37)	(0.50)	(0.81)	(0.05)	(0.31)	(0.48)	(1.06)	(0.42)	(-0.00)	(0.57)
% of Population Ages 30 to 49	0.111	0.183	0.209	0.157	0.199	0.333	0.357	0.201	0.0986	0.189
	(0.67)	(1.13)	(1.31)	(1.02)	(1.34)	(1.09)	(1.10)	(1.25)	(0.50)	(1.17)
% of Population that is Male	-0.490	-0.712**	-0.645*	-0.462	-0.493	-1.393***	-0.926*	-0.684*	-0.524	-0.722**
	(-1.79)	(-2.62)	(-2.43)	(-1.92)	(-1.79)	(-4.10)	(-2.50)	(-2.56)	(-1.52)	(-2.64)
% of Population that is Married	0.0829	0.0840	0.0703	0.0372	0.0666	0.0538	0.0977	0.0755	0.134	0.0862
	(1.11)	(1.02)	(0.86)	(0.46)	(0.97)	(0.40)	(0.91)	(0.93)	(1.60)	(1.05)
% of Population that is Urban	-0.0308	-0.00751	0.000332	-0.0388	-0.00232	-0.0621	-0.0907	-0.00391	-0.0414	-0.00760
	(-0.74)	(-0.17)	(0.01)	(-0.88)	(-0.06)	(-0.86)	(-1.32)	(-0.09)	(-0.93)	(-0.17)
Unemployment Rate	-0.0582	-0.0477	-0.0509	0.00486	-0.0813	-0.00227	0.0181	-0.0579	-0.0864	-0.0469
	(-0.77)	(-0.69)	(-0.74)	(0.07)	(-1.26)	(-0.03)	(0.19)	(-0.86)	(-0.91)	(-0.68)
Age Dependency Ratio	0.00386**	0.00454*	0.00435*	0.00371*	0.00323**	-0.00121	-0.000365	0.00455*	0.00160	0.00438*
	(3.19)	(2.49)	(2.39)	(2.24)	(2.79)	(-0.47)	(-0.26)	(2.58)	(1.26)	(2.33)
GDP % Growth Annually per capita	0.000462	0.000216	0.000217	-0.0000483	0.000103	-0.000447	-0.00112	0.000289	-0.000399	0.000278
	(0.59)	(0.30)	(0.30)	(-0.07)	(0.14)	(-0.38)	(-1.00)	(0.41)	(-0.40)	(0.38)
% of Population with Elem School or Less	-0.0930	-0.0889	-0.0817	-0.0751	-0.109	-0.140	0.543*	-0.0933	-0.0777	-0.0829
	(-0.89)	(-0.81)	(-0.77)	(-0.80)	(-1.06)	(-0.56)	(1.98)	(-0.87)	(-0.58)	(-0.77)
% of Population with Less than a College Degree	-0.208	-0.237*	-0.247*	-0.197*	-0.255*	-0.198	0.429	-0.248*	-0.159	-0.234*
	(-1.91)	(-2.14)	(-2.27)	(-2.10)	(-2.38)	(-0.81)	(1.49)	(-2.26)	(-1.15)	(-2.13)
Infant Mortality Rate (per 1000 children)	-0.00264**	-0.00326*	-0.00269*	-0.00146	-0.00185*	-0.00118	-0.000872	-0.00317*	-0.00171	-0.00315*
	(-2.85)	(-2.51)	(-2.22)	(-1.43)	(-2.12)	(-1.02)	(-1.23)	(-2.46)	(-1.83)	(-2.44)
Intercept	0.674***	0.650**	0.506*	0.779***	0.463**	1.076**	0.0703	0.596**	0.737***	0.623**
	(3.78)	(2.84)	(2.31)	(4.26)	(2.69)	(3.08)	(0.22)	(2.62)	(3.30)	(2.98)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4
R-Squared: Within	0.07	0.06	0.07	0.16	0.11	0.12	0.11	0.06	0.03	0.06
R-Squared: Between	0.04	0.01	0.11	0.25	0.10	0.01	0.29	0.02	0.07	0.01
R-Squared: Overall	0.03	0.01	0.13	0.27	0.14	0.00	0.34	0.03	0.07	0.02

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.5.0: Trust in Military Inst. (raw data w/ FE & RE robust std. errors)

	(1) Acemoglu et al Democratic Indicator	(2) World Bank Ease of Doing Business	(3) TI CPI	(4) Gallup Yes Corrupt Government	(5) Gallup Satisfied w/ Freedom of Media	(6) WB CPIA Quality of Budget	(7) WB CPIA Transparency & Accountability	(8) WGI Voice & Accountability %	(9) HRV Transparency Index	(10) UN E-gov
Variable of Interest	-0.0947*	0.00274	0.00614	-0.153**	0.233***	0.0654*	0.0930**	0.00157	-0.000566	-0.0140
	(-2.29)	(1.96)	(0.60)	(-3.25)	(4.11)	(2.13)	(3.02)	(1.83)	(-0.05)	(-0.19)
% of Population Ages 15 to 29	-0.728	0.0458	-0.146	-0.174	-0.0458	0.0584	0.0720	-0.146	-0.454	-0.205
	(-1.97)	(0.29)	(-0.99)	(-1.26)	(-0.31)	(0.28)	(0.35)	(-0.97)	(-0.94)	(-0.82)
% of Population Ages 30 to 49	-0.287	0.347	0.214	0.228	0.276	0.650**	0.552*	0.232	-0.297	0.266
	(-1.02)	(1.97)	(1.14)	(1.31)	(1.54)	(2.88)	(2.53)	(1.29)	(-1.04)	(1.06)
% of Population that is Male	0.307	0.0605	0.0525	0.121	0.0395	-0.184	0.168	0.00857	-0.205	0.261
	(0.48)	(0.20)	(0.19)	(0.44)	(0.14)	(-0.40)	(0.31)	(0.03)	(-0.25)	(0.66)
% of Population that is Married	-0.117	-0.0322	-0.0448	-0.0358	-0.0905	-0.181	-0.142	-0.0515	0.0222	0.0446
	(-0.29)	(-0.32)	(-0.51)	(-0.43)	(-0.95)	(-1.08)	(-1.04)	(-0.58)	(0.05)	(0.40)
% of Population that is Urban	-0.168	0.0225	-0.0346	-0.0557	0.0305	-0.00475	0.0450	-0.0365	-0.146	0.0325
	(-1.08)	(0.53)	(-0.85)	(-1.42)	(0.67)	(-0.05)	(0.41)	(-0.90)	(-0.87)	(0.68)
Unemployment Rate	-0.334	-0.0306	-0.0124	0.0647	-0.0591	-0.0832	-0.0611	-0.0167	-0.225	0.0223
	(-1.26)	(-0.31)	(-0.14)	(0.76)	(-0.65)	(-0.71)	(-0.50)	(-0.20)	(-0.59)	(0.16)
Age Dependency Ratio	0.00805	0.00322	0.00396	0.00361	0.00484*	-0.000755	-0.00234	0.00408	-0.00268	0.00340
	(0.73)	(1.30)	(1.78)	(1.68)	(2.04)	(-0.19)	(-0.63)	(1.86)	(-0.18)	(1.35)
GDP % Growth Annually per capita	0.000958	0.000240	0.000489	0.000365	-0.000239	-0.000153	-0.00102	0.000536	0.000133	-0.000874
	(1.22)	(0.22)	(0.56)	(0.41)	(-0.22)	(-0.11)	(-0.67)	(0.62)	(0.12)	(-0.40)
% of Population with Elem School or Less	-0.183	-0.101	-0.110	-0.107	-0.175	-0.495	-0.260	-0.0923	-0.208	-0.128
	(-0.59)	(-0.68)	(-0.80)	(-0.79)	(-1.19)	(-1.48)	(-0.74)	(-0.67)	(-0.61)	(-0.67)
% of Population with Less than a College Degree	-0.0950	-0.157	-0.145	-0.0957	-0.229	-0.542	-0.337	-0.118	-0.277	-0.207
	(-0.25)	(-1.21)	(-1.20)	(-0.80)	(-1.73)	(-1.66)	(-1.01)	(-0.97)	(-0.63)	(-1.21)
Infant Mortality Rate (per 1000 children)	-0.0210*	-0.00224	-0.00384*	-0.00285	-0.00360	-0.00216	-0.00186	-0.00375*	-0.0149	-0.00319
	(-2.28)	(-1.29)	(-2.16)	(-1.85)	(-1.79)	(-1.45)	(-1.31)	(-2.29)	(-1.40)	(-1.33)
Intercept	1.261	0.325	0.602*	0.669**	0.442*	1.058*	0.727	0.532*	1.872*	0.518
	(1.89)	(1.33)	(2.55)	(3.24)	(1.99)	(2.08)	(1.35)	(2.39)	(2.26)	(1.65)
N	163	747	820	828	759	288	288	835	132	418
# of Countries	98	130	129	132	132	49	49	132	80	125
T-bar	1.7	5.7	6.4	6.3	5.8	5.9	5.9	6.3	1.6	3.3
R-Squared: Within	0.20	0.06	0.06	0.07	0.11	0.11	0.15	0.06	0.18	0.07
R-Squared: Between	0.00	0.03	0.01	0.02	0.02	0.00	0.02	0.01	0.02	0.02
R-Squared: Overall	0.00	0.04	0.01	0.04	0.03	0.00	0.00	0.01	0.02	0.03

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.5.1: Trust in Military Inst. (imputed data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Variable of Interest	-0.0876*	0.00242	0.00612	-0.153**	0.228***	0.0633*	0.0937**	0.00157	0.00727	-0.00981
	(-2.37)	(1.73)	(0.60)	(-3.25)	(3.95)	(2.10)	(3.02)	(1.83)	(1.25)	(-0.15)
% of Population Ages 15 to 29	-0.163	-0.0959	-0.119	-0.174	-0.168	0.0132	0.0239	-0.146	-0.0222	-0.142
	(-1.08)	(-0.64)	(-0.80)	(-1.26)	(-1.15)	(0.06)	(0.12)	(-0.97)	(-0.13)	(-0.98)
% of Population Ages 30 to 49	0.0971	0.210	0.229	0.228	0.182	0.469	0.397	0.232	0.335	0.206
	(0.48)	(1.18)	(1.27)	(1.31)	(0.99)	(1.98)	(1.69)	(1.29)	(1.73)	(1.13)
% of Population that is Male	-0.0178	-0.0549	0.0110	0.121	-0.0753	0.0622	0.342	0.00857	-0.0269	-0.0361
	(-0.06)	(-0.20)	(0.04)	(0.44)	(-0.29)	(0.15)	(0.77)	(0.03)	(-0.08)	(-0.13)
% of Population that is Married	-0.0221	-0.0388	-0.0475	-0.0358	-0.0899	-0.155	-0.126	-0.0515	-0.0353	-0.0414
	(-0.26)	(-0.44)	(-0.54)	(-0.43)	(-1.03)	(-0.93)	(-0.88)	(-0.58)	(-0.38)	(-0.46)
% of Population that is Urban	-0.0621	-0.0394	-0.0394	-0.0557	-0.0285	0.0330	0.0599	-0.0365	-0.0485	-0.0413
	(-1.54)	(-1.00)	(-0.98)	(-1.42)	(-0.69)	(0.37)	(0.66)	(-0.90)	(-1.11)	(-1.02)
Unemployment Rate	0.0362	0.0000777	-0.00652	0.0647	-0.0274	-0.0364	-0.0155	-0.0167	0.101	-0.00492
	(0.41)	(0.00)	(-0.08)	(0.76)	(-0.36)	(-0.35)	(-0.14)	(-0.20)	(0.95)	(-0.06)
Age Dependency Ratio	0.00415	0.00329	0.00412	0.00361	0.00416	-0.0000403	-0.00153	0.00408	0.00182	0.00420
	(1.85)	(1.49)	(1.85)	(1.68)	(1.94)	(-0.01)	(-0.42)	(1.86)	(0.73)	(1.88)
GDP % Growth Annually per capita	0.000623	0.000723	0.000511	0.000365	0.000228	-0.0000963	-0.000957	0.000536	-0.000932	0.000491
	(0.68)	(0.86)	(0.58)	(0.41)	(0.27)	(-0.07)	(-0.64)	(0.62)	(-0.86)	(0.55)
% of Population with Elem School or Less	-0.139	-0.0701	-0.0921	-0.107	-0.135	-0.366	-0.150	-0.0923	-0.135	-0.0988
	(-0.99)	(-0.52)	(-0.67)	(-0.79)	(-1.01)	(-1.21)	(-0.49)	(-0.67)	(-0.79)	(-0.72)
% of Population with Less than a College Degree	-0.133	-0.0962	-0.121	-0.0957	-0.160	-0.435	-0.226	-0.118	-0.156	-0.116
	(-1.08)	(-0.83)	(-1.01)	(-0.80)	(-1.35)	(-1.48)	(-0.77)	(-0.97)	(-1.02)	(-0.97)
Infant Mortality Rate (per 1000 children)	-0.00413*	-0.00331*	-0.00389*	-0.00285	-0.00427*	-0.00252	-0.00226	-0.00375*	-0.00278	-0.00406*
	(-2.62)	(-1.98)	(-2.18)	(-1.85)	(-2.27)	(-1.76)	(-1.62)	(-2.29)	(-1.77)	(-2.34)
Intercept	0.769**	0.498*	0.582*	0.669**	0.597**	0.842	0.544	0.532*	0.678**	0.649**
	(3.32)	(2.18)	(2.47)	(3.24)	(2.86)	(1.84)	(1.16)	(2.39)	(2.64)	(2.92)
N	776	824	831	828	835	326	326	835	620	823
# of Countries	116	130	131	132	132	53	53	132	91	129
T-bar	6.7	6.3	6.3	6.3	6.3	6.2	6.2	6.3	6.8	6.4
R-Squared: Within	0.06	0.06	0.06	0.07	0.11	0.10	0.14	0.06	0.05	0.05
R-Squared: Between	0.00	0.02	0.01	0.02	0.02	0.01	0.03	0.01	0.00	0.00
R-Squared: Overall	0.01	0.02	0.01	0.04	0.02	0.01	0.01	0.01	0.00	0.01

Note: * p<0.05 ** p<0.01 *** p<0.001

Table 6.6.0: Trust in Policing Inst. (raw data w. FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
			RE		RE	RE	RE	RE		
Variable of Interest	-0.0534	0.00139	0.0354***	-0.149***	0.208***	0.00357	0.0412	0.000541	-0.0135	0.166*
	(-0.85)	(1.30)	(6.85)	(-3.82)	(5.57)	(0.22)	(1.85)	(0.92)	(-0.75)	(2.31)
% of Population Ages 15 to 29	-0.500	-0.209	-0.285**	-0.407**	-0.418***	-0.337*	-0.329*	-0.493***	-0.155	-0.345*
	(-1.34)	(-1.58)	(-2.66)	(-3.32)	(-3.66)	(-2.10)	(-2.05)	(-4.57)	(-0.33)	(-2.04)
% of Population Ages 30 to 49	0.209	0.192	0.130	0.0528	0.0936	0.205	0.173	0.0393	0.111	0.284
	(0.64)	(1.51)	(1.12)	(0.42)	(0.80)	(0.93)	(0.80)	(0.33)	(0.32)	(1.38)
% of Population that is Male	0.355	-0.279	0.253	-0.0973	0.0389	-0.0107	0.0300	0.139	0.442	-0.238
	(0.51)	(-1.27)	(1.24)	(-0.44)	(0.18)	(-0.03)	(0.09)	(0.71)	(0.49)	(-0.76)
% of Population that is Married	-0.0846	0.0132	0.135**	0.0124	0.0832	0.0251	0.0182	0.0989	0.131	0.0110
	(-0.28)	(0.19)	(2.65)	(0.19)	(1.49)	(0.28)	(0.21)	(1.91)	(0.33)	(0.11)
% of Population that is Urban	0.0621	-0.0394	-0.0625	-0.0743	-0.0282	-0.100	-0.0956	-0.0590	0.0814	-0.0615
	(0.45)	(-0.97)	(-1.85)	(-1.86)	(-0.78)	(-1.07)	(-1.03)	(-1.68)	(0.57)	(-1.46)
Unemployment Rate	-0.208	-0.0996	-0.0332	-0.0257	-0.0907	-0.171	-0.154	-0.0572	-0.279	-0.190
	(-1.21)	(-1.24)	(-0.50)	(-0.38)	(-1.27)	(-1.71)	(-1.46)	(-0.87)	(-1.42)	(-1.66)
Age Dependency Ratio	0.0271*	0.00475*	0.00256**	0.00408*	0.00307**	0.000446	0.000578	0.00320**	0.0227	0.00379
	(2.08)	(2.08)	(2.87)	(2.00)	(3.08)	(0.30)	(0.43)	(3.17)	(1.42)	(1.58)
GDP % Growth Annually per capita	0.00197*	0.0000705	0.00149*	0.00108	0.0000120	0.000265	-0.000143	0.00143*	0.00199	0.00106
	(2.09)	(0.09)	(2.27)	(1.90)	(0.02)	(0.32)	(-0.19)	(2.23)	(1.37)	(0.87)
% of Population with Elem School or Less	0.364	-0.0579	0.0155	-0.0747	-0.0933	0.141	0.169	-0.0381	0.585	-0.0792
	(1.02)	(-0.58)	(0.20)	(-0.82)	(-1.15)	(0.58)	(0.69)	(-0.50)	(1.45)	(-0.62)
% of Population with Less than a College Degree	0.499	-0.174	-0.0830	-0.120	-0.208**	0.0178	0.0585	-0.120	0.502	-0.184
	(1.28)	(-1.97)	(-1.18)	(-1.53)	(-2.71)	(0.07)	(0.23)	(-1.73)	(1.04)	(-1.74)
Infant Mortality Rate (per 1000 children)	-0.0314**	-0.00254	-0.00104	-0.00243*	-0.00166	-0.00115	-0.00109	-0.00194*	-0.0260	-0.00281*
	(-3.00)	(-1.73)	(-1.27)	(-2.09)	(-1.95)	(-1.27)	(-1.25)	(-2.24)	(-1.91)	(-2.11)
Intercept	-0.626	0.578**	0.265*	0.813***	0.564***	0.632*	0.472	0.593***	-0.850	0.670**
	(-0.70)	(3.32)	(1.97)	(5.06)	(4.32)	(2.14)	(1.65)	(4.68)	(-0.82)	(2.82)
N	165	762	835	846	778	290	290	854	134	427
# of Countries	99	132	131	133	134	50	50	134	81	129
T-bar	1.7	5.8	6.4	6.4	5.8	5.8	5.8	6.4	1.7	3.3
R-Squared: Within	0.27	0.08	0.08	0.11	0.12	0.08	0.10	0.08	0.26	0.14
R-Squared: Between	0.07	0.16	0.49	0.31	0.31	0.19	0.20	0.27	0.09	0.22
R-Squared: Overall	0.07	0.19	0.50	0.35	0.35	0.22	0.24	0.31	0.09	0.27
							Note:	* p<0.05	** p<0.01	*** p<0.001

Table 6.6.1: Trust in Policing Inst. (imputed data w/ FE & RE robust std. errors)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
		RE		RE	RE	RE		RE		
Variable of Interest	-0.0352	0.00121	0.0356***	-0.149***	0.199***	0.00471	0.0420	0.000541	0.0128**	0.170**
	(-1.29)	(1.13)	(6.95)	(-3.82)	(5.30)	(0.30)	(1.87)	(0.92)	(3.40)	(2.81)
% of Population Ages 15 to 29	-0.421**	-0.379**	-0.304**	-0.407**	-0.482***	-0.265	-0.264	-0.493***	-0.234	-0.346**
	(-3.26)	(-2.88)	(-2.87)	(-3.32)	(-4.77)	(-1.86)	(-1.84)	(-4.57)	(-1.83)	(-2.71)
% of Population Ages 30 to 49	-0.00861	0.0355	0.105	0.0528	0.0146	0.248	0.210	0.0393	0.106	0.0763
	(-0.06)	(0.28)	(0.92)	(0.42)	(0.12)	(1.25)	(1.11)	(0.33)	(0.78)	(0.58)
% of Population that is Male	-0.189	-0.221	0.231	-0.0973	0.0598	0.0289	0.0751	0.139	-0.275	-0.254
	(-0.87)	(-1.07)	(1.13)	(-0.44)	(0.31)	(0.08)	(0.22)	(0.71)	(-1.20)	(-1.23)
% of Population that is Married	0.0294	0.0106	0.134**	0.0124	0.0785	0.0579	0.0513	0.0989	0.0833	0.0202
	(0.44)	(0.16)	(2.64)	(0.19)	(1.46)	(0.64)	(0.58)	(1.91)	(1.20)	(0.30)
% of Population that is Urban	-0.0715	-0.0682	-0.0573	-0.0743	-0.0508	-0.0694	-0.0638	-0.0590	-0.0642	-0.0693
	(-1.86)	(-1.80)	(-1.74)	(-1.86)	(-1.43)	(-0.77)	(-0.72)	(-1.68)	(-1.58)	(-1.83)
Unemployment Rate	-0.0360	-0.0660	-0.0258	-0.0257	-0.0573	-0.158	-0.142	-0.0572	-0.0138	-0.0659
	(-0.53)	(-0.98)	(-0.39)	(-0.38)	(-0.93)	(-1.66)	(-1.44)	(-0.87)	(-0.17)	(-0.98)
Age Dependency Ratio	0.00469*	0.00462*	0.00259**	0.00408*	0.00322**	0.0000326	0.000116	0.00320**	0.00124	0.00449*
	(2.36)	(2.31)	(2.91)	(2.00)	(3.24)	(0.02)	(0.09)	(3.17)	(0.61)	(2.23)
GDP % Growth Annually per capita	0.00126*	0.00136*	0.00151*	0.00108	0.00119	0.000420	0.00000336	0.00143*	0.000835	0.00150*
	(1.99)	(2.10)	(2.31)	(1.90)	(1.85)	(0.50)	(0.00)	(2.23)	(1.01)	(2.35)
% of Population with Elem School or Less	-0.114	-0.0515	0.0184	-0.0747	-0.0600	0.303	0.328	-0.0381	0.00148	-0.0445
	(-1.17)	(-0.56)	(0.25)	(-0.82)	(-0.78)	(1.34)	(1.45)	(-0.50)	(0.01)	(-0.47)
% of Population with Less than a College Degree	-0.159	-0.123	-0.0833	-0.120	-0.149*	0.233	0.269	-0.120	-0.0853	-0.126
	(-1.94)	(-1.62)	(-1.24)	(-1.53)	(-2.14)	(1.00)	(1.13)	(-1.73)	(-0.81)	(-1.61)
Infant Mortality Rate (per 1000 children)	-0.00328**	-0.00321**	-0.000954	-0.00243*	-0.00186*	-0.00127	-0.00122	-0.00194*	-0.00181	-0.00324**
	(-2.64)	(-2.67)	(-1.17)	(-2.09)	(-2.27)	(-1.44)	(-1.42)	(-2.24)	(-1.42)	(-2.66)
Intercept	0.817***	0.675***	0.282*	0.813***	0.566***	0.404	0.257	0.593***	0.767***	0.654***
	(4.97)	(3.92)	(2.11)	(5.06)	(4.59)	(1.39)	(0.92)	(4.68)	(4.22)	(3.91)
N	785	839	846	846	854	328	328	854	627	838
# of Countries	117	132	133	133	134	54	54	134	92	131
T-bar	6.7	6.4	6.4	6.4	6.4	6.1	6.1	6.4	6.8	6.4
R-Squared: Within	0.10	0.10	0.08	0.11	0.12	0.06	0.08	0.08	0.07	0.11
R-Squared: Between	0.23	0.20	0.50	0.31	0.30	0.20	0.20	0.27	0.21	0.20
R-Squared: Overall	0.24	0.24	0.49	0.35	0.35	0.23	0.24	0.31	0.21	0.24

Note: * p<0.05 ** p<0.01 *** p<0.001

Appendix A: Analysis for Imputing Data for Sensitivity Analysis

Missing Data and Imputation

One disadvantage of constructing a panel dataset is that a researcher needs to find an ample amount of data for each variable, in each country, for each time period within the dataset. In this analysis, the dependent variable was procured because it is one of the more unique variables, in terms of measuring a qualitative human behavior, and because of its lack of missing data. Having a balanced panel specifically for the depended variable is an advantage when variability is needed within the data to capture the casual drivers of that dependent variable. The tradeoff of finding a dependent variable with these appealing characteristics is that it decreases the likelihood of finding data that matches the same country for the same time interval.

This disadvantage is apparent mostly in the open government proxies, and in some of the control variables. Similar to the dependent variables, there is not an elongated history of collecting data on the particular open government proxies used in this analysis due to the high costs and inherent difficulties of gathering information on qualitative subjects. For example, most information about these subjects is collected through surveys, and the cost for administering surveys to the same country over a consistent time period is high. Additionally, when merging data from different sources the data dissemination rate and time periods of when the sources collect the data vary tremendously. This can be seen specifically in the World Bank Ease of Doing Business, Gallup Satisfied w/ Freedom of Media and UN E-gov indicators. All three of these indicators are recent creations from their appropriate agencies, and most of their time series intervals start past year 2008.

These missing data disadvantages play a role in deciding if the data is missing at random and in the feasibility of imputing data. A large portion of the missing data within the dependent variables of interest is due to the lack of corresponding time intervals. This is apparent in Acemoglu et al Democratic Indicator, World Bank Ease of Doing Business, Gallup Satisfied w/ Freedom of Media, HRV Transparency Index and UN E-gov variables. The Acemoglu et al Democratic Indicator and HRV Transparency Index both have truncated their time interval because their publication, which uses this data, started the review process after 2011. This data

cannot logically be imputed. Additionally, the UN E-gov indicator only conducts a country review every two years. This data cannot be imputed.

Ignoring the missing data due to the time interval constraints then begs the question of why there is missing data within the time intervals that do correspond with the dependent variables time intervals. One plausible reason is that the countries with less open governments are less likely to participate in surveys that question or expose their lack of government openness. The reason why we combat this question is because of the integrity of the data generating processes for all of the open government proxies. Many of the proxies are procured from sources that have a long-standing reputation for being unbiased and objective in their economic analysis. This analysis does depend on the integrity of their data generating process, and assumes that all data generating processes are unbiased and objective. Another argument to this criticism is that many of the variables are constructed on the compilation of the perceptions and evaluations of high-ranking officials and organizations that are experts in the field. This is process of inclusion should drive down biased within the methodology. Another plausible reason for the missing data is the income level or economic status of each country and it's inability to sample the population in a cost efficient manor. This is particularly important when these organizations are sampling through more cost efficient methodologies like calling household on a telephone. To address this concern, we investigated the distribution of non-missing data according country income level for each variable of interest in each year.

On average about a third of the non-missing data comes from countries with high income levels, and anywhere from 15% to 20% of the data comes from countries with low income levels. All countries within the two middle-income categories, the upper middle and lower middle, make up about 50% of the non-missing data. The two variables that do not have any observations for the countries with high-incomes are the WB CPIA Quality of Budget and WB CPIA Transparency & Accountability rankings, and there is only one observation for the upper-middle income countries. We agree that there is a difference in the representation between high-income and low-income countries, and agrees that imputing the data would biased the results. With that said, we do employ a conditional mean imputation to cross validate results and, in a sense, uses it as a sensitivity check. The reason we believe this type of analysis is reasonable to conduct is because the imputed data does not change the distributions of non-missing data by income class significantly (*see Appendix A table series 1 & 2*). In fact, the distribution of the

low-income countries would only be affect by a maximum of 3%, and this is only for the HRV Transparency Index distribution. In all, we do not agree with imputing data to generate causal results, but we do see some value in cross-referencing the results to check the sensitivity of the open government variables. We do not impute for the control variables.

Appendix A Table 1.0.0: Non-Missing Values by Country Income Level

Appendix A Table 1.0.1: Missing Values by Country Income Level

Appendix A Table 2.0.0: Missing Data Analysis by County Income Level

Acemoglu et al Democratic Indicator

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	150	117	123	73	463	32%	25%	27%	16%	100%
Missing	245	192	193	125	755	32%	25%	26%	17%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	38%	38%	39%	37%	38%					
% Missing	62%	62%	61%	63%	62%					

World Bank Ease of Doing Business

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	265	203	202	138	808	33%	25%	25%	17%	100%
Missing	130	106	114	60	410	32%	26%	28%	15%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	67%	66%	64%	70%	66%					
% Missing	33%	34%	36%	30%	34%					

TI CPI

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	383	303	299	190	1,175	33%	26%	25%	16%	100%
Missing	12	6	17	8	43	28%	14%	40%	19%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	97%	98%	95%	96%	96%					
% Missing	3%	2%	5%	4%	4%					

Gallup Yes Corrupt Government

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	388	308	309	197	1,202	32%	26%	26%	16%	100%
Missing	7	1	7	1	16	44%	6%	44%	6%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	98%	100%	98%	99%	99%					
% Missing	2%	0%	2%	1%	1%					

Appendix A Table 2.0.1: Missing Data Analysis by County Income Level (cont')

Gallup Satisfied w/ Freedom of Media

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	267	210	214	140	831	32%	25%	26%	17%	100%
Missing	128	99	102	58	387	33%	26%	26%	15%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	68%	68%	68%	71%	68%					
% Missing	32%	32%	32%	29%	32%					

WB CPIA Quality of Budget

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	0	11	224	186	421	0%	3%	53%	44%	100%
Missing	395	298	92	12	797	50%	37%	12%	2%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	0%	4%	71%	94%	35%					
% Missing	100%	96%	29%	6%	65%					

WB CPIA Transparency & Accountability

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	0	11	224	186	421	0%	3%	53%	44%	100%
Missing	395	298	92	12	797	50%	37%	12%	2%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	0%	4%	71%	94%	35%					
% Missing	100%	96%	29%	6%	65%					

Appendix A Table 2.0.2: Missing Data Analysis by County Income Level (cont')

WGI Voice & Accountability %

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	395	309	316	191	1,211	33%	26%	26%	16%	100%
Missing	0	0	0	7	7	0%	0%	0%	100%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	100%	100%	100%	96%	99%					
% Missing	0%	0%	0%	4%	1%					

HRV Transparency Index

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	123	97	92	71	383	32%	25%	24%	19%	100%
Missing	272	212	224	127	835	33%	25%	27%	15%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	31%	31%	29%	36%	31%					
% Missing	69%	69%	71%	64%	69%					

UN E-gov

	High	Upper Mid	Lower Mid	Low	Total	% High	% Upper Mid	% Lower Mid	% Low	% Total
Non-missing	177	139	137	90	543	33%	26%	25%	17%	100%
Missing	218	170	179	108	675	32%	25%	27%	16%	100%
Total	395	309	316	198	1,218	32%	25%	26%	16%	100%
% Non-missing	45%	45%	43%	45%	45%					
% Missing	55%	55%	57%	55%	55%					

Appendix B: Supplementary Results using Imputed Data

Appendix B Table 1.0.0: Durbin-Wu-Hausman Test

P-Values for Durnin-Wu-Hausman Test using Imputed Data

Trust in Institutions	*Open Government Proxies*									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.	0.001	0.000	0.000	0.011	0.000	**0.096**	**0.162**	0.000	0.018	0.000
Trust in Financial Inst.	0.000	0.000	0.000	0.000	0.000	0.000	**1.000**	0.000	0.000	0.000
Trust in Judicial Inst.	0.000	0.000	0.000	0.000	0.000	0.000	**0.084**	0.000	0.000	0.000
Trust in Military Inst.	0.000	0.000	0.000	0.000	0.014	0.000	0.025	0.000	0.000	0.000
Trust in Policing Inst.	0.000	0.001	**1.000**	0.000	0.009	0.004	0.013	**1.000**	**0.107**	0.000

Note: **Reject** the H0 if $p<0.05$

Appendix B Table 1.0.1: Correlation Matrix usnig Imputed Data

Correlation Matrix Impute

	Trust in Government Inst.	Trust in Financial Inst.	Trust in Judicial Inst.	Trust in Military Inst.	Trust in Policing Inst.	Acemoglu et al Democratic Indicator	World Bank Ease of Doing Business	TI CPI	Gallup Yes Corrupt Government	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index	UN E-gov
Trust in Government Inst.	**1**														
Trust in Financial Inst.	0.58	**1**													
Trust in Judicial Inst.	0.75	0.67	**1**												
Trust in Military Inst.	0.61	0.60	0.80	**1**											
Trust in Policing Inst.	0.65	0.43	0.64	0.70	**1**										
Acemoglu et al Democratic Indicator	0.02	0.26	0.10	0.16	0.01	**1**									
World Bank Ease of Doing Business	0.12	0.34	0.16	0.29	0.12	0.45	**1**								
TI CPI	0.28	0.37	0.39	0.41	0.30	0.40	0.46	**1**							
Gallup Yes Corrupt Government	-0.40	0.00	-0.29	-0.13	-0.27	0.06	0.00	-0.13	**1**						
Gallup Satisfied w/ Freedom of Media	0.31	0.27	0.34	0.58	0.40	0.46	0.36	0.41	0.00	**1**					
WB CPIA Quality of Budget	0.30	0.23	0.25	0.40	0.28	0.25	0.51	0.35	-0.21	0.44	**1**				
WB CPIA Transparency & Accountability	0.29	0.36	0.33	0.36	0.21	0.54	0.43	0.66	-0.10	0.50	0.54	**1**			
WGI Voice & Accountability %	0.21	0.32	0.22	0.35	0.20	0.66	0.47	0.68	0.08	0.55	0.45	0.76	**1**		
HRV Transparency Index	0.15	0.24	0.17	0.26	0.01	0.38	0.58	0.28	0.00	0.42	0.39	0.32	0.41	**1**	
UN E-gov	0.09	0.28	0.02	0.09	-0.02	0.28	0.72	0.27	-0.01	0.17	0.32	0.22	0.29	0.59	**1**

Appendix B Table 1.0.2: Trust in Government Inst.

Trust in Financial Inst.

	(1)	(2)	(3)	(4)	(1)	(2)	
	Acemoglu et al Democratic Indicator	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	HRV Transparency Index	WB CPIA Transparency & Accountability	UN E-gov	-
		RE	RE				-
Variable of Interest	-0.0758	0.0524*	0.0592*	-0.0192**	-0.0664	-0.0969***	-
	(-1.44)	(2.57)	(2.43)	(-2.89)	(-1.00)	(-3.60)	-
% of Population Ages 15 to 29	0.584*	0.584*	0.568*	0.277	0.0381	0.0802	-
	(2.48)	(2.07)	(2.05)	(1.54)	(0.22)	(0.51)	-
% of Population Ages 30 to 49	0.618*	1.129**	1.017*	0.567*	0.0856	0.141	-
	(2.52)	(2.60)	(2.47)	(2.43)	(0.49)	(0.82)	-
% of Population that is Male	-1.294**	-1.464*	-1.439*	-0.720	-1.262***	-0.703**	-
	(-3.29)	(-2.32)	(-2.38)	(-1.48)	(-3.99)	(-2.63)	-
% of Population that is Married	0.279*	0.0244	0.0549	0.158	0.000686	0.0710	-
	(2.40)	(0.18)	(0.39)	(1.62)	(0.01)	(0.81)	-
% of Population that is Urban	0.0976	0.0211	0.0388	0.0426	-0.0590	-0.0148	-
	(1.82)	(0.20)	(0.38)	(0.83)	(-1.27)	(-0.31)	-
Unemployment Rate	-0.313**	-0.392***	-0.363**	-0.367**	-0.133	-0.0413	-
	(-3.08)	(-3.31)	(-2.86)	(-2.75)	(-1.47)	(-0.57)	-
Age Dependency Ratio	0.00404	-0.00160	-0.00154	0.000421	0.00261	0.00500**	-
	(1.36)	(-0.99)	(-1.01)	(0.31)	(1.36)	(2.73)	-
GDP % Growth Annually per capita	0.00334**	0.00265	0.00203	0.00243	0.00242**	0.000395	-
	(3.18)	(1.86)	(1.46)	(1.65)	(3.29)	(0.53)	-
% of Population with Elem School or Less	-0.0708	0.987**	1.010**	-0.0117	-0.182	-0.0841	-
	(-0.44)	(3.02)	(3.05)	(-0.07)	(-1.38)	(-0.75)	-
% of Population with Less than a College Degree	-0.250	0.878*	0.910*	-0.115	-0.177	-0.230*	-
	(-1.45)	(2.44)	(2.44)	(-0.61)	(-1.46)	(-2.04)	-
Infant Mortality Rate (per 1000 children)	-0.00458**	-0.00139	-0.00168	-0.00139	0.000517	-0.00377**	-
	(-2.86)	(-1.20)	(-1.43)	(-1.13)	(0.46)	(-2.98)	-
Intercept	0.589	-0.281	-0.280	0.586*	1.157***	0.708**	-
	(1.93)	(-0.60)	(-0.58)	(2.02)	(4.65)	(3.24)	-
N	780	327	327	624	328	838	-
# of Countries	116	53	53	91	54	131	-
T-bar	6.7	6.2	6.2	6.9	6.1	6.4	-
R-Squared: Within	0.11	0.14	0.16	0.09	0.14	0.07	-
R-Squared: Between	0.02	0.41	0.33	0.12	0.00	0.04	-
R-Squared: Overall	0.05	0.32	0.28	0.13	0.00	0.05	-

Appendix B Table 1.0.3: Trust in Judicial Inst. | Trust in Policing Inst.

(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Acemoglu et al Democratic Indicator	Gallup Satisfied w/ Freedom of Media	WB CPIA Transparency & Accountability	HRV Transparency Index	TI CPI	Gallup Satisfied w/ Freedom of Media	WB CPIA Quality of Budget	WB CPIA Transparency & Accountability	WGI Voice & Accountability %	HRV Transparency Index
									RE
0.251***	0.0730*	-0.00170	0.0132	0.199***	0.00340	0.0486	-0.000661	0.00469	0.0128**
(4.64)	(2.58)	(-0.32)	(1.50)	(5.30)	(0.17)	(1.74)	(-0.61)	(1.39)	(3.40)
0.0486	0.107	0.211	-0.357**	-0.482***	-0.230	-0.232	-0.397**	-0.436***	-0.234
(0.31)	(0.53)	(1.25)	(-2.70)	(-4.77)	(-1.35)	(-1.39)	(-3.19)	(-4.04)	(-1.83)
0.168	0.278	0.204	0.0511	0.0146	0.256	0.226	0.0419	0.0197	0.106
(1.12)	(0.93)	(1.03)	(0.40)	(0.12)	(1.18)	(1.09)	(0.33)	(0.15)	(0.78)
-0.765**	-1.163**	-0.793*	-0.152	0.0598	0.0224	0.130	-0.172	-0.0151	-0.275
(-2.81)	(-3.40)	(-2.35)	(-0.71)	(0.31)	(0.06)	(0.38)	(-0.83)	(-0.07)	(-1.20)
0.0288	0.0830	0.0701	0.00289	0.0785	0.00435	-0.0118	0.000953	0.182***	0.0833
(0.37)	(0.66)	(0.72)	(0.04)	(1.46)	(0.03)	(-0.10)	(0.01)	(3.39)	(1.20)
0.00602	-0.0407	-0.0129	-0.0633	-0.0508	-0.0305	-0.0206	-0.0544	-0.0877*	-0.0642
(0.14)	(-0.54)	(-0.26)	(-1.67)	(-1.43)	(-0.31)	(-0.20)	(-1.38)	(-2.52)	(-1.58)
-0.0717	0.0136	-0.0560	-0.0638	-0.0573	-0.211*	-0.200*	-0.0709	-0.0113	-0.0138
(-1.08)	(0.14)	(-0.60)	(-0.94)	(-0.93)	(-2.41)	(-2.11)	(-1.08)	(-0.14)	(-0.17)
0.00471**	-0.00234	0.00224	0.00484*	0.00322**	-0.00161	-0.00244	0.00442*	0.00229*	0.00124
(2.73)	(-0.96)	(1.20)	(2.44)	(3.24)	(-0.61)	(-1.00)	(2.19)	(2.25)	(0.61)
-0.0000316	-0.00114	-0.000561	0.00122*	0.00119	0.000213	-0.000170	0.00123*	0.000916	0.000835
(-0.05)	(-0.99)	(-0.58)	(1.99)	(1.85)	(0.26)	(-0.22)	(2.07)	(1.10)	(1.01)
-0.136	0.0508	-0.0554	-0.0509	-0.0600	0.00467	0.0354	-0.0666	-0.00778	0.00148
(-1.29)	(0.18)	(-0.40)	(-0.53)	(-0.78)	(0.02)	(0.14)	(-0.71)	(-0.08)	(0.01)
-0.292**	-0.0164	-0.187	-0.132	-0.149*	-0.0321	0.00647	-0.144	-0.0685	-0.0853
(-2.68)	(-0.06)	(-1.36)	(-1.66)	(-2.14)	(-0.12)	(0.03)	(-1.81)	(-0.77)	(-0.81)
-0.00352*	-0.00101	-0.00234	-0.00313**	-0.00186*	-0.00125	-0.000996	-0.00365**	-0.00180*	-0.00181
(-2.48)	(-0.91)	(-1.74)	(-2.63)	(-2.27)	(-1.03)	(-0.85)	(-2.83)	(-2.06)	(-1.42)
0.585**	0.840*	0.736**	0.635***	0.566***	0.797*	0.652*	0.803***	0.657***	0.767***
(2.77)	(2.23)	(2.85)	(3.45)	(4.59)	(2.62)	(2.20)	(4.80)	(4.57)	(4.22)
785	854	328	627	846	854	328	328	854	627
117	134	54	92	133	134	54	54	134	92
6.7	6.4	6.1	6.8	6.4	6.4	6.1	6.1	6.4	6.8
0.07	0.12	0.13	0.04	0.10	0.12	0.07	0.10	0.09	0.05
0.02	0.05	0.01	0.00	0.26	0.30	0.06	0.06	0.12	0.37
0.01	0.08	0.01	0.00	0.30	0.35	0.04	0.04	0.15	0.35

Note: * p<0.05 ** p<0.01 *** p<0.001

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