CONCEPTUALIZING COMPARATIVE DEVELOPMENT: ISHHED, THE INDEX OF SUSTAINABLE, HEALTH, HUMAN CAPITAL, AND ECONOMIC DEVELOPMENT

by

STEPHEN BAGWELL

(Under the Direction of K Chad Clay)

ABSTRACT

Following the calls of several notable policymakers and academics, this dissertation assesses the state of the concept of development and finds that the concept has evolved beyond what current measures are capable of capturing. Measures of development have remained static, while practitioners have expanded the scope development to include much more than just GDP growth. Existing studies largely use GDP per capita, a measure severely lacking in construct validity but statistically associated with almost everything. I propose a new measure of development that brings current conceptualizations in line with measurement, increasing construct validity and the accuracy of measurement. Then, I use the measure to test two empirical questions that have severe implications for development: first, what are the effects of increasing respect for labor rights on development; second, what is the effect of structural adjustment programs on countries with extractive colonial legacies (and is it different from those with representative legacies)? These questions were chosen for a variety of reasons. First, they display the utility of the new measure by answering questions from two different subfields. Second, they are questions that cannot be answered with existing measures like GDP per capita. Increasing respect for worker rights may increase GDP per capita, but does that capture all the

effects of increasing respect for worker rights in an economy? Similarly, structural adjustment programs have not on the whole produced the predicted effects of better long-term growth, and countries with extractive colonial legacies have drastically worse economic performance. But what is the interactive effect, and can GDP per capita growth actually tell us what that effect is on development? There are a multitude of empirical questions related to the concept of development. This dissertation will answer two that have not yet been evaluated with any metric. That does not preclude the possibility, however, that iSHHED could provide better insights into questions that have already been evaluated using measures like GDP growth or GDP per capita.

INDEX WORDS: International Development, International Political Economy, Comparative Politics, Bayesian Statistics

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by

STEPHEN BAGWELL

BS Oklahoma Christian University 2010

MA University of Central Oklahoma 2012

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2019

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by

STEPHEN BAGWELL

Major Professor:	K Chad Clay
Committee:	Jeffrey Berijikian
	Shane Singh
	Ryan Bakker

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2019

DEDICATION

Dedicated to my partner, Chelsea Oliver, her family, my family, and all those who believed I could learn to work hard and achieve my potential.

ACKNOWLEDGEMENTS

My partner, Chelsea Oliver, has been a remarkable beacon of patience and support, and by the time anyone reads this, she will also be my wife. I owe her many thanks for dating a poor graduate student for two years and agreeing to be married to a student loan indebted professor for the remainder of our natural lives. Her parents, Steven and Carol, as well as her brother Sterling and sister in law Ashley, have also been understanding, supportive, and welcoming, and I owe them a great deal.

My own parents, Mike and Penny Bagwell never stopped believing in me and never stopped pushing me to pursue my interests. Not when I loafed through high school or lost my academic scholarships as an undergraduate. Even when they didn't understand why I would get a PhD instead of going to law school, they continued to trust in what I was doing and the plans I saw for myself. They have been a constant source of love, support, and encouragement. I would also like to acknowledge my sister, Cara, for harassing me and supporting me with snark and the occasional meme or llama picture.

I would also like to thank my dissertation committee: Jeff Berejikian, Shane Singh, and Ryan Bakker. You knew I was tackling an ambitious project, but you understood it was important and you trusted me to follow through. You have met for coffee or drinks whenever I've struggled or just needed to bounce ideas off you. You never once got in the way of what I wanted this dissertation to be. You have been a wonderful committee and I am grateful.

Prestige WorldWide: thank you for being a constant source of levity and intellectual stimulation. KPop, Rabbit, and Uncle Justice: you have all been instrumental in this achievement.

Finally, I want to thank Chad Clay. This would not be my dissertation if you were not my advisor. I would not have developed a love of statistical measurement or an understanding of human rights without your active involvement in my education and intellectual life. Thank you for pushing me out of my comfort zone. Thank you for introducing me and then abandoning me at every conceivable networking opportunity. In the rare moments I lost my sense of self-confidence, thank you for reminding me who I am and what I am capable of.

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CHAPTER 1

INTRODUCTION

"I think we can have growth rates in excess of 4%. When I'm talking about growth rates, I'm not talking about that GDP, which counts poison gas the same as it counts penicillin. What a monstrous measure this is. If we make more bombs, the GDP goes up—particularly if we explode them." -Charles Koch, Time Magazine 2017.

Over time, policymakers have changed how they view development: initially conceptualized as industrialization, then growth, and most recently by the Millennium Development Goals and the Sustainable Development Goals. In some countries, however, policies prioritizing growth over other developmental outcomes are pursued. When a country prioritizes economic growth over other developmental goals, does it see different outcomes than a country that prioritizes other goals over growth? My research is largely motivated by that question. Current measures of development do not accurately reflect the changing of the concept of development. It is not clear that GDP growth or GDP growth per capita accurately reflect the process of development. It is clear that the concept of development has changed. What is puzzling, then, is neither policymakers nor academics have created a better measure for the current concept of development, instead relying on the same growth driven metrics or relatively basic indicators that have dominated this subfield for years.

This research is motivated in part by that puzzle, and in part by a number of questions that traditional indicators are unable to adequately answer. What impact does increasing respect

for worker rights and women's economic rights have on development? How does colonial legacy impact development (Acemoglu et al 2001)? How does development impact the welfare state (and is this different in well consolidated welfare regimes than in newly institutionalized welfare regimes) (Rudra 2002)? What is the relationship between development and factor mobility? Is there a relationship between development and default, or more specifically, does default have long term ramifications on development (Borensztein and Panizza 2008)? Do states with higher levels of trust see more development (Bjornskov 2012, Temple and Johnson 1998)? Does central bank independence lead to higher levels of development (Alesina and Summers 1993, Cukierman et al 1993, Loungani and Sheets 1997)? What effects does entering an IMF agreement have on development (Przeworski and Vreeland 2000, Dreher 2006)? Does foreign economic penetration positively impact development (Shandra et al 2004)? What are some institutions that "well developed" states have in common (Esping-Anderson 1990)? What is the impact of institutional complementarities on development (Hall and Soskice 2001)? Is there a causal relationship between the existence of a strong middle class and increased development? These questions all have clear relevance to audiences both in academia and in policy. Some of these questions have garnered attention (as cited above) and seen answers posited using indicators like GDP growth, state expenditure, or GINI coefficients. Selecting any of those indicators on their own, however, fails to account for other aspects of development, such as human capital, population health, or environmental sustainability. Simply put, we need a better measure to capture the concept.

The overarching goal of this dissertation is to address that need by developing a measure or measures of development that identify suitable characteristics of the concept, with each attribute being observed by multiple indicators, and which incorporates each of those indicators

while minimizing information loss. It will then display the utility of those measures in order to demonstrate the overall effectiveness of the Bayesian approach to measuring directly unobservable concepts.

Literature Review

Using GDP growth or something similar to measure development would largely fit with the overall literature, which began characterizing development as economic growth or rates of industrialization, urbanization, or wealth from the beginnings of the comparative politics discipline. For example, Lipset (1960) argues that development leads to democratization. Development, in Lipset's theory, refers to the growth of incomes. In his own words, "the more well-to-do a nation, the greater the chances it will sustain a democracy." (Lipset 1960: 56). Similarly, Inglehart and Welzel (2005) argue that development as economic growth lead to cultural changes, such as moving from a religious to a secular society, that make democracy more likely. Indeed, the field of comparative politics (as opposed to merely comparative government) largely began as an exercise in comparative development. Early works focused on "modernization" of economies. Primarily, these works argued that the United States and Western Europe provided archetypal models for development. Gerschenkron, in his analysis of industrializing economies, provides an typical example. Gerschenkron (1962) focused on explaining "backwards" development by analyzing when states began the process of industrialization and explaining how that impacted economic growth. Similarly, Rostow (1960) explains how development can be achieved in five steps. Development, again, refers to economic growth and broad conceptualizations of industrialization. Development as captured by economic growth was argued to be responsible for the increase in size of the middle class, which would

then lead to social changes like urbanization, democratization, or the demands of increased social assurances.

Much of the literature discussed in the previous section was qualitative in nature. As such, the scholars attempted to discuss development as a rather broad concept, and recognized the relationship between economic development, social development, and often political development. As technology improved and quantitative analyses became less computationally difficult, scholars shifted their methodological approach to statistical inference. Quantitative analysis continues to dominate the discipline. One major drawback of this paradigm shift has been a change in the conceptualization of development. While scholars still use the term development, they often merely refer to only one aspect: economic growth is perhaps the most common, but education, inflation, unemployment, poverty rates, corruption, exports, and other measures are also used in isolation from other indicators. The foremost example is Acemoglu Johnson and Robinson (2001), which traces the economic performance (as measured by GDP growth) of former colonies, based on the type of institutions established by the colonizers. This is one of the most widely cited articles in comparative politics, especially comparative political economy. Acemoglu, Johnson, and Robinson (AJR) succeed in linking early institutions to current economic performance, but they say very little about the actual concept of development. What would their results look like if they took a more holistic view of development? For example, while extractive institutions clearly damage economic performance (income per capita), they may also severely damage current health outcomes, as leaders in extractive states are unlikely to provide public healthcare. Additionally, leaders in such states are unlikely to focus on future gains at the expense of current gains, and are therefore unlikely to maintain the environment. These illustrations clearly do not overturn the results of AJR, but had they taken a

more holistic view of development they would be able to make an even stronger case that mal-development occurred in states with extractive institutions. It is possible as well, their results could have changed. Perhaps extractive institutions are able to generate some positive aspect of development relative to representative institutions. Regardless, conceptual measurement error is most likely skewing their results. By using a measure that singular in focus, they neglect human and environmental outcomes of interest to modern policymakers.

Much like the academic literature, the conceptualization of development among policymakers and practitioners has changed as well. In the post-war period, we have seen three primary waves of development: structuralist, export oriented, the Washington Consensus. Most recently we observe the Millennium Development Goals and their follow up the Sustainable Development Goals.

Structuralist theory is well explained through the case of Mexico, which is a typical case for both Latin America and sub-Saharan Africa. For most of the post-war period, Mexico was a highly protectionist country. It featured heavy state involvement, primarily channeled through the financial sector, and shunned liberal trade organizations like the GATT (General Agreement on Trade and Tariffs). The government created state owned enterprises and these enterprises then garnered about one-third of all industrial investment (La Porta and Lopez de Silanes 1997). Largely, these policies reflected the structuralist theory of development, which argues that the state would be unlikely to see a move from agricultural production to industrialization without direct intervention. The reasons undergirding structuralist theory are related to the concepts of complementary demand and pecuniary external economies. Complementary demand is the idea that in a system where few people have disposable income, no producer will be able to sell its products. If a state develops an industry for shirts, and pays 100 people to make the shirts, but

everyone else still works in agriculture, who is likely to afford the new shirts the state makes? The state, then, needs to invest in multiple industries (shoes, shirts) simultaneously in order to develop markets that can support their new industries. Pecuniary external economies describe the coordination problem between linked industries. Additionally, structuralists argue that there are imperfections in the international market. Most notably this argument was advanced by Raul Prebisch (1950), who argued that the terms of trade would never be in favor of developing countries that relied primarily on commodity exports.

Taken together, these structuralist arguments led to import substitution industrialization. ISI is an outcome of the idea that states should intervene in the economy, creating industries for products they previously imported. ISI came in two stages, initially "easy ISI" and then secondary ISI. Easy ISI focused on developing simple domestic manufacturing. The primary benefit of easy ISI was the increase in employment and the downsizing of the agricultural sector due to the expansion of manufacturing. An additional benefit is an increase in factor mobility: workers trained in the switch to simple initial manufacturing would have an easier transition to making more complicated goods in the future. An increase in that kind of human capital should have provided an easy avenue with which to increase development. Eventually, however, the market for simple manufactured goods would dry up, at which point the government would shift from the first stage to secondary ISI. Secondary ISI was built around the premise of backward linkages. Backward linkages, a policy prescription followed by many countries in Latin America, refers to the idea that the production of one product increases demand in industries that supply parts of that product (Hirschman 1958). For example, increased demand for automobiles increases demand for automobile parts. Governments promoted secondary ISI with five year plans wherein they laid out schematically how they intended to accomplish industrial growth,

how they would direct investment, and how they would manipulate trade barriers. By 1970, ISI was falling out of favor due to two economic imbalances: first, ISI generated budget deficits due to the heavy state economic intervention; second, states following ISI ran massive current account deficits, as they were importing far more than they were exporting. Reform was necessary, but not likely, because the imbalances of ISI had led to a shift in domestic political power to the groups benefitting most from the current policies. Rent seeking and corruption were common. A decade later, Latin America and sub-Saharan Africa would be in the midst of a debt crisis that finally caused the reforms necessary to move beyond ISI.

Contrary to secondary ISI, several states, primarily in Southeast Asia, opted to take another path towards development as they realized the diminishing returns of easy ISI. Instead of relying on demand from the domestic market, producers began exporting their goods to the global market. East Asian development was still state led, but was based on growing the manufacturing sector of the economy through external demand and selective liberalization of trade policy, specifically lowering tariffs on intermediate goods. The export led strategy avoided current account deficits, targeted low inflation, and offered exchange rate stability. The newly industrialized East Asian economies were able to use the international markets to guide them to where they held a comparative advantage (Doner and Hawes 1995), which led to efficient resource allocation and major gains in export growth and broader economic growth. There is debate, though, between some policymakers and academics about how exactly the East Asian model should be conceptualized. Policymakers from the World Bank and IMF (World Bank 1989, 1991, and 1993) claim that the success of the model is derived strictly from their liberalization. Their opponents (Rodrik 1999, Wade 1990) say that it was the *selectiveness* of the liberalization that provided the observed gains. The policymakers eventually clustered policy

prescriptions around what came to be known as the Washington Consensus, generally misapplying the lessons that could have been learned from Southeast Asia.

As John Williamson, the father of the consensus conceived it, the Consensus "was in principle geographically and historically specific, a lowest common denominator of the reforms that he judged 'Washington' could agree were required in Latin America at the time." (Marangos 2008: 227) And it included "the International Monetary Fund (IMF), the World Bank, and the US executive branch, the Federal Reserve Board, the Inter-American Development Bank, those members of Congress interested in Latin America, and the think tanks concerned with economic policy." (Marangos 2008: 227) Basically, it included the top developmental policy makers in the Western world. The goals set forth by these decision makers primarily involved outward oriented production and free market policies, both domestically and internationally. More specifically, the consensus (led by Williamson) included the following ten policy recommendations (Williamson 1990):

1. Fiscal policy discipline;
2. Redirection of public spending from subsidies to social welfare programs;
3. Tax reform – tax a broad base with moderate taxes on the margins;
4. Interest rates should be determined by market forces and positive;
5. Competitive exchange rates;
6. Trade liberalization – avoid import licensing, exempt intermediate goods from tariffs;
7. Liberalization of inward foreign direct investment;
8. Privatization of state enterprises;
9. Deregulation – abolition of regulations that impede market entry or restrict competition;
10. Legal security for property rights.

The Washington Consensus was tied to the 1997 financial crisis in East Asia, and was also rightly criticized for leading to economic collapse, stagnation, or "lost decades" in other developing areas (D'Arista 2008, Lin 2015, Moreno-Brid et al 2004). It was after the failure of

the Washington Consensus that global organizations began arguing for developmental goals outside of industrialization, increasing exports, or GDP growth.

In response, there was a brief shift towards a human capabilities approach (Sen 1999, Nussbaum 2000), which measured development as the abilities humans are empowered to have, prior to the United Nations establishing the Millennium Development Goals. The Millennium Development Goals (MDGs) represented a shift in the change of the definition of development. There are eight MDGs: to eradicate extreme hunger and poverty, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, combat malaria, HIV/AIDS, and other diseases, ensure environmental sustainability, and develop a global partnership for development. These goals represent a much more holistic view of development than the literature currently features, though they actually neglect the more traditional definitions of development. States report with some frequency on progress towards these goals. What is missing, however, is an aggregate measure that encompasses all these goals, and incorporates other existing measures. We can broadly see that the first seven of these goals fall into three categories: economics (poverty eradication), health/social health (reducing child mortality, improving maternal health, combatting diseases), and the environment (ensuring environmental sustainability). Two of the goals deal with education and the development of human capital (achieving universal primary education and empowering/educating women), and fall into their own fourth category.

Their successor, the Sustainable Development Goals (SDGs), follow a similar pattern. The SDGs call for the complete eradication of poverty, the ending of world hunger, increasing health and well-being, increasing the quality of education, achieving gender equality, improving access to clean water and sanitation, increasing the affordability and the cleanliness of energy,

achieving higher employment and better economic growth, building industry, fostering innovation, and improving infrastructure, reducing inequalities, increasing the sustainability of cities, achieving responsible consumption, taking action on climate change through carbon emissions, ocean and water conservation, reducing desertification, and reducing corruption. These are much more ambitious and comprehensive goals, but they still fit into the same four dimensions the MDGs fit into.

Why Existing Measures Fall Short

Existing measures fall short of achieving the criteria of being effective indicators of development for three primary reasons: first, they focus too much on either macro-economic conditions *or* human outcomes; second, they lack availability for cross-national comparison or comparison over time, limiting their usefulness in large scale projects evaluating development; or third, they suffer too much from information loss by ignoring related indicators or not accounting for measurement error. I provide a brief example here focusing on GDP but discuss the shortcomings of additional operationalizations in more detail in Chapter 2.

For laypersons, policymakers, and scholars, the most commonly used operationalization of development is the Gross National Product (GNP) or the Gross Domestic Product (GDP) measured on a per capita basis. Beginning in the Bretton Woods era, GNP and GDP became terms popularized enough to be discussed as a measure of development for the everyday person. GNP is defined as the total economic activity of a state's citizens regardless of where the borders within such activity occurs (Fioramonti 2013). GDP, similarly, is calculated by summing consumption, investment, government spending, and exports, then subtracting the value of imports. GDP was originally developed by Kuznets in a congressional report in 1934, and is "that part of the economy's end product that results from the efforts of individuals who comprise

a nation." (Kuznets 1934) These measures, however, do not measure the well-being of those individuals which comprise a nation. They are not capable of being suitable proxies for the welfare of a population, or for measuring the environmental sustainability of economic activity, or for use as an indicator the development of human capital. In fact, the use of GDP can actively reduce the development of populations. Take for instance the Stability and Growth Pact, signed by the members of European Union, which directly ties the amount of investment governments can make in developing human capital to GDP growth (Fioramonti 2013). Lower GDP growth then leads to less social investment, which leads to delayed development. This means that in times of economic crises, governments may be forced by the treaty to undertake policies that directly limit or harm human outcomes. While looking at a list of the countries with the highest GDP or the best GDP growth might seem to provide an adequate picture of development, GDP does not capture the whole story: economic activity, even measured on a per capita basis, is not a suitable proxy for the well-being of individuals within that society (Dickinson 2011).

Plan of the Dissertation

In Chapter One, I examine the evolution of the concept of development in scholarly and policy circles through an examination of the literature. In Chapter Two, I borrow from the Sustainable Development Goals (SDGs) to identify four primary dimensions of development: health, environmental sustainability, human capital, and economic growth and stability. In doing so, I link my critique of existing indicators with an argument in favor of the measurement approach I adopt. In Chapters Three and Four, I examine research questions using my new measures and discuss the insights we gain through this approach. Chapter Three specifically addresses the role of labor rights in human capital and health development. I find that respecting labor rights in practice has a consistent positive impact on health and human capital outcomes.

Chapter Four examines the process through which colonial legacy institutions and IMF Structural Adjustment Programs interact to produce health and human capital developmental outcomes. I find that states with extractive colonial legacy institutions have consistently worse health and human capital outcomes. I also find, consistent with existing literature, that states which undertake IMF structural adjustment programs experience worse health and human capital outcomes. Finally, I find that states which inherited better colonial legacy institutions experience worse outcomes the longer they remain in a structural adjustment program, in contrast with states which inherited worse institutions, who experience better health and human capital outcomes the longer they remain under a structural adjustment program. In Chapter 5, I summarize my findings and discuss the limitations of my current research with an eye focused on continued improvements in the future.

Overall, this dissertation makes a strong case that the Bayesian approach to measurement improves our understanding of development, and allows scholars to more closely measure the term in the ways laypersons and policymakers use it. This approach improves our understanding by decreasing the amount of information lost by utilizing a single indicator, increases our ability to make comparisons both cross-nationally and over time, and provides a suitable balance of focusing on both macroeconomic and human conditions.

CHAPTER 2

Matching Concepts and Measurement

"If we do not want our future and the future of our children and grandchildren to be riddled with financial, economic, social, and environmental disasters, which are ultimately human disasters, we must change the way we live, consume, and produce. We must change the criteria governing our social organizations and our public policies." -Sarkozy 2009

What is development? Development is an abstract concept that is difficult to operationalize. As used here, the concept of development involves the process by which states are responsible for and deliver human outcomes as well as macroeconomic performance. In this chapter, I first discuss the evolution of the concept of development over time. Second, I discuss how scholars and policymakers have mismatched their operationalizations of development. Then I spend the remainder of the chapter introducing a new multi-dimensional operationalization of development.

Development as a term initially referred to the movement from feudalistic societies to the growing of the middle mercantile class (Conteras 1999). Now, the concept of development is concerned not just with structural changes and constant economic growth, but with the outcomes of the people which interact with markets and human well-being. Put another way, development is a concept that includes both sustained economic growth *and* improved standard of living. As countries become more developed, we should observe greater economic stability, better health, more human capital and gender equality, and economic processes that minimize damage done to the environment.

Most recently, the policy community has developed a list of developmental goals, guided by the idea that development is an ongoing process, and that both human outcomes and broader economic outcomes are imperative. These ideas were first enshrined in the Millennium Development Goals, and now by their successor Sustainable Development Goals. Each set of goals is broad and encompasses many important outcomes. However, in the scholarly community, many developmental scholars focus on only specific aspects of development. Economists, for example, most often focus on GDP growth, GDP per capita, or measures of quality of life. Health scholars focus on infant mortality or the prevalence of preventable or infectious diseases. Those interested in environmental politics may focus on soil degradation, air quality, or water pollution. Scholars within these various sub-strata do not even uniformly use one indicator of development, much less do developmental scholars across strata agree on indicators of development. This makes integrating existing literature on development difficult, and inferences about "development" nigh impossible.

Clearly, development as a concept is entirely too multi-faceted to be captured with a single indicator. All of the existing measures are valid indicators of outcomes associated with development, but they lack of a comprehensive way to include all the dimensions of the concept leaves something to be desired. This research fulfills that desire. Drawing inspiration from Trier and Jackman (2008) and Pemstein, Meserve, and Melton (2010) I advance a multi-dimensional Bayesian latent variable model. Existing measures like GDP growth, infant mortality rate, or pollution indicators do not adequately operationalize the concept of development. Development is a construct that is not directly observable, however, different fields utilize different indicators to understand or measure the construct, but do not spend time adequately addressing conceptualization, operationalization, or those who use other indicators in other disciplines.

Borrowing from Munck and Verkuilen's (2002) assessment of democracy measures, I argue that a good measure of development should identify suitable characteristics of development, with each attribute being captured by multiple observed indicators, and should appropriately aggregate all indicators into a scale without information loss. The latent Bayesian framework accomplishes each of these goals, and as I discuss in detail in the next section, other measurement models fall short.

Existing Indicators

Current efforts to measure development fall largely into one or two camps: the measures either focus on macro or structural outcomes and ignore human outcomes, or they focus on human outcomes and ignore the macro outcomes. I will briefly examine some of the most commonly used existing indicators, discussing strengths and weaknesses while explaining how the framework I use represents a significant improvement. I spend a larger amount of time discussing GDP and GDP per capita, as they are by far the most commonly used in the literature as a proxy for the level of development.

The Better Life Initiative (BLI) advanced by the Organization for Economic Cooperation and Development (OECD) has a stated goal of looking beyond the functioning of the economic system and instead evaluating the living conditions of people and households. In other words, the BLI is focused on measuring the quality of life, capturing aspects that matter to people, in order to build a better evidence base for policy, develop better measures of people's well-being, and advance debate to broader ranges of audiences (OECD 2018). The BLI benefits from its use of many indicators as well as by putting people at the center of its data processes. But it suffers from a lack of cross-national and temporal data availability. The data exist only from roughly

2005, and only for OECD members. This makes cross-national comparisons with other developing countries significantly more difficult.

The Human Development Index represented arguably the biggest advancement in measuring development upon its initial release. One of its biggest strengths, however, is also one of its weaknesses: it uses a parsimonious group of indicators to assess overall quality of living and human advancement. The HDI created three indices: the Education Index, consisting of adult literacy rate and gross enrollment ratio in primary, secondary, and tertiary education; the GDP index, consisting of measures of GNP per capita; and the Life Expectancy Index, consisting of an indicator of life expectancy at birth. The Human Development Index was then a combination of the three underlying indices. One large failure of the HDI, however, is that data availability for each sub-index is inconsistent and often measured with error, and the Human Development Index does not account for these errors. As development goals become increasingly agreed upon, more information is needed in measures of development. Furthermore, while the HDI was a necessary first step in resyncing the conceptualization and operationalization of development, the methodology advocated for in this paper allows for incorporating more indicators and provides estimates of uncertainty in the resulting measure. Indeed, its parsimony is among the reasons new measurement is necessary.

Historically, the most commonly used and generally understood operationalization of development are variations of GDP or GNP (Fioramonti 2013), which, simply, are calculations of the total economic activity within a national border (GDP) or by a state's citizens regardless of the borders within which such activity takes place (GNP). Since the Bretton Woods era, it has been the primary measure of a country's economy. GDP is calculated by summing consumption, investment, government spending, and exports, then subtracting the value of imports. Originally

developed by Kuznets in a report to the US Congress in 1934, GDP is conceptually "that part of the economy's end product that results from the efforts of individuals who comprise a nation." (Kuznets 1934) GDP based measures, however, say nothing about whether that economic activity is sustainable or beneficial to those within the country. These measures are not capable of being suitable proxies for the welfare of a population, the environmental sustainability of economic activity, or the development of human capital. In fact, the use of GDP can actively reduce the development of populations: the Stability and Growth Pact, signed by the members of European Union, directly ties the amount of investment governments can make in developing human capital to GDP growth (Fioramonti 2013). In short, less GDP, less social investment, and delayed development. Furthermore, the shift from calculations of GNP to GDP massively inflated "development" statistics in the Global South, making many appear better off than they actually were (Cobb, Halstead and Rowe 1995). While looking at a list of the countries with the highest GDP or the best GDP growth might seem to provide an adequate picture of development, GDP does not capture the whole story (Dickinson 2011).

To demonstrate why GDP is inadequate, as well as provide justification for the Bayesian methodology advanced here, I briefly explore the contrasting cases of Russia and Mongolia. While Russia was struggling with the transition from becoming a post-Soviet state throughout most of the early and mid-1990s, it saw a massive transition from GDP shrink to GDP growth in the late 1990s. The Russian GDP from 1997-1998 contracted by 5.3%, but from 1998-1999 grew at 6% and from 1999-2000 by an additional 10% (CIA World Factbook). The following year, Russia defaulted on its debts, but still saw GDP growth of about 5%. Likewise, GDP per capita was on an upward trend throughout the late 1990s. Other indicators of development, however, reflect the turmoil for everyday citizens. The rate of deaths from HIV/AIDS in Russia increased

10x between 1999 and 2001, and another 5x between 2001 and 2007 (CIA World Factbook). Life expectancy dropped by 2 years from 2001 to 2007, from 67 to 65. The Russian industrial production growth rate was halved between 1999 and 2005, representing a drastic slowing down of Russian manufacturing. To reiterate: these negative changes were happening around the same time Russia began being characterized as an "emerging economy" by those who use GDP growth as a measure of development. Figure 1 displays Russian health development over time.

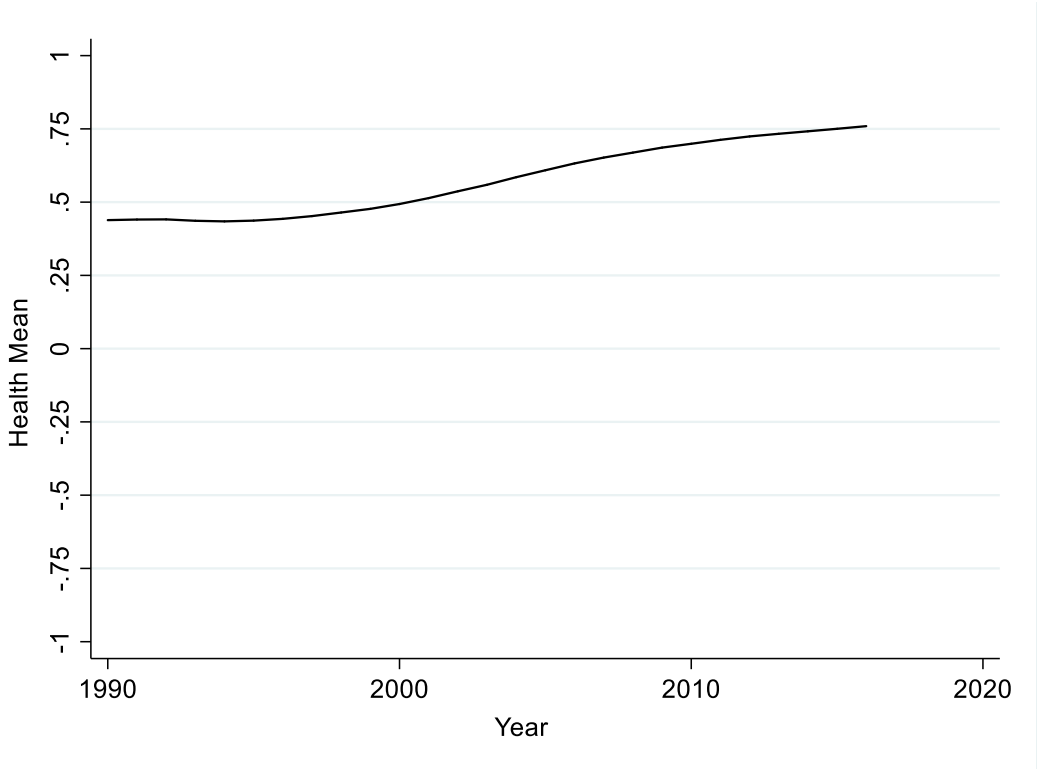

Figure 1: Russian Health Development

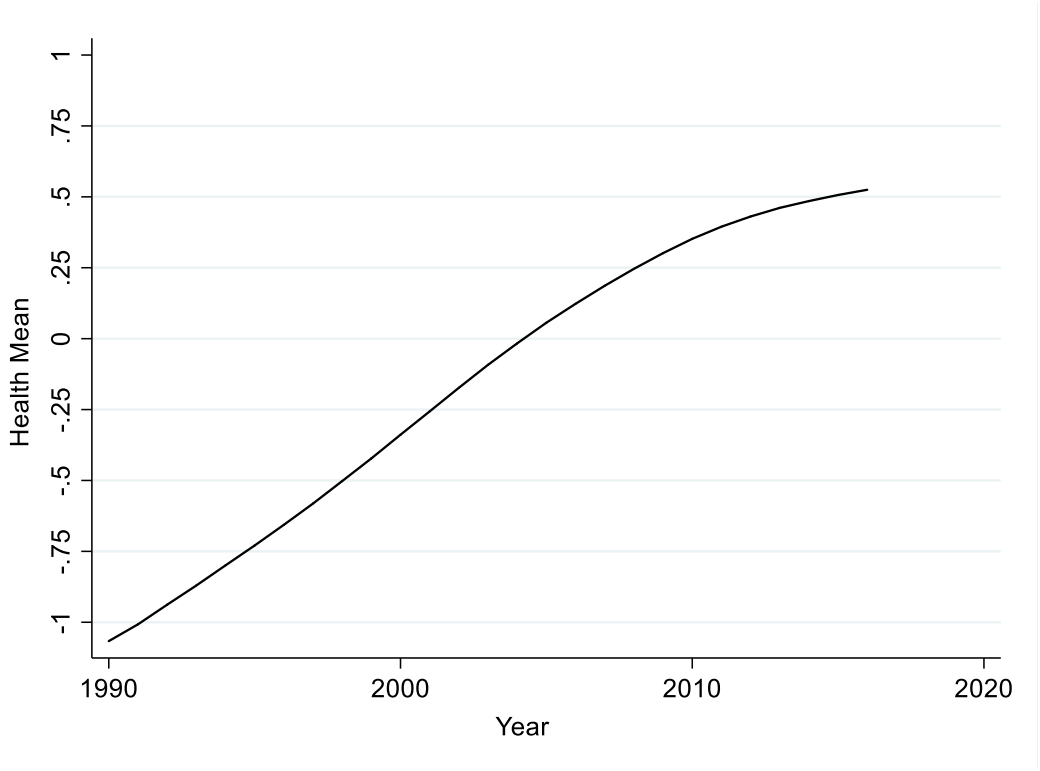

Figure 2: Mongolian Health Development

Contrast Figure 1 with Figure 2, which displays Mongolian health development over time. Mongolia was improving health outcomes despite stagnating GDP growth. Russia started at a higher level of development, but did not significantly improve their health development over time. Mongolia started at a much lower level of health development, and improved a great deal over time.

Clearly, GDP growth does not adequately capture the entire picture. In looking at questions regarding development, most scholars would have said that Russia was making great strides towards becoming a more developed country, but the evidence was mixed at best. Unfortunately, however, scholars and policymakers likely would have focused on GDP or GDP per capita, leading them to inaccurate or incorrect inferences. Using my measure scholars would have been able to distinguish Russian development in the economic dimension, the human capital dimension, the environmental division, and the health dimension, and realized that

Russian development was not as positive as originally thought. This could, in fact, provide additional evidence for those arguing against the "J-curve" (Hellman 1998).

In order to solve this problem, based on the United Nations' Sustainable Development Goals, I split development into four dimensions: economic stability, health, human capital and environmental sustainability. I treat each dimension as a latent construct, compiling multiple indicators in order to arrive at a better understanding of each aspect of development. I then aggregate the dimensions into a final latent variable model of development. Switching from growth-based measures to a multi-dimensional operationalization more accurately reflects the evolving concept and provides a framework for discussing development moving forward.

In addition to encouraging interdisciplinary cooperation in the study of development through the incorporation of indicators commonly used in public health, environmental studies, economics, political science, and education, this measure also provides a number of other benefits. First, in much of the existing literature, countries are treated as either "developed" or "underdeveloped", "advanced" or "less advanced". Comparisons are made within those categories, but almost never across categories. This measure should allow for a more continuous treatment and a larger number of comparisons between cases. This mirrors the focus of policymakers on development as a continuum, not an end goal. Second, it allows for a more focused discussion of development within each discipline. Economists can focus on the overall development score or just focus on the economic latent variable. Likewise, environmentalists can focus on the latent sustainability variable or on the overall development score.

An Operational Map of Development

Development, in a lay sense, is most often used in reference to the size of an economy. When discussing "developed" countries, perhaps the first that come to mind are the United States

the member states of the EU, and probably Japan. Indeed, these are several of the largest economies in the world. “Emerging” countries, or rapidly developing countries, would include the BRICS nations, and they are considered emerging because their economies are growing at a rapid rate. But rapid economic growth does not necessarily lead to the improvement of the well-being of a country’s citizens. In some cases, in fact, rapid economic growth is built on the exploitation of a large number of individuals within a country. It may also be unsustainable in its effects on a population or the environment. It may be vulnerable to outside manipulation, as in the case of primary commodity exporters. By incorporating the health of the population, the sustainability of a state’s industrialization, the skills and education of the population, and the stability of their economic structure, we can achieve a more comprehensive understanding of a state’s overall development.

Even within the categories of health, human capital, sustainability, and stability, there exists a great deal of variation in conceptualization. Improved health development, for example, causes lower infant mortality rates, increases life expectancy, and improves the overall quality of life. As health development increases, we should also observe increased vaccination rates. Likewise, sustainability means different things to different people- both at the level of the layman and at the level of the scholar. Sustainability can be used to refer to environmental impact or to consistency of growth year after year. Similarly, stability could refer to consistent growth rates, or constant rates of employment, or a lack of fluctuation in inflation rate. Each category includes a wide variety of potential operationalizations, examined through factor analysis, and then utilizes Bayesian measurement models to arrive at a comprehensive measure that includes estimates of uncertainty.

For the Bayesian latent variable model, it is important to note the direction of causality: the latent concept of development causes variation in the sub-dimensions, and in turn changes in the latent sub-dimensions cause changes in the observed indicators.

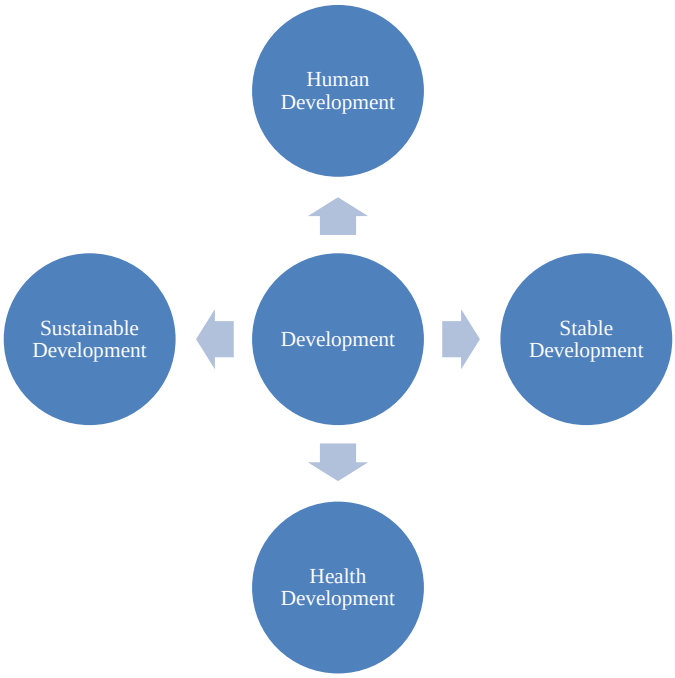

Figure 3: Operational Map of Development

In order to assist with convergence and scaling, prior to estimating the latent variable, I performed an exploratory factor analysis on the indicators to be included, ensuring that they all loaded strongly into the same factor, and then standardized each variable by subtracting the mean and dividing by the standard deviation.

Bayesian Latent Variables

This research treats development as an unobservable latent variable across multiple sub-dimensions. There are a number of reasons why development is most appropriately treated as a latent construct. First, development is a remarkably complex concept. The level of abstractness in the concept makes it difficult to capture with any individual indicator. Furthermore, data collection is difficult and often incomplete, leading to varying degrees of missingness from any individual or collective set of indicators. The Bayesian approach overcomes the issues raised above by treating “development”, the latent concept of interest here, as the lone explanatory

variable, and the various indicators as dependent variables. Missing data is imputed conditioned on observed data from the previous country-year, with observations having more missing data displaying larger credible intervals, since missingness means greater uncertainty about our estimation. This is an improvement over frequentist measurement models which do not allow for estimates of uncertainty. For example, when performing exploratory factor analyses for each dimension, the number of observations in each EFA was never larger than 900; meaning that only 900 out of roughly 5000 country-year cases had complete data. This amount of missingness makes it nearly impossible to create suitable operationalizations of development that incorporate more than one indicator.

The Bayesian model consists of a measurement model relating observed indicators of the different sub-dimensions of development to the latent constructs. Formally, the model is expressed as follows:

$$y_{i,j} \sim N(\mu_{i,j}, \sigma_j^2)$$
$$\mu_{i,j} = \beta_j X_{i,j} \epsilon_{i,j}$$
$$X_{i,j} \sim N(0,1)$$
$$\epsilon_{i,j} \sim N(0,1)$$
$$\sigma_j^2 \sim IG(0.1, 0.1)$$
$$\beta_j \sim N(0, 10)$$

In the above, *I* indexes country-year while *j* indexes the observed indicator. *X* is the latent development measure, and the *y*s are observed. B is the factor loading which relates the latent concept to the observed indicator. To help identify the model, *X* is standardized and a number of loadings are constrained and re-scaled to be positive. Re-scaling and constraining the indicators allows for speedier convergence while also easing interpretation by setting the scale and preventing label switching. Higher levels of the latent scale now indicate high levels of development, and intuitively lower levels also indicate lower levels. The model benefits in its estimation by incorporating values from previous country years in its estimate of current country

years. While development is not a purely linear exercise, earlier developments certainly influences current developments, so including the lag is not only beneficial but necessary.

Dimension 1: Health

A healthier society is a more productive society. Lower infant mortality rates, low rates of terminal illness, and immunizations for preventable diseases all can lead to a larger, thriving workforce. Some evidence (Strittmatter and Sunde 2013, Gallardo-Albarran 2018, Sarpong et al 2018) supports this line of thought. Aside from infant mortality, other indicators also capture the overall health of a society. As a society gets healthier, it should see increases in disability adjusted life expectancy, increases in vaccination rates, better mental health, and do a better job of inoculating against preventable diseases. Increases in health development cause better outcomes.

Indicators for the Health Dimension were taken from the Quality of Governance Dataset (Teorell 2019), and they include the presence of a skilled physician or other healthcare worker at birth, life expectancy for females, life expectancy for males, lifetime risk of maternal death, infant mortality rate, and mortality rate of children under 5, all originally collected by the World Development Indicators. Additional indicators come from the World Economic Forum, and include responses from expert surveys about the prevalence of HIV and the business impacts of Malaria and Tuberculosis. Before putting the indicators through the more computationally demanding Bayesian model, I did a preliminary factor analysis, the results of which are shown in Table 1. The factor loadings and eigenvalue for factor one demonstrate the observed indicators correspond strongly to the same latent factor.

Using this measure instead of criticized measures like infant mortality rates provides a more nuanced understanding of health outcomes and development. For example, a country may focus specifically on decreasing infant mortality rates. Doing so would allow us to observe an

increase in health development in the future. But improvements in reducing the rate at which infants die may not translate to other outcomes: if infants survive only to get HIV/AIDS or die of polio in their teenage years, then measuring health development as solely infant mortality rates would essentially yield a false positive. It is only when we observe multiple indicators that we can accurately assess the health of a population.

Table 1: Exploratory Factor Analysis for Health

Variable	*Factor 1*	*Factor 2*
	Factor1	Factor2
Skilled Staff at Birth	0.6916	-0.4118
Life Expectancy	0.9796	0.0439
Female Life Exp	0.9855	-0.0094
Male Life Exp	0.9518	0.1000
Lifetime Maternal Death Risk	0.8235	-0.3960
Infant Mortality	0.9297	-0.1967
Mortality Rate under 5	0.9473	-0.2342
Business Impact HIV/AIDS	0.7983	0.3447
HIV Prevalence	0.5575	0.6669
Life Expectancy, WEF	0.9631	0.0993
Business Impact Malaria	0.8937	-0.1658
Business Impact Tuberculosis	0.8504	0.2206
Malaria Cases per 100k	0.7357	-0.3606
Tuberculosis Cases per 100k	0.7410	0.4995
Eigenvalues	10.24	1.46

After estimation, this dimension appears to have a great deal of face and construct validity. Figure 4 displays a cross national comparison of latent health scores in 1990, focusing on those states which were in the upper half of scores. Lichtenstein, Japan, and Iceland were the three counties which scored the highest, and all three are known for having relatively healthy citizens and well-developed healthcare systems.

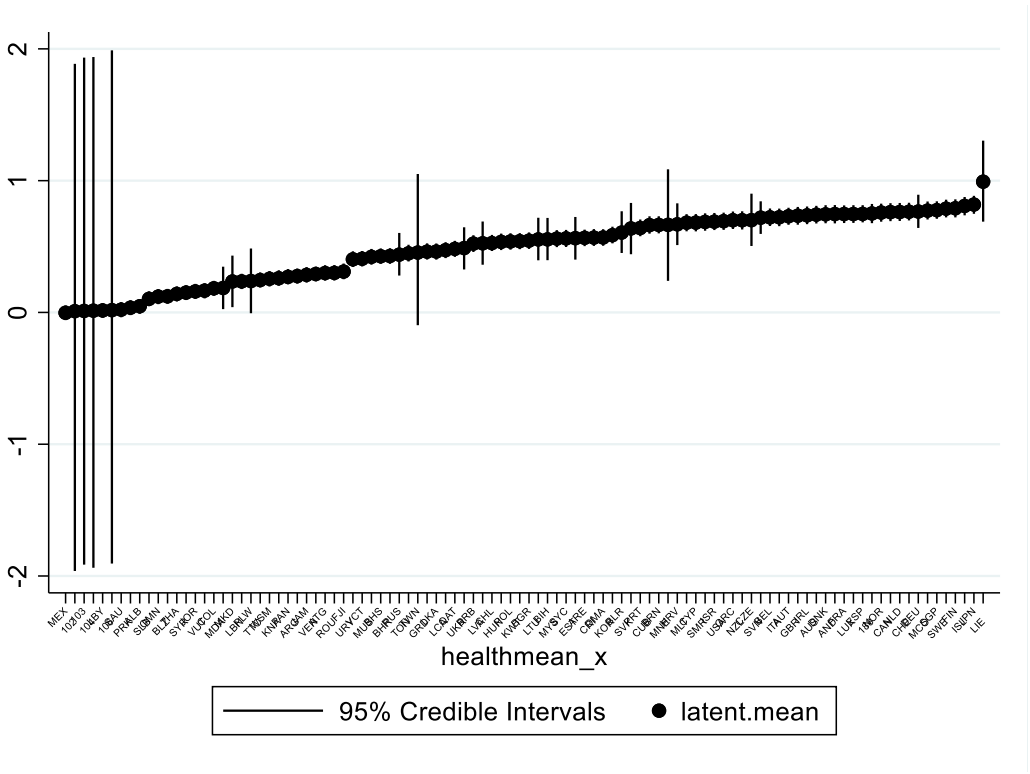

Figure 4: Upper Half Health 1990

Figure 5 displays a crossnational comparison of the lower half of scores, again for year 1990. The three lowest scoring countries were Liberia, Mozambique, and Sierra Leone.

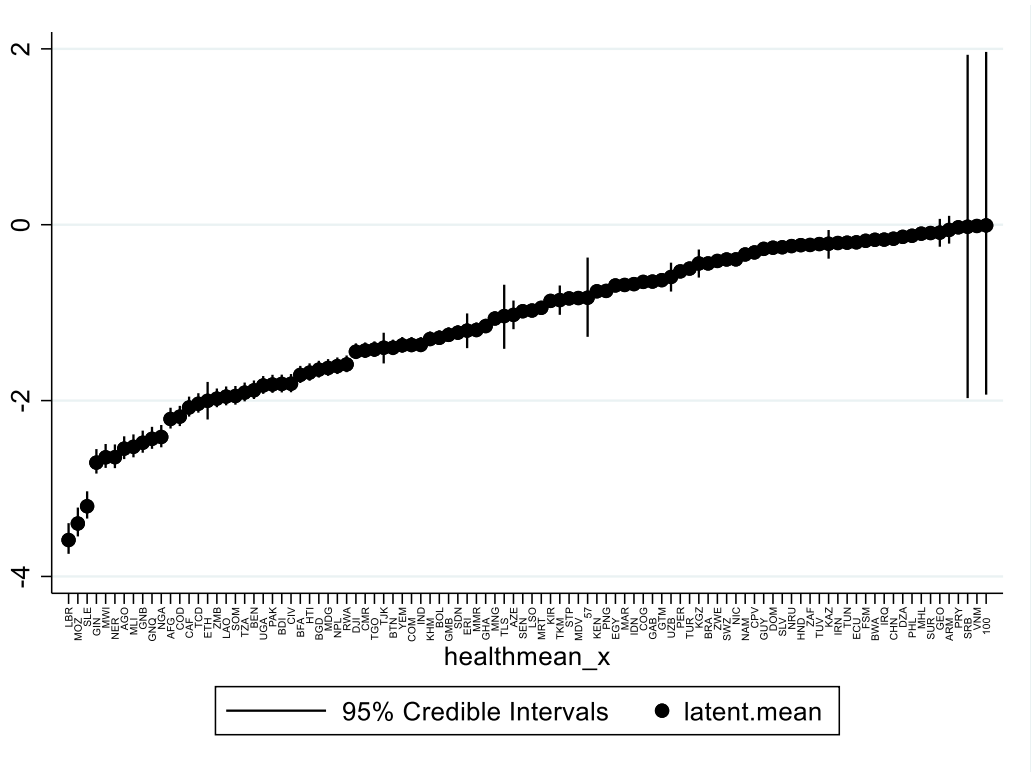

Figure 5: Lower Half Health 1990

These are not just cross-nationally valid, however. The ranks relative to other countries change over time, as do the scores of countries themselves relative to previous years. Figures 6 and 7 replicate the previous figures for year 2016, the last year in which data is available. The top three scorers for health development in 2016 are Lichtenstein, Iceland, and Slovenia, with Japan dropping to the fifth highest score. One thing worth noting, however, is the degree of overlap in the credible intervals: there are certainly not large differences among many of the countries in the upper half. In the bottom half, the worst scores for health development come from the Central African Republic, Sierra Leone, and Somalia. Mozambique and Liberia both improved their health enough to move out of the bottom 10 entirely.

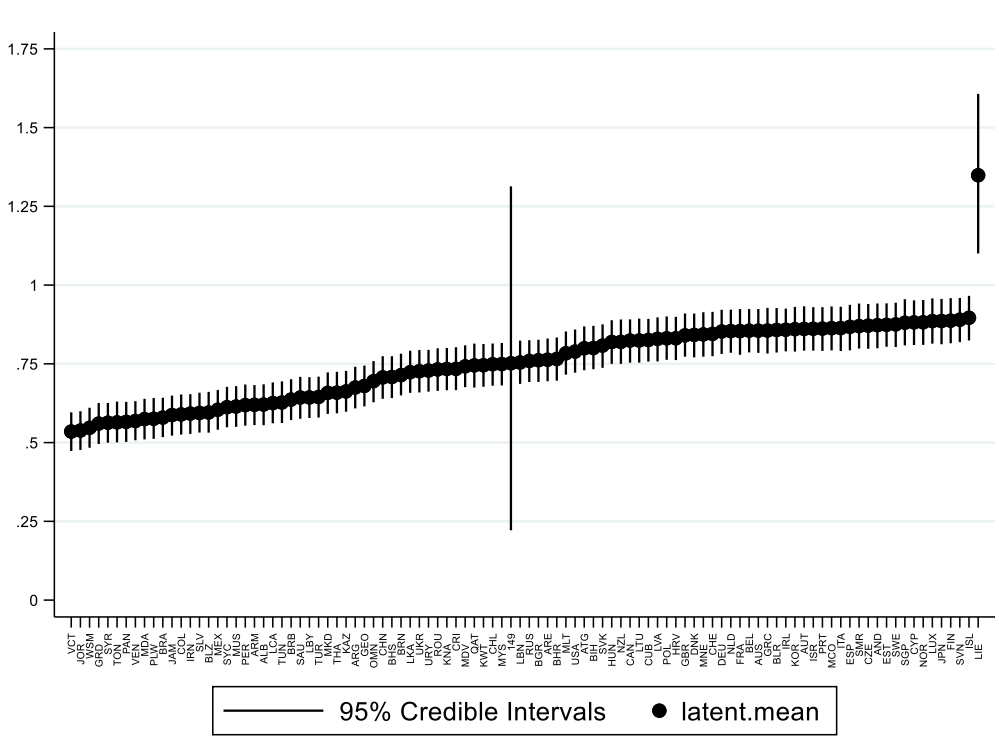

Figure 6: Upper Half Health 2016

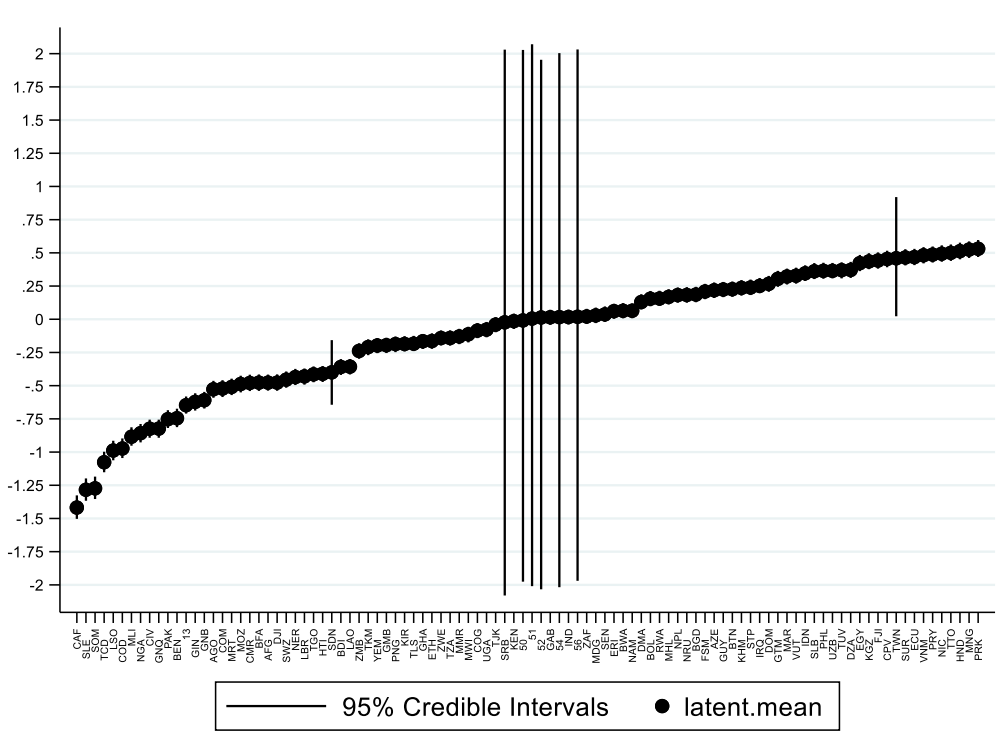

Figure 7: Lower Half Health 2016

Figure 8 focuses on the change of only one country over time. While many scores seem to display an almost linear improvement, focusing on the case of Haiti demonstrates that this measure can account for the aftereffects of intermittent health crises. Haiti's score remains firmly in the lower half of the index throughout the entire timeframe, however, Haiti does improve over time until 2010. In 2010, Haiti experienced a massive earthquake, which killed hundreds of thousands of people, temporarily crippled the government's ability to fight tuberculosis and HIV/AIDS, and forced the displacement of thousands more, furthering the spread of those and other infectious diseases. According to the WHO, in 2010, there was a 336% increase in children under 10 diagnosed with tuberculosis, providing further evidence for Haiti's precipitous drop in their health scores.

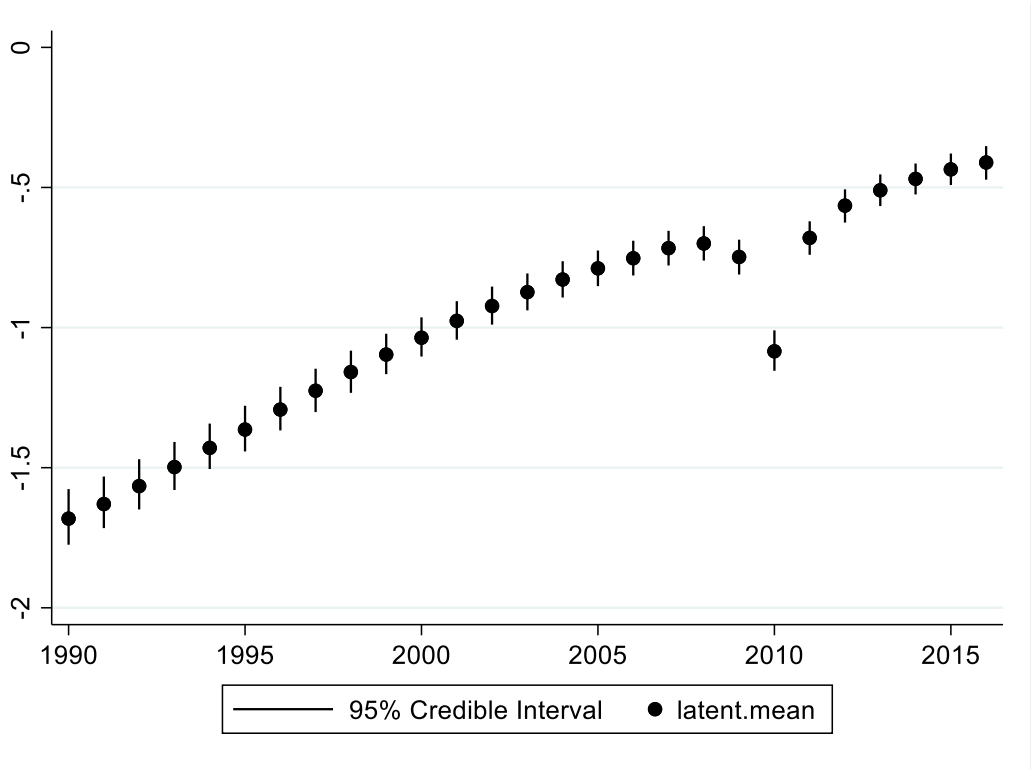

Figure 8: Haitian Health Over Time

Dimension 2: Sustainability

"Any good measure of how well we are doing must also take account of sustainability. Just as a firm needs to measure the depreciation of its capital, so, too, our national accounts need to reflect the depletion of natural resources and the degradation of our environment."- Stiglitz 2009

The world is finite, both in terms of resources and its ability to remain habitable in the face of exponentially increasing consumption. State boundaries further limit resource availability and increase the complexity of solving environmental collective action problems. Relying strictly on the export of non-renewable commodities prevents states from reaching their full developmental potential. Additionally, degradation of the environment harms state capacity. In the words of Partha Dasgupta, nature is "a mosaic of degradable assets", and current models of development assume nature to be a fixed factor of production, a constant term in the model (Dasgupta 2013). Excessive air pollution, water pollution, and soil pollution all stall or prevent avenues for development by damaging crops, the population, or available food sources. More sustainable development causes outcomes that look vastly different than development that occurs without sustainability in mind. Humanity is capable of devising ways to develop which leave natural capital stocks, or nature, relatively unscathed at the aggregate level (Helm 2015). For example, states that do not rotate crops may deplete minerals in the soil which would allow for more productive agriculture. Sustainable practices therefore lead to higher quality soil.

For my latent environmental sustainability measure, I use an indicator of water and sanitation quality, an ecosystem vitality indicator, a measure of CO2 emissions, and a measure of biodiversity and habitat health. Factor loadings and uniqueness are displayed in Table 2.

Table 2: Factor Loadings for Environmental Sustainability

Variable	*Factor1*	*Factor2*
Water and Sanitation Quality	0.7507	-0.3870
Ecosystem Vitality	0.8706	0.2242
Biodiversity and Habitat	0.5315	0.5692
CO2 Emissions	0.5438	-0.3809

Figure 9 shows a crossnational comparison of environmental sustainability scores, focused on those who score in the lower half, for the year 2001.

Figure 9: Lower Half Sustainable 2001

Figure 10 displays a crossnational comparison of environmental sustainability scores, focused on those states which scored in the upper half, also in the year of 2001.

Figure 10: Upper Half Sustainable 2001

Regarding the validity of the indicators, countries which are most aware of the effects of climate change, like small island nation Palau, scores at the top. The large and overlapping credible intervals, however, indicate that while Palau scored well on indicators with available data, a great deal of uncertainty exists in their overall score, as multiple indicators were missing.

Dimension 3: Economic Growth and Stability

"Perhaps had there been more awareness of the limitations of standard metrics, like GDP, there would have been less euphoria over economic performance in the years prior to the crisis; metrics which incorporated assessments of sustainability…would have provided a more cautious view of economic performance. -Stiglitz 2009

Stability is an essential aspect of a political economy. Inconsistent growth can scare away potential investors, lead to political instability, and make trade relations more difficult. Stable economies produce a variety of goods and services and rely on diversification in exports and

investments, so that drastic price fluctuations in an individual market do not severely damage an economy. Additionally, economic stability is buyoyed by the existence of a strong middle class, minimizing the adverse risks of the overconcentration of wealth. Economic development also causes observed increases in tax revenue, as more of a population leaves poverty and gains worthwhile employment, that population should be able to contribute more of the proportion of government revenues through the payment of taxes. Conversely, states that rely on the export of primary commodities and unfinished goods are more susceptible to international market fluctuations, in addition to facing long term balance of trade problems. Stable economic development, therefore, causes a number of different observed outcomes: consistent GDP per capita growth, greater economic equality, and less reliance on primary goods or more reliance on taxes for government revenue. Drawing inspiration from existing metrics, this measure of economic development incorporates GDP per capita, the GINI coefficient, and tax revenue, all taken from the World Development Indicators.

Table 3 shows the preliminary factor analysis, including the eigenvalue for the dominant factor and the difference between the eigenvalue for the first and second factors. The relative difference between the two factors demonstrates that there is one dominant factor these variables contribute to.

Table 3: Factor Loadings for Economic Growth and Stability

Variable	*Factor1*
GDP Per Capita	0.6463
Inequality	0.5406
Tax Revenues	0.4486

Figure 11 shows the upper half of the economic development index for the year 1990, while Figure 12 shows the lower half for the same year. The top 5 scorers for economic

development in 1990 were Lichtenstein, Switzerland, Spain, France, and Norway, while the bottom 5 scorers were Malaysia, Ghana, Zambia, Burundi, and Rwanda. The large and overlapping credible intervals throughout the bottom half, however, indicate a great deal of noise in the comparisons of the countries on that end of the spectrum. If we evaluate the raw data, we see a good deal of missingness, as these countries in the bottom half, especially in 1990, dealt with administrative capacity issues which would prevent large scale government reporting of statistics.

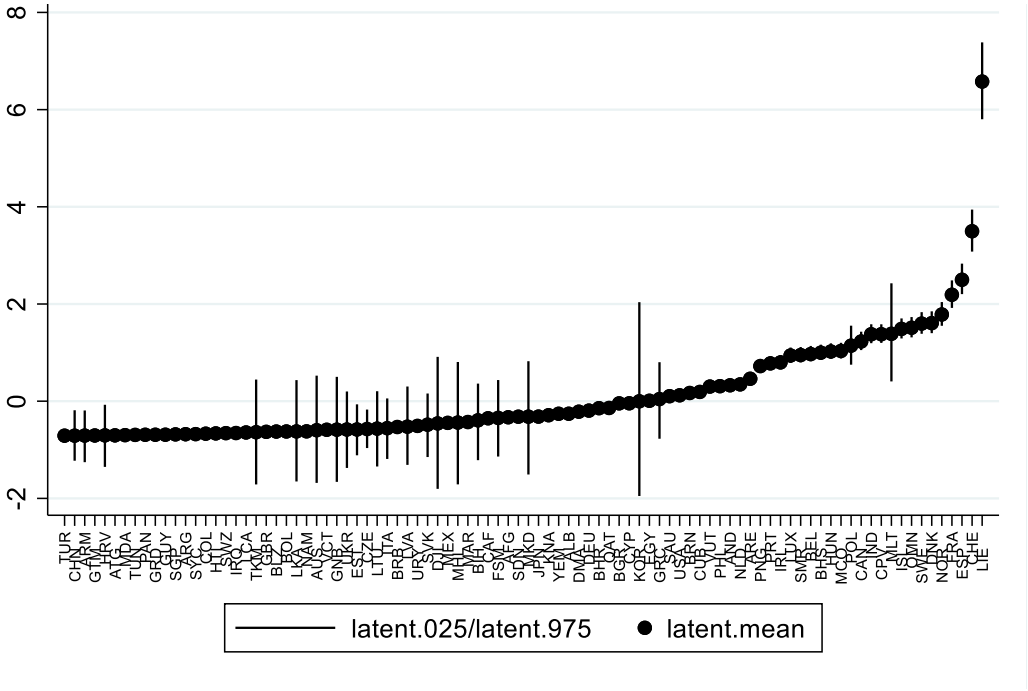

Figure 11: Upper Half Economic Development 1990

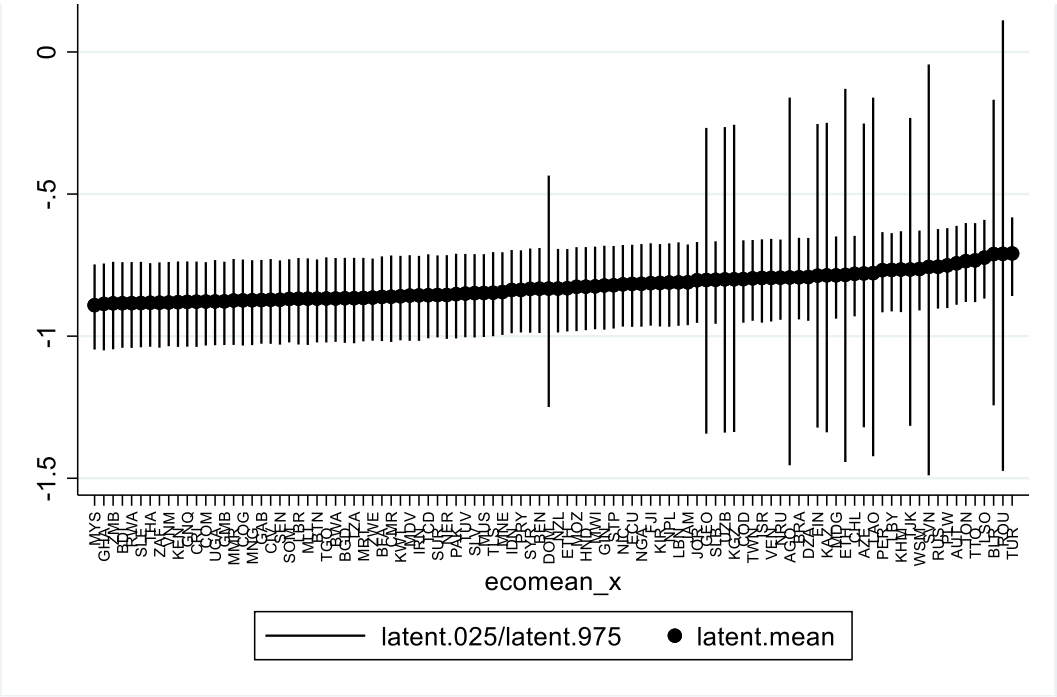

Figure 12: Lower Half Economic Development 1990

Figure 13 shows the upper half for year 2015, and Figure 14 shows the lower half. Over the 25 years seen in the figures, we see a significant difference in the scores as well as the relative ranks on economic development. In Figure 13, we see a similar top 5, though it is important to note the amount the scores have improved: the scores for Lichtenstein and Switzerland have nearly doubled, and the level of improvement for France and Spain are not far behind.

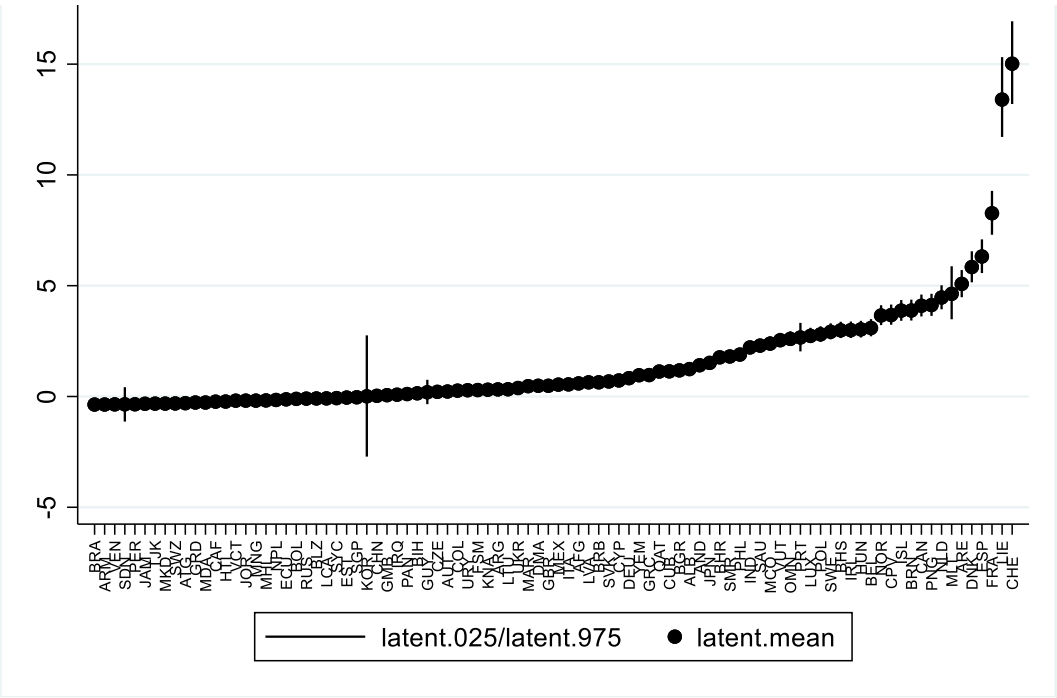

Figure 13: Upper Half Economic Development 2015

Figure 14: Lower Half Economic Development 2015

Dimension 4: Human Capital

"Human well-being depends on what resources enable people to do and to be, and the ability to convert resources into a good life varies across people. This suggests that indicators that go beyond being measures of income, wealth and consumption and incorporate the nonmonetary aspects of quality of life…have an important role to play."-Stiglitz 2009

Both the Millennium Development Goals and Sustainable Development Goals incorporate aspects of human capital. Primarily, these goals look at primary education, secondary education, and literacy rates. Additionally, the Sustainable Development Goals also set targets for technical and vocational skill acquirement. Much like the other indicators, a change in human development causes the observed change in the indicators. For example, an increase in human development causes the observed increase in literacy rate. Indicators for the Human Capital Dimension were taken from the Quality of Governance Dataset (Teorell 2019), and they include variables measuring human flight and brain drain and the Human Capital Index from Penn World Tables. The HCI measures years of schooling and assumed returns. Other indicators include the cumulative primary school drop-out rates for each sex, as well as for both sexes, compiled by the QoG but originally produced by the United Nations Education Index. I also include government expenditures per pupil at both the primary and secondary education level as a percent of GDP per capita, and the percentage of the labor force that has achieved some level of tertiary education; all taken from the World Development Indicators as compiled by Teorell et al 2019. I also include survey responses from the World Economic Forum judging the quality of the overall education system and the primary education system. Finally, I include data from the Cingranelli-Richards Human Rights dataset (CIRI) which measure women's economic rights, women's political rights, and women's social rights, respectively. As before, prior to putting the indicators

through the more computationally demanding Bayesian model, I did a preliminary factor analysis, the results of which are shown in Table 4. The factor loadings and eigenvalue for factor one demonstrate the observed indicators correspond strongly to the same latent factor.

Table 4: Factor Loadings and Human Capital

Variable	*Factor1*	*Factor2*
Human Flight	-0.8757	-0.2092
Human Capital Index (pwt)	0.7390	-0.3929
Cumulative Drop Out Rate-Female	-0.9319	0.3512
Cumulative Drop Out Rate-Male	-0.9002	0.3859
Cumulative Drop Out Rate Primary School	-0.9176	0.3726
Government Expenditure Education	0.8420	0.2543
Government Expenditure per Primary Student (%GDPPC)	0.7456	-0.2370
Government Expenditure per Secondary Student (%GDPPC)	0.8883	0.0844
% of Labor Force with Tertiary Education	0.6539	0.0968

Quality of Education System	0.7357	0.2667
Quality of Primary Education System	0.8630	-0.0658
Women's Economic Rights	0.6896	0.2994
Women's Political Rights	0.5461	0.6535
Women's Social Rights	0.7762	0.3158
Eigenvalues	8.977	1.438

In Figures 15 and 16, I display graphs for the upper and lower half of scores, respectively, for the year 1990. The top scorers are Cuba, Palau, and Switzerland. It may seem surprising to see two small island nations rank so highly, but Cuba and Palau both sport high rates of gender equality in education, long periods of compulsory schooling, and low drop-out rates. Cuba famously has the highest numbers of physicians per capita, and after the Cuban Revolution undertook the *Campaña Nacional de Alfabetización en Cuba*, or the Cuban Literacy Campaign, which improved the national literacy rate by roughly 30%, increasing the percentage of adults which could read and write to 96%.

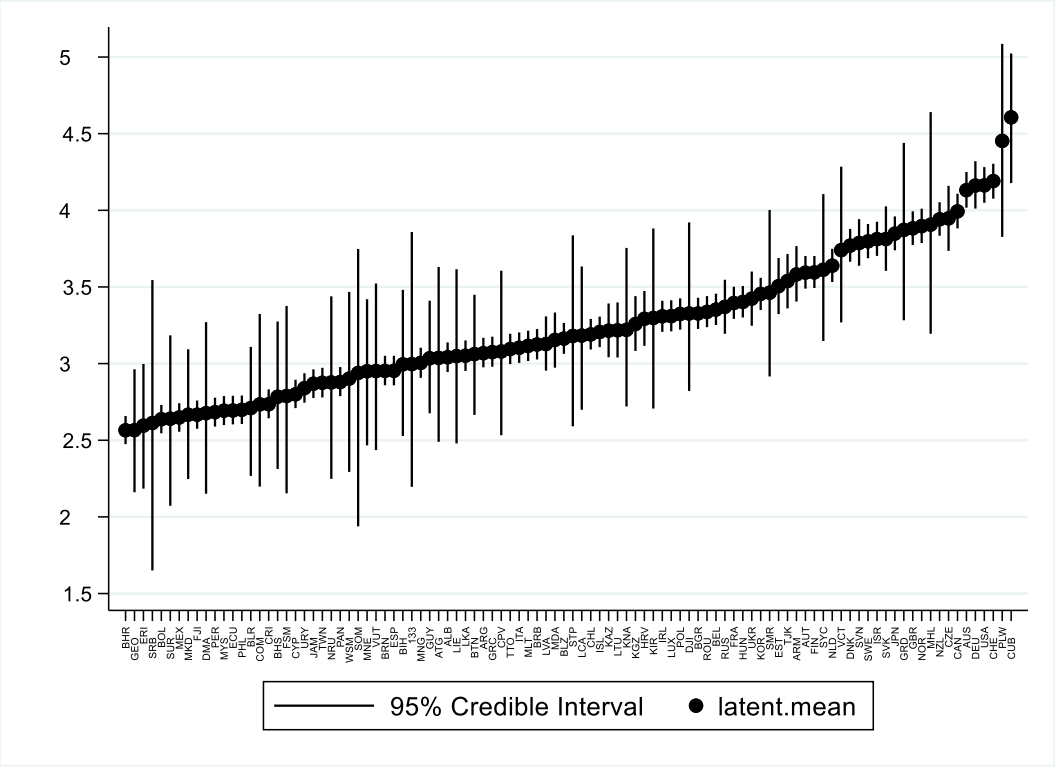

Figure 15: Upper Half Human Capital 1990

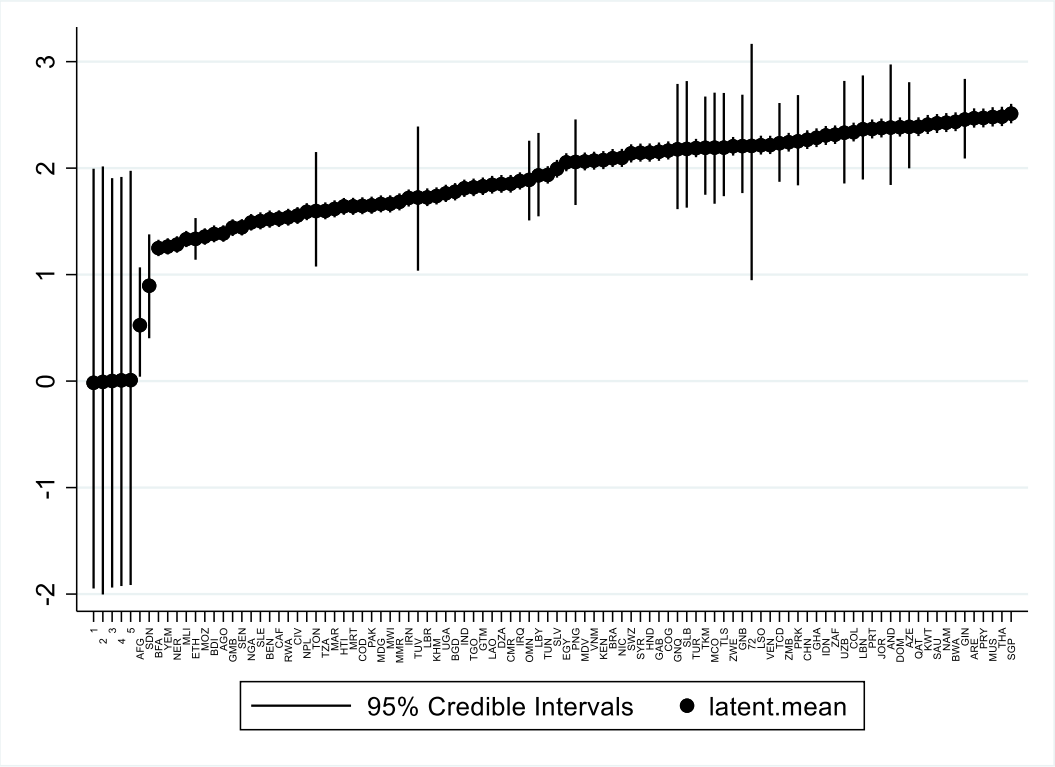

Figure 16: Lower Half Human Capital 1990

Figures 17 and 18 show the scores divided into upper and lower halves for the year 2016.

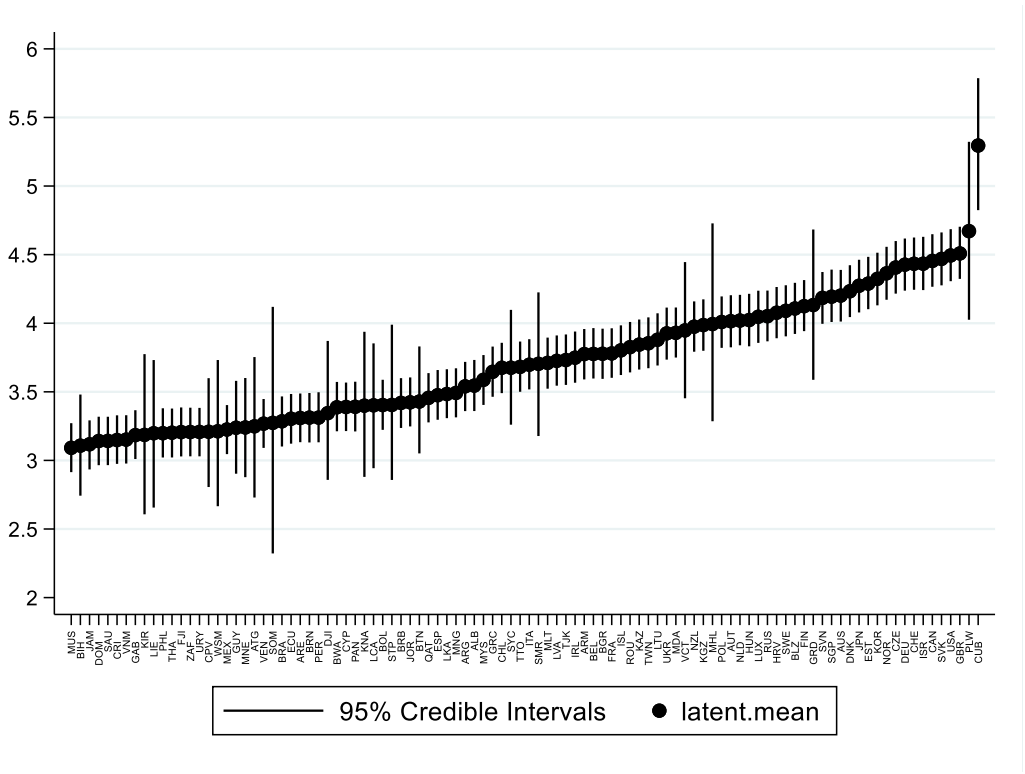

Figure 17: Upper Half Human Capital 2016

Of note, Switzerland drops several spots in the rankings from 1990 to 2016, in spite of improving their overall score. Slovakia, meanwhile, moves up 10 spots into the top 5 over the same timeframe.

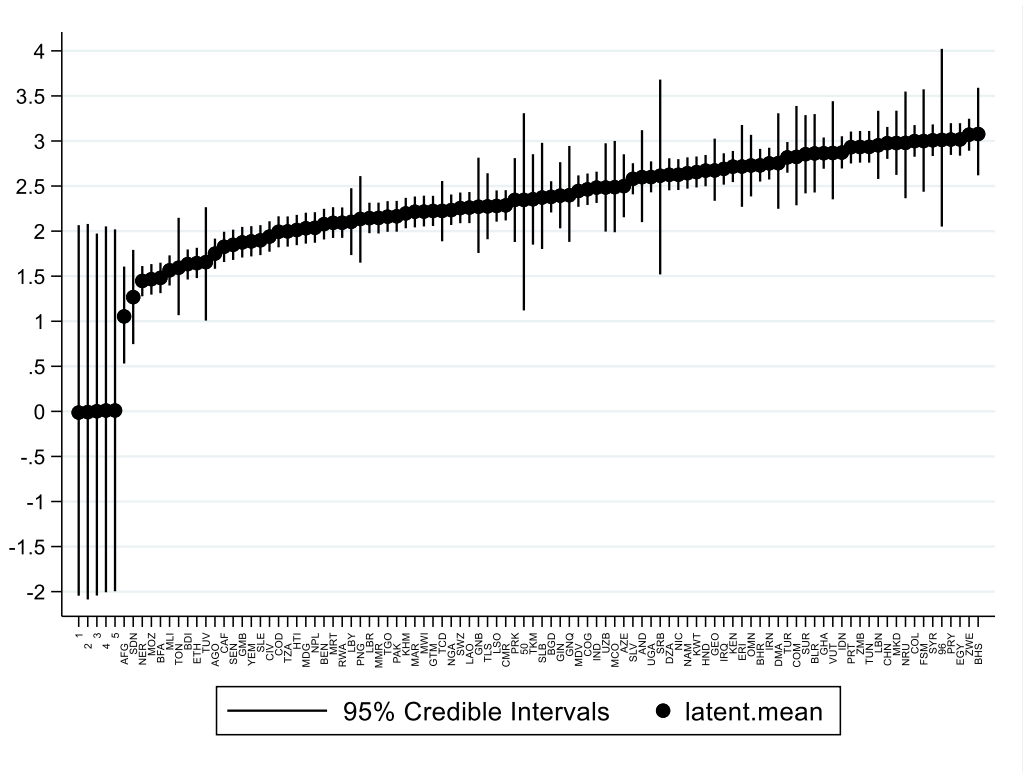

Figure 18: Lower Half Human Capital 2016

Figure 19 shows changes in Slovakian human capital over time. By 2015, Slovakia achieved gender equality in education as measured by gross enrollment ratios in secondary education, and was less than 1% away from equality in terms of enrollment ratios in primary education.

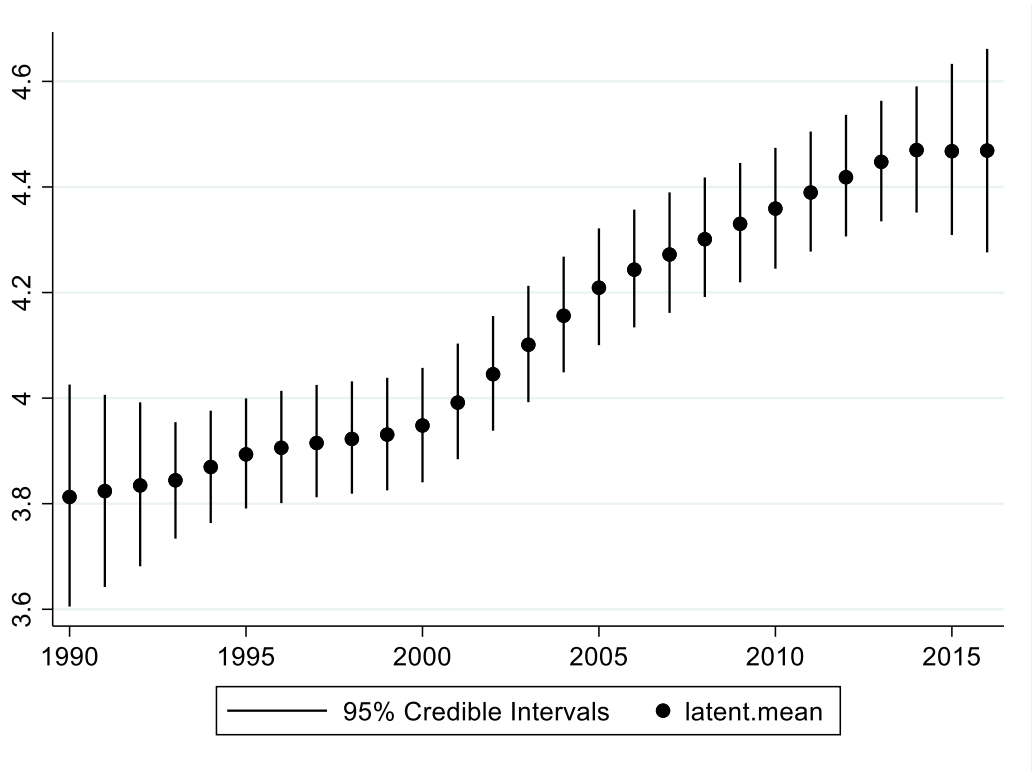

Figure 19: Slovakia Human Capital Over Time

Conclusion

The cases of Mongolia and Russia are illustrative of the need for better measures of development. Exploratory factor analysis of indicators associated with the Sustainable Development Goals demonstrates there are four primary factors of development: health, human capital, environmental sustainability, and economic growth. Throughout this chapter, I have provided evidence that the Bayesian latent methodology improves our ability to understand these dimensions of development relative to traditional measures in three primary ways. First, the latent approach prevents information loss. By allowing researchers to incorporate multiple indicators, we can get a better sense of the wholistic concepts captured by the latent parameters. Furthermore, by imputing missing data based on the previous country year, we can increase the available country-years which are usable in analyses. Second, unlike traditional estimation

techniques, by allowing our estimates of uncertainty to vary based on levels of missingness, we can be more honest about our uncertainty with the measures as well as provide more honest estimates of measurement error. Third, this multi-dimensional approach allows us to focus on specific aspects of development or on the concept as a whole. By splitting development into several dimensions, scholars and policymakers can avoid the pitfalls of conceptual stretching.

The measures developed here successfully align operationalizations of development with their corresponding concepts. This should allow scholars and policymakers to perform better policy analysis by more clearly communicating what is being tested and measured. In the next two chapters of the dissertation, I demonstrate the utility of these measures by examining the effects of respecting various labor rights in law and practice on health development and human capital development; and then test the conditional effects of colonial legacy institutions and IMF Structural Adjustment Programs on health and human capital development.

CHAPTER 3

Working for Development: Worker Rights and Multi-Dimensional Development

Are the benefits of improving respect for human rights worth the costs? In short, I argue that there are differential impacts on improving respect for worker rights: merely improving respect in law has negative or no discernible effect, while improving respect in practice provides direct developmental benefits. Passing legislation aimed at guaranteeing worker rights can be costly. Labor protections such as a guaranteed minimum wage can cause capital flight and diminish business investment. Neoliberal arguments in particular argue that intrusion into the marketplace through labor regulations causes diminished FDI flows, which are essential to economic growth, particularly in developing economies (Drezner 2001). Long term, this lack of foreign investment can cause underdevelopment, with the opportunity cost compounding over time. On the other hand, empirical evidence demonstrates that respecting a variety of rights, including labor rights, causes improved development and increased foreign direct investment (Blanton and Blanton 2007).

This research adds additional empirical evidence to that ongoing debate, adding to the literature in two primary ways: one, by better capturing development as a concept separate from simple economic growth, and two, by testing the effects of improved respect for labor rights in law or practice on development. What follows is a review of the literature, and a discussion of the importance of holistically measuring development. Then, I lay out my research design, test

the hypothesis that improving respect for worker rights improves developmental outcomes, and finish by evaluating future avenues for research.

Literature Review

Existing literature identifies a number of important determinants of development, including domestic political institutions, natural resource endowments, and economic globalization.

Research clearly identifies domestic political institutions as drivers of various aspects of economic performance and development. Strong courts, respect for private property rights, and respect for the rule of law lead to higher bond ratings, increased foreign direct investment, and increased foreign portfolio investment (Biglaiser and Staats 2010 and 2012; Biglaiser, Hicks, and Huggins 2008; Busse 2004; Jensen 2003; 2006, and 2008). Acemoglu, Johnson, and Robinson (2001) show that colonial legacy institutions continue to affect economic performance and development today. Baum and Lake (2003) find that democracy promotes advanced public health and education. Rosenberg (2018) disaggregates institutions beyond regime type, showing that institutions which promote good governance reduce the infant mortality rate. Dahlum and Knutsen display evidence that democracies are better at increasing education quantity measures but have no clear effect on the quality of education (2017). Dietrich and Bernhard (2016) find null results for democracy on infant mortality and nutrition when accounting for state capacity, however, they find that democracy still effects education outcomes.

Natural resource endowments, similarly, are widely accepted to have a negative effect on development, on average. Higher amounts of natural resources, in general, lead to political instability (Cabrales and Hauk 2011), “Dutch Disease”, and balance of payment problems (Prebisch 1950). Furthermore, the presence of extractable resource rents, particularly in the fossil

fuel industry, increases the likelihood of civil conflict and therefore decreases the likelihood of positive development.

Research on globalization indicates heterogenous effects of fiscally opening a country to global markets on development. East Asia, for example, exploited competitive advantages and experienced rapid development in both the human capital and economic performance sectors. Latin America, meanwhile, fell behind. The trade of technology and intellectual property, particularly in the biopharmaceutical industry, contains the potential to drastically reduce the transmission of a variety of infectious disease. In terms of economic performance, free trade is generally associated with growth, though it can provide unequal gains or even actively harm members of the population.

Existing research on the effects of labor rights provides mixed findings for whether labor rights promote or hinder rapid development. Some scholars point to the existence of laws respecting collective bargaining, workplace association, minimum wage, workplace safety and association, and abolition of forced and child labor as increasing development. Others argue that they are barriers to trade and foreign investment, which hinders development in the long term.

Existing human rights literature largely focuses too narrowly on respect for physical integrity rights, though many scholars find a positive relationship between respect and FDI, economic growth, and development (Blanton and Blanton 2007, 2009, 2012, Payton and Woo 2014) or treat physical integrity and labor rights as a dependent variable (Mosley and Uno 2007, Richards Gelleny and Sacko 2001, Poe and Tate 1994, Poe Tate and Keith 1999). Other scholars investigating the role of human rights and the political economy find that respecting worker rights leads to political stability (Wang and Youn 2017), and that economic freedoms lead to increased development (Carden and Hall 2010, Carden and Lawson 2010). Perhaps most

relevantly, Blume and Voigt (2007) find an association between respect for human rights and faster GDP growth. They do not find a statistically discernible relationship between social and cultural rights and investment or economic development.

Theory

Based on existing empirical research, two competing theories emerge. The first argues that improving respect for labor rights is likely to decrease foreign direct investment as well as decrease competitiveness in trade (particularly in labor-abundant states), leading to underdevelopment. In this theory, respecting labor rights represents an unnecessary government intrusion into the marketplace, causing market inefficiency. Neoliberals pursue free and unregulated markets.

The second argues that improving respect for labor rights should increase development through multiple channels. Eliminating child labor by guaranteeing a minimum working age allows children the opportunity to stay in school, become better educated, and gain more skills. A minimum wage generates economic activity by ensuring workers have income to spend. Workplace safety standards increase worker productivity, as well as decrease the amount of time lost due to workplace injuries caused by preventable accidents. While there are certainly large degrees of variance regarding the nature of different collective bargaining agreements, generally speaking workers who are covered by such agreements are assured some form of either unemployment protection or guaranteed wage changes. By ensuring that workers are able to meet a minimum standard of living, states free up more money for consumption, which ultimately is what drives economic growth. In addition, previous research (Blanton and Blanton 2007) has shown some support for the hypothesis that states with better respect for human rights attract more FDI. While many assume that globalization entails a “race to the bottom” regarding

labor price competitiveness, the evidence often points in the other direction: companies see respect for at least a basic level of workers' rights as a stabilizing force in a society (Blanton and Blanton 2007). This is especially true of FDI investors, since FDI is a long term investment and stability is therefore an important factor for investors to consider. Enforcing safety standards can prevent or lessen the number of costly accidents. Workers who are not constantly worried about their safety are able to focus on actually being productive. Different forms of employment or unemployment protections can encourage innovation, labor flexibility, and risk taking. It is also possible that allowing workplace association and collective bargaining can reduce the number of conflicts both between workers and management and between workers themselves by providing channels for arbitration.

Both theories likely have merit. Firms are selective about where they invest, and labor market rigidities decrease profit margins, limiting potential return on investment. States which pass laws and do not enforce them may suffer reputational effects, as commitments made by the state would seem to lack credibility. However, enforcement of labor rights requires investment of scarce resources by the state, and would therefore increase credibility and assure firms that their investment would not be expropriated. For this reason, I hypothesize that increasing respect in law alone will have no significant effect on development, while increasing respect in practice will significantly improve development.

Increasing respect for different rights in practice, however, require different amounts of effort from the state. For this reason, I also include an additive index of union rights focused on freedom of workplace association and the right to collectively bargain. These union rights allow workers to advocate for sociopolitical goals. For example, Iversen and Soskice (2015) argue that unions provide forums for discussing social and political issues and additionally lower the costs

of transmitting information. In this way, union rights can reinforce democratic processes, increase political stability, and help improve types of development. Additionally, unions which have their rights respected in practice can more effectively lobby employers and the state to enforce substantive rights, reinforcing the positive impacts that improved respect for minimum wages, health and safety standards, and workweek hour limitations can have on development.

Furthermore, existing cross-national research demonstrates a strong association between union strength and the reduction of income inequality, a key aspect of the Sustainable Development Goals and an indicator of economic growth and stability.

Development

"I think we can have growth rates in excess of 4%. When I'm talking about growth rates, I'm not talking about that GDP, which counts poison gas the same as it counts penicillin. What a monstrous measure this is. If we make more bombs, the GDP goes up—particularly if we explode them." -Charles Koch, Time Magazine 2017.

Over time, thought leaders and policymakers have changed how they view development: initially conceptualized as industrialization, then growth, and most recently by the Millennium Development Goals and the Sustainable Development Goals. Current measures of development do not accurately reflect the changing of the concept of development. It is not clear that GDP growth or GDP growth per capita accurately reflect the process of development. It is clear that the concept of development has changed.

In order to capture this changing concept, I split development into four dimensions: economic, health, human capital and environmental. I treat each dimension as a latent construct, compiling multiple indicators to arrive at a better understanding of each aspect of development.

In this chapter, I focus only on health and human capital development. The latent variable model is the most appropriate way to measure these dimensions of development, as they are not directly observable, and there are large amounts of missing data. Development as a concept is too multi-faceted to capture with a single observable indicator. When different policymakers, scholars, and laymen discuss the development of a country, they are likely referring to a broad concept that encompasses economic stability and the quality of life for individuals within the country. There is not one single indicator that provides an adequate link between conceptualization and operationalization—and the most commonly used measure, GDP, only directly speaks to economic activity. Additionally, development studies are plagued by missing data, as many countries do not have the ability or willingness to annually self-report on the indicators from the Sustainable Development Goals. This missing data can bias results. The Bayesian approach accommodates for missing data by providing estimates of uncertainty along with the point estimate of the parameter of interest. More missing data leads to greater uncertainty, which can then be accounted for in the resulting analysis.[1]

Data and Methods

This research tests the hypotheses that states with better respect for workers' rights will have better developmental outcomes across multiple dimensions. I differentiate between respect in law and respect in practice using data from Barry, Clay, and Cingranelli (hereafter BCC). While previous studies largely focus on respect for the right to unionize and collectively bargain, the data from BCC allow for distinguishing between law and practice for worker rights which they refer to as substantive rights. These substantive rights include the freedom from child labor, freedom from slavery, and the right to a fair wage, safe working environment, and the right to a

[1] Additional details on the conceptualization and estimation for the dimensions of development are available from the author and are parts of earlier chapters of the dissertation

reasonable limitation on working hours. The measures for each in law and practice are ordinal, each ranging from 0-2, and provide variation based on the strength of legal protections on the one hand and the strength of enforcement on the other. Lower scores indicate lower legal protection or respect in practice, and a two indicates that criteria taken from the International Labor Organization are fully observed. I follow BCC in combining the five substantive rights into an additive index, ranging from 0-10. As Figure 20 shows, a sizable gap exists between law and practice on substantive rights. Similarly, a gap exists for collective rights, displayed in Figure 21. Distinguishing between both law and practice as well as being mindful of the distinction between substantive and collective rights maintains conceptual and operational clarity, without sacrificing much model parsimony.

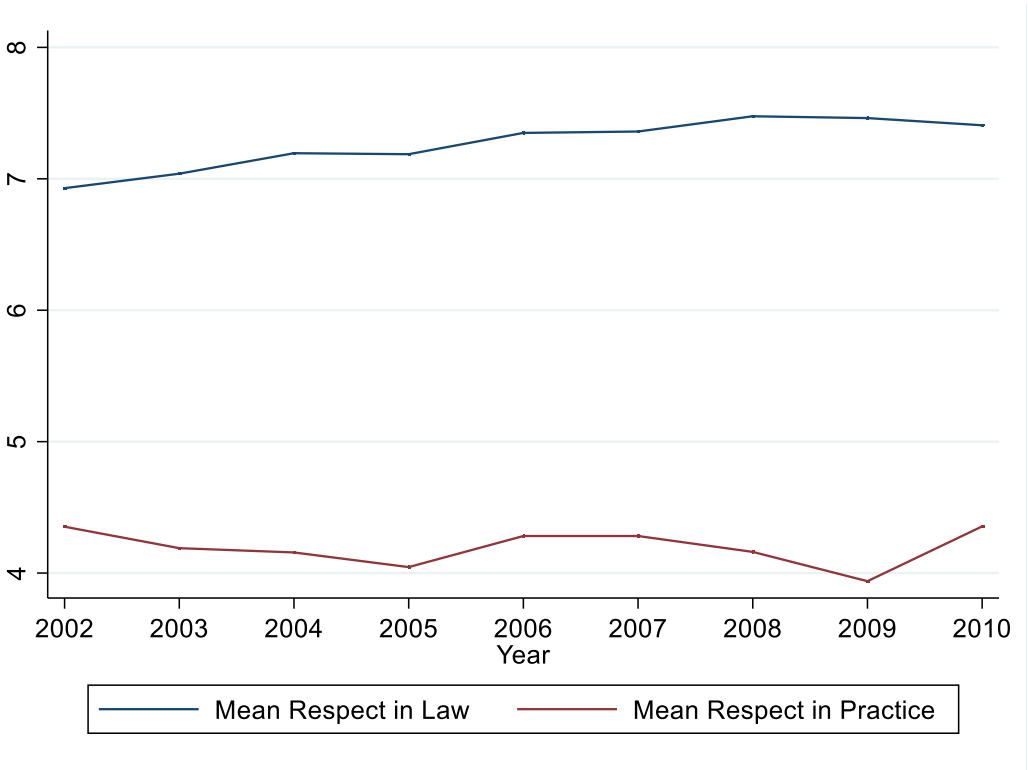

Figure 20: Gap in Law and Practice for Substantive Rights

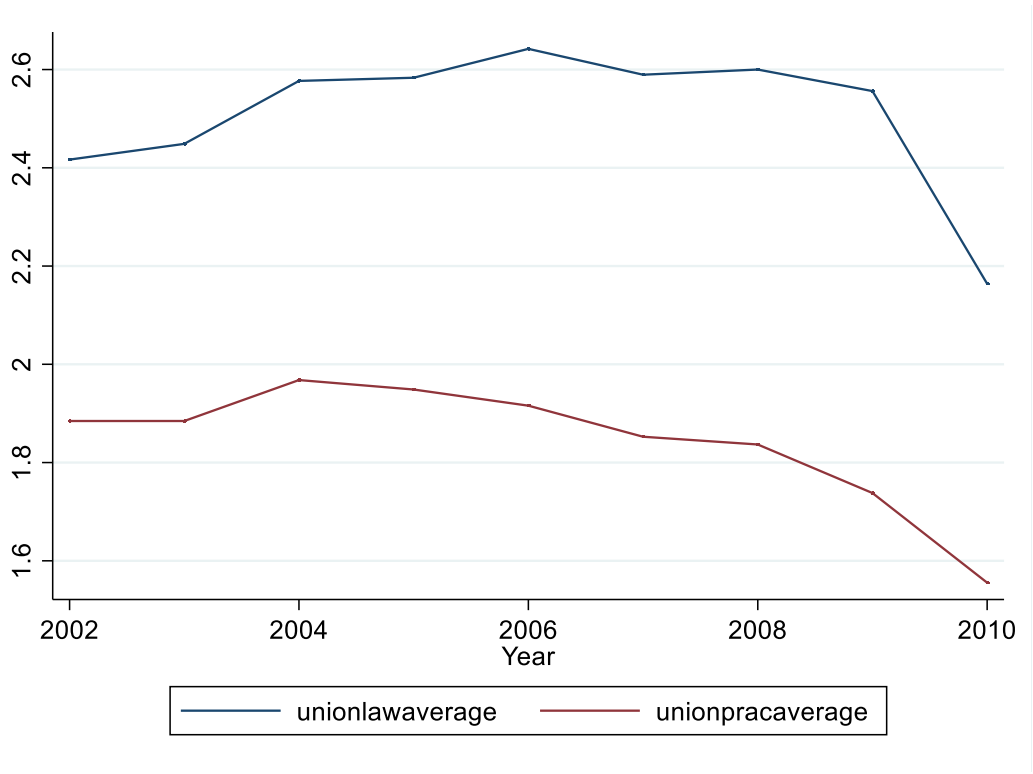

Figure 21: Gap in Law and Practice for Union Rights

In my analysis, I account for only a select few independent variables. In the models where respect in practice is the independent variable of interest, I also control for a one year lagged version of respect in law, as laws are generally passed before observed increases in practice.

My dependent variables are two Bayesian latent variables of development that better capture the concept of development by dividing it into several operational dimensions. These dimensions include health and human capital development. Using these variables should provide better explanatory leverage on the ways in which human rights impact development. These variables are continuous and can take any value from -4 to 4. In this paper, I focus only on Health and Human Capital.

I use an OLS regressor on panel data, with Huber-White standard errors clustered on the country. For Human Capital development, I have 144 country clusters in my sample, and 1,167 country years from 2003-2010. For Health Development, I have 144 countries, and 1167 country years from 2002-2010.

Results

Table 5: Effects of Respecting Labor Rights in Law and Practice

	(1)	(2)
VARIABLES	healthmean	hcmean
unionlaw	0.0287	0.0227
	(0.0571)	(0.0744)
substantivelaw	0.0462	0.0258
	(0.0409)	(0.0446)
unionpractice	-0.141***	-0.0421
	(0.0467)	(0.0449)
substantivepractice	0.179***	0.125***
	(0.0278)	(0.0262)
Log Pop	-0.0526*	-0.0862**
	(0.0305)	(0.0332)
GDP	0**	0*
	(0)	(0)
Constant	-0.0822	3.435***
	(0.509)	(0.607)
Observations	1,167	1,167
R-squared	0.286	0.204

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

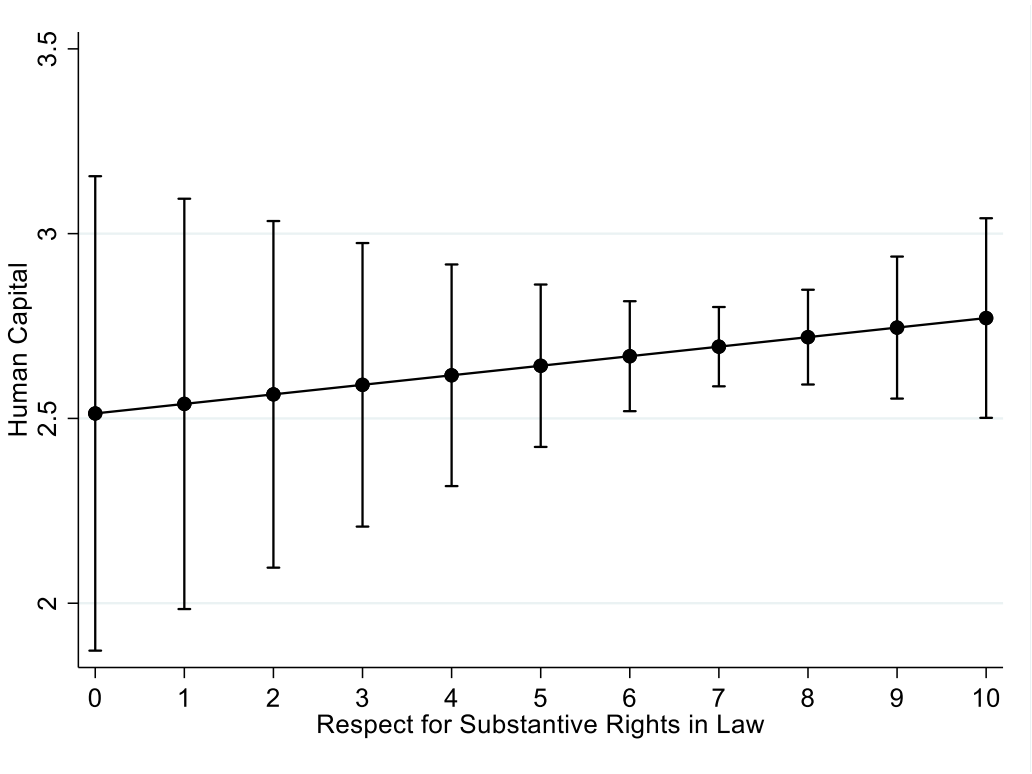

Figure 22: Legal Respect for Substantive Rights and Human Capital

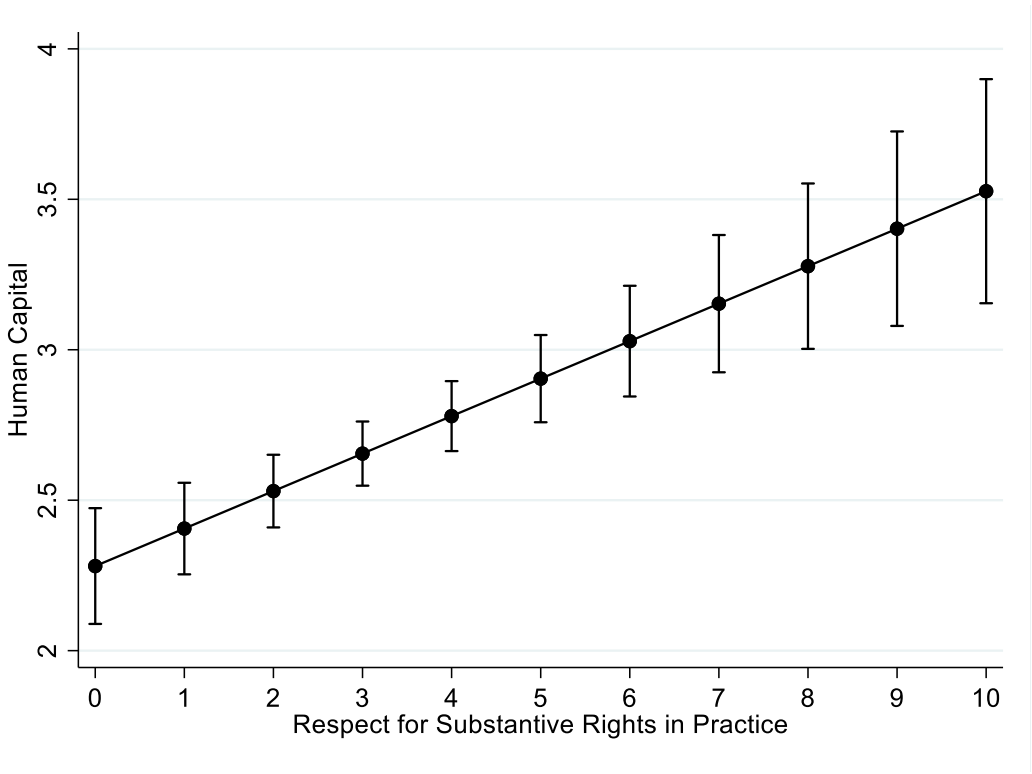

Figure 23: Practical Respect for Worker Rights and Human Capital

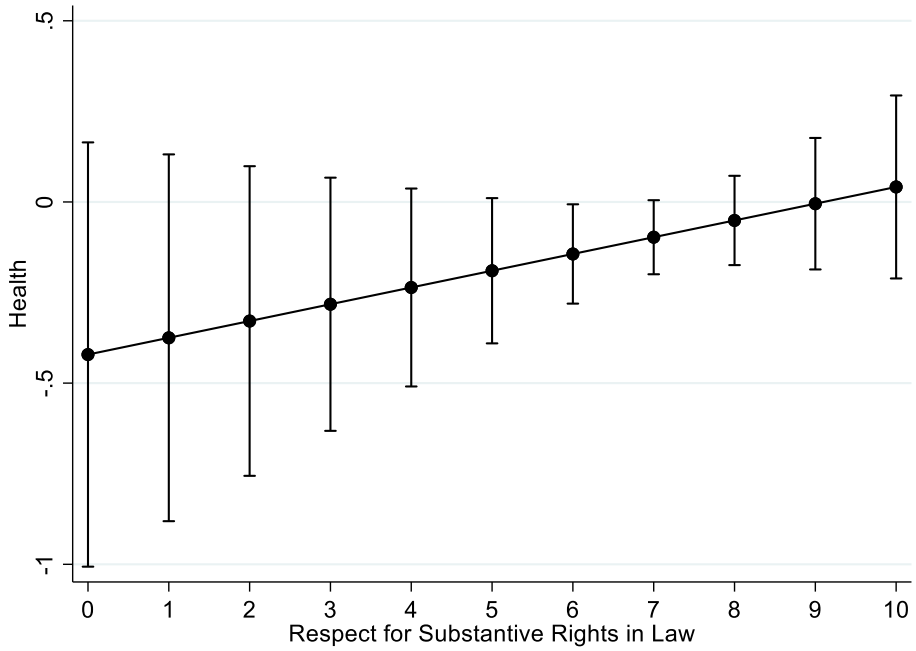

Figure 24: Legal Respect for Worker Rights and Health

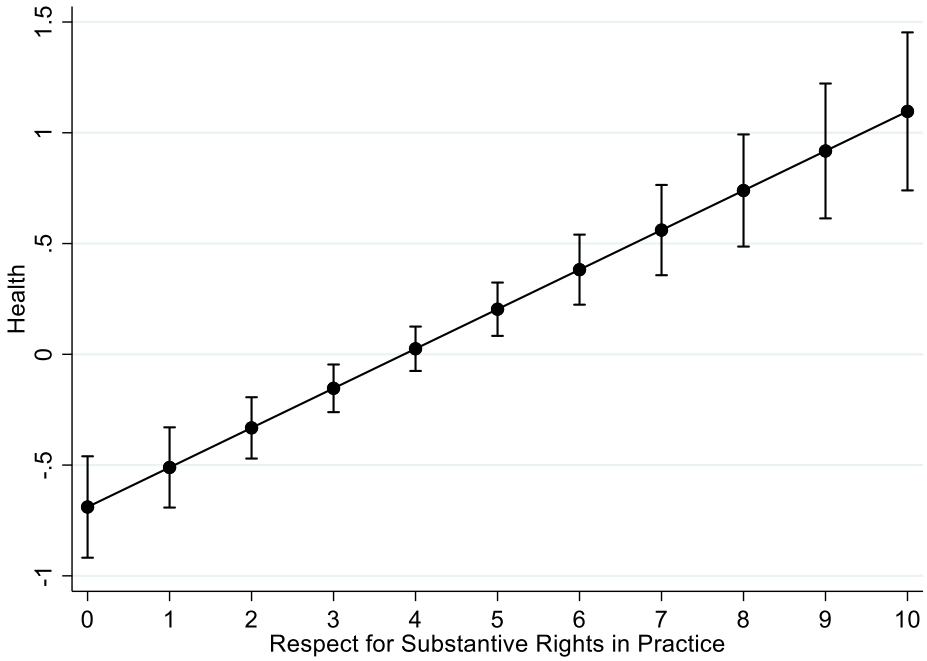

Figure 25: Practical Respect for Worker Rights and Health

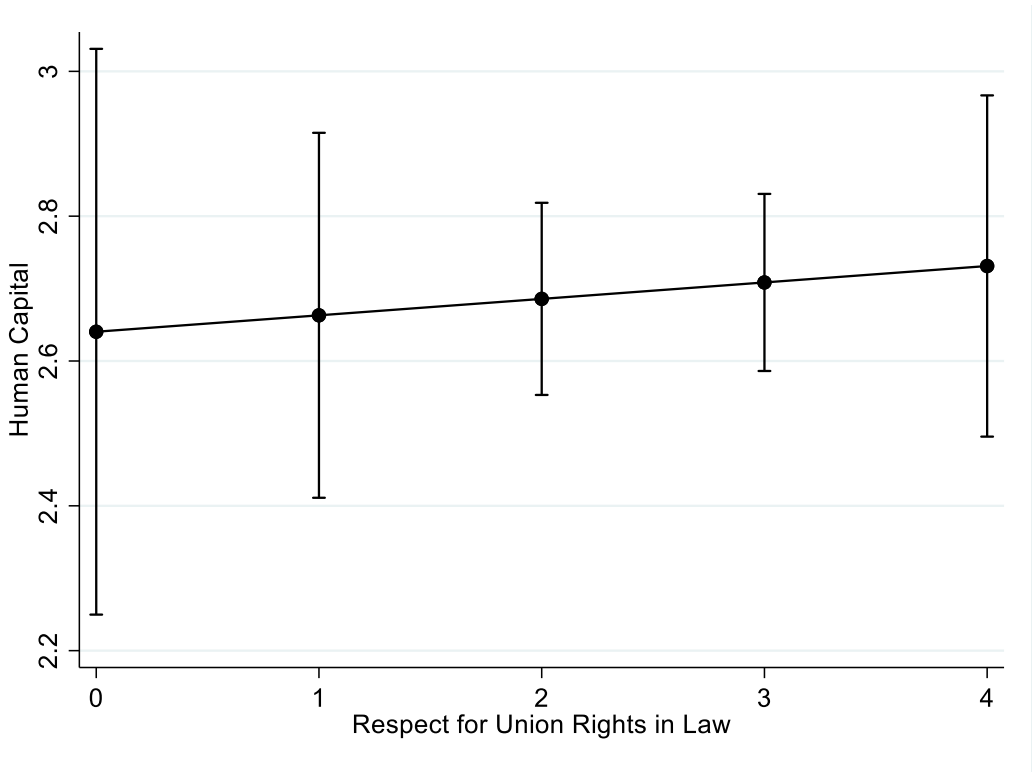

Figure 26: Respect for Union Rights in Law and Human Capital

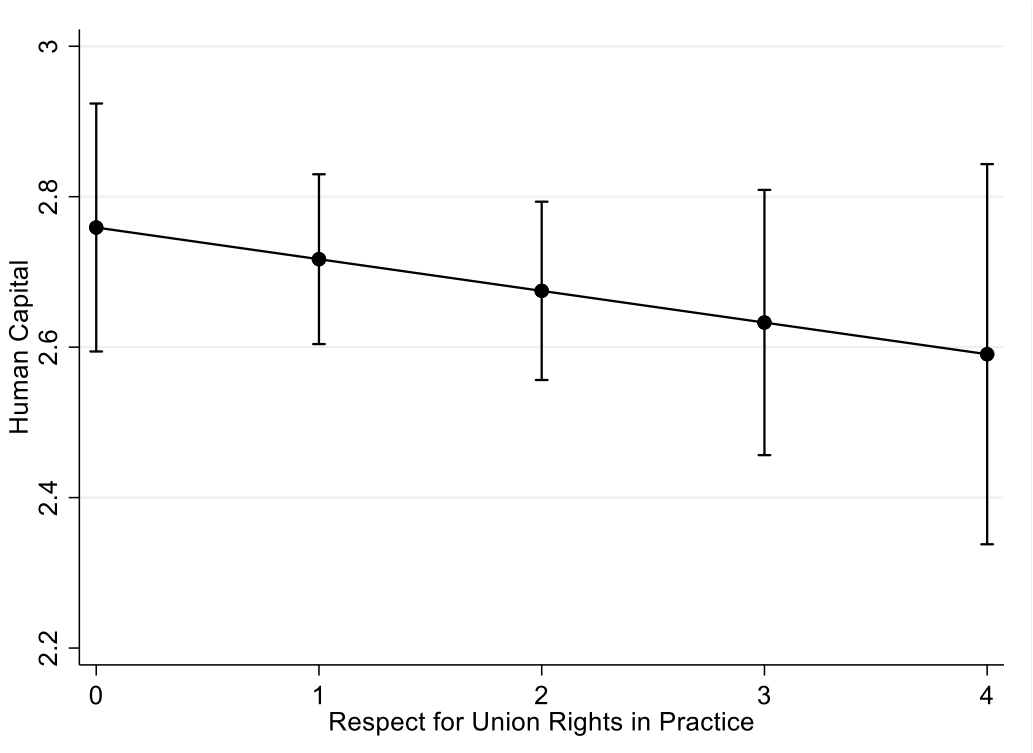

Figure 27: Respect for Union Rights in Practice and Human Capital

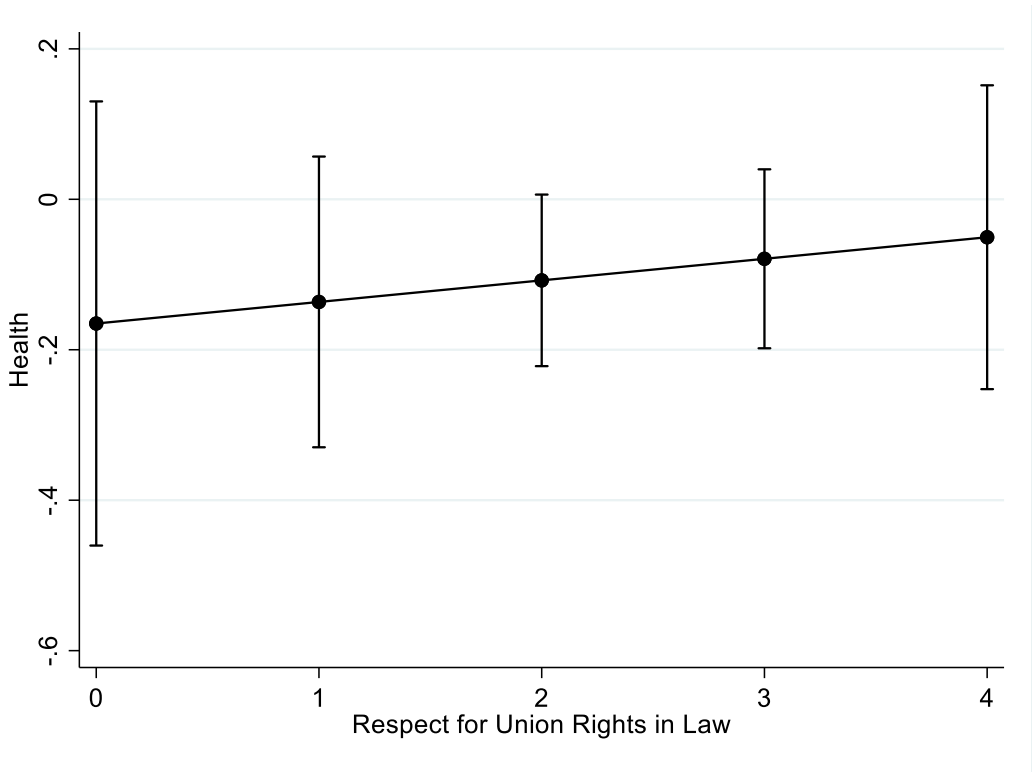

Figure 28: Respect for Union Rights in Law and Health

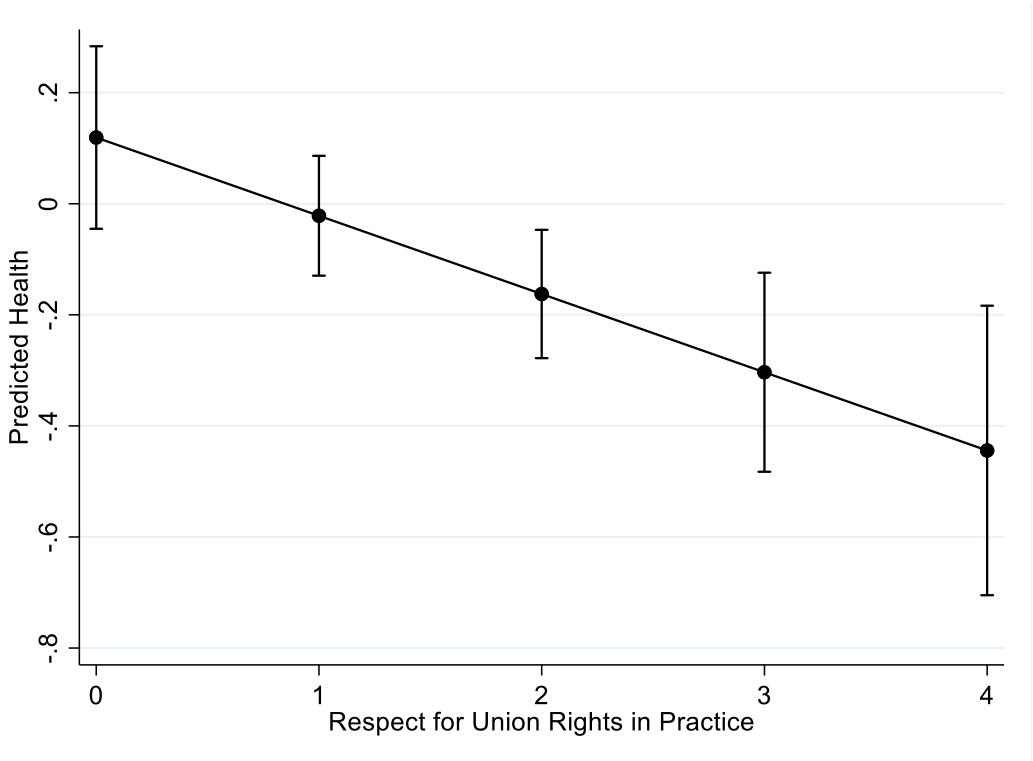

Figure 29: Respect for Union Rights in Practice and Health

Figure 22 and Figure 24 display the predictive margins of legal respect for substantive rights on human capital and health development, while Figure 23 and Figure 25 display the predictive margins of respect in practice on human capital and health development, respectively. 95% confidence intervals are also reported. In Figure 22, we see that increasing legal protection has a small positive impact on human capital development. In Figure 24, we see a linear trend in improving legal protections improving health outcomes, however that effect is rarely significant. Figure 23, however, shows a strong linear relationship between improved respect in practice and human capital development. Each dependent variable ranges from -4 to 4, with the majority of scores clustered around 0. Moving from no respect to full respect in practice consistently increases human capital development outcomes by over a full point on the latent scale. These effects are largest in the sphere of health development, where developmental outcomes increase on the latent scale by 1.5, as displayed in Figure 25. The effects of legal and practical respect for union rights are less clear, as displayed in Figure 26, Figure 27, Figure 28, and Figure 29. There appears to be some support that improving legal respect for union rights improves health and human outcomes, while improving respect in practice might decrease those outcomes. These findings are far less robust to alternative specifications.

Findings from the quantitative analysis are supported by an out of sample case study of Chile. Chile is excluded from the preceding statistical analysis due to data availability, however, the Pinochet regime's oppression of labor, and the corresponding economic crises, fits one side of this story well. Respect for labor rights changed multiple times across and within Chilean regimes, and the case is illustrative of my theoretical mechanisms. Additionally, once the regime lessened their oppressive tactics, growth increased. The following case study provides additional detail.

Chile

After three years of Marxist rule under the Popular Unity party, Chile faced massive inflationary crises. The financial elites, with the help of the military and American educated economic policy makers, overthrew the existing leader. The justification given by the armed forces was that the coup was necessary to prevent full on class warfare and salvage the economy. Guided by the National Security Doctrine, the military stated their goals as the defeat of enemies within the country who had managed to rise to prominence in political parties, unions, and other national institutions. Military officers took leading government positions both nationally and regionally.

Immediately after taking power, the military junta focused on repression of the party who was previously in power, the pro-labor party. This repression was targeted at not only higher ups, but anyone who was thought to be associated with the party (Hutchison et al, eds 2014). While degrees of repression varied across region, dependent on local leadership, it is fair to describe the atmosphere as one of total fear. Party and union members were especially targeted. Thousands were imprisoned, killed, tortured, and exiled in just the first four years of the junta. Workplace association ceased to exist as unions were either disbanded or members self-repressed in order to avoid government scrutiny. The military ultimately made left-wing political parties illegal and put even right-wing parties on hiatus.

As Pinochet came to power, Chileans were still hoping for a return to a democratic government based on somewhat populist ideals (Hutchison et al, eds 2014). Those hopes were quickly dashed. The government quickly became a one man dictatorship in the guise of a transitory “protected” democracy. During this time, aid and loans from outside sources were not

only still available but actually increased. However, by the late 1970s global capital had ceased flowing into Chile, especially capital in the form of loans. The Pinochet regime had been far too aggressive in attacking former members of the Allende/ Popular Unity regime. Criticism levied at the Chilean government by human rights observers, but also specifically the Carter administration, forced Pinochet to hold a referendum in 1978, which he won with over 75% of the vote (Hudson 1994).

Meanwhile, by the mid-1970s, the junta began building its new Chilean order. This new order was nearly the polar opposite of previous institutions: the government was non democratic and the economic system was primarily non-statist. Even more specifically, while previous regimes had attempted to incorporate industrialists and organized workers, the new economic programs were dramatically free market. Out went protectionist policies, and in came radical liberalization. In spite of outlawing multiple unions and drastic repression in the early 1970s, by the late 1970s unions led by the Christian Democratic party saw massive gains in participation. While not respected fully in law, worker rights were more respected in practice, relative to the first Pinochet years, as union participation increased. It was during this time, between 1976 and 1981 (average of roughly 7% GDP growth) that the Chilean economy grew rapidly. As organized labor lost the regime's attention, the economy grew at high rates year after year. This Chilean miracle was fueled by a massive influx of private foreign loans. By 1979, however, Pinochet was refocusing on eliminating his political strife with organized labor. Even though union elections, collective bargaining, and strikes had rarely taken place, the 1979 Labor Plan formally restricted those labor rights. Specifically, the regulations prevented workers from organizing at sectoral or industry levels and only allowed collective bargaining at the firm level. It was this formal restriction of labor rights, in conjunction with a global debt crisis, that sent the

Chilean economy into a severe recession in 1982. Pinochet was forced to lessen his previously unwavering devotion to neoliberal policies. Part of his new "pragmatic neoliberalism" was an increased respect for worker rights. From 1983-1989, Chile experienced its second economic miracle, as it recovered from the debt crisis and once again became one of the fastest growing countries in Latin America. While outside the time range of the quantitative data presented earlier, if the results of that analysis were applied here, we would conclude that the restriction of labor rights played not only an equal role in the economic collapse but an even larger one than the global debt crisis. There were widespread protests against the Pinochet regime organized by the severely repressed labor organizations that quickly spread to other sectors of society throughout the mid-1980s. Pinochet allowed a scheduled vote to occur, and was promptly voted out of office by those he and his regime had spent almost two full decades violently repressing. (Hudson 1994) The new government, led by a center-left coalition of Christian Democrats and organized labor, has further reduced the number of restrictions on collective bargaining and workplace association. Chile has seen its economy continue to grow. Development in Chile has been consistent in spite of financial crises in neighboring countries that would have in the past caused contagion and contaminated the Chilean markets. The resilience of the Chilean economy to those crises is, at least in part, attributable to the respect of worker rights. Currently, the Ministry of Labor continues its efforts to educate workers on their rights. According to US State Department reports, "The Ministry of Labor performed regular worksite inspections, responded to specific complaints, and maintained offices in each region and throughout the Santiago Metropolitan Region to identify potentially abusive situations and inform workers of their legal rights." These legal rights include a minimum wage, the right to strike (with the exception of the armed forces and public employees) and the right to severance pay in certain conditions in which

they are terminated by their employers. Even though public employees such as teachers do not have a legal right to strike, in 2007 a strike that included teachers and health workers lasted four days without government interference and ultimately ended with a salary increase for the striking workers. From 2007 to 2012, restrictions on who is allowed to unionize have been lifted, and currently only police and the armed forces are not legally allowed to do so. Regarding the right to strike, Chile continues to restrict certain industries. For example, agricultural workers are allowed to strike, except during harvest season. In some industries that provide essential services, the government has institutionalized arbitration procedures designed to ensure that services are continuously provided but that labor issues are also adequately addressed.

One of the most obvious but important aspects of the worker right variable is the absence of forced or compulsory labor. During the post Pinochet era, Chile continues to improve on both their legal respect for and enforcement of the right to compensation for work. Chile has long outlawed compulsory labor, but has made attempts to increase enforcement regarding compulsory child labor and domestic servitude. The minimum wage is adjusted annually by a tripartite board made up of representatives from government, employers, and labor. The adjustments are based on projected inflation and predicted productivity. Since 2006, the minimum wage has increased by an average of slightly more than 2% more than reported inflation. It is reasonable to conclude therefore that Chilean workers are becoming more productive. Part of that productivity is certainly attributable to the constantly improving labor conditions and respect for worker's rights.

Another aspect of worker rights is minimum age and safety standards. In Chile, adolescents are only allowed to work between the ages of fifteen and eighteen with parental permission. Even with permission, the state places restrictions on the industries they are legally

allowed to work in. For example, individuals under the age of 21 are not allowed to work in underground mines. Regarding safety standards, in 2011 the Chilean labor directorate employed 457 labor inspectors. At the end of the year, in response to claims that more inspectors were needed in order to adequately enforce labor regulations, the directorate added 72 additional inspectors, an increase of almost 17%. While enforcement remains an issue in some remote areas, some agency loss is inevitable in an economy that is still developing. Furthermore, the law protects workers who remove themselves from dangerous situations if labor inspectors determine conditions cause health risk to the employee. State department reports from as far back as 2006 consistently refer to enforcement of both safety standards and minimum wage standards as effective. The Chilean case demonstrates that respecting workers' rights leads to better economic health.

Conclusions

This research has shown that, all else being equal, states which respect human rights in practice, enforcing legal protections for substantive labor rights, are more likely to have better health and human capital development. States wishing to improve the overall wellbeing of their citizens should attempt to increase their respect for labor rights. Given the large correlation between labor rights and future developmental outcomes, policy makers should pay special attention to the substantive labor rights in their country. A strong, stable labor force can increase FDI flows which in turn can be used to improve production, both through direct infrastructure development and indirectly improving the safety and therefore productivity of workers. States should also increase unemployment protections to encourage innovation and risk taking. Finally, states should work to ensure that as many workers as possible are covered by these protections by working to minimize the size of their informal sector.

Next steps for this research are to enhance the theoretical contribution by expanding the discussion of distinguishing between respect in law and practice. I also intend to more directly test the theoretical mechanisms by breaking up the substantive rights index into its individual parts. The data from BCC also allows for a direct comparison between the effects of substantive rights and union rights in law and practice, and such a comparison may provide further insight into how states should spend their limited resources. Additionally, since much of the theory rests on the link between labor, FDI, and development, I intend to test the differential effects of respect in law and practice on FDI and other forms of investment.

CHAPTER 4

Colonialism and Neo-Colonialism: The Interactive Effect of Extractive Legacy Institutions and Structural Adjustment Programs

Scholars of international relations and comparative politics both recognize the importance of institutions. Those who study international relations often study the effectiveness of international institutions, for example, evaluating whether the WTO increases trade, whether the IMF increases economic growth, or whether signing human rights treaties improve human rights practices. Comparative political scientists, on the other hand, often study the impact of domestic institutions on outcomes. For example, scholars have long studied the relationship between democracy and economic growth, the impact of parliamentary and presidential systems, or the ways in which different welfare state regimes offer health and pension benefits. This research sits at the intersection of those two subfields. In this paper, I evaluate the joint effect of IMF structural adjustment programs and domestic colonial legacy institutions on overall development, as well as development outcomes in two separate sub-dimensions: human capabilities and health. This offers an improvement over existing studies which primarily focus on the impacts of colonial legacy institutions on GDP or the impact of structural adjustment programs on economic growth. By examining not just GDP or economic performance, but other aspects of development, we can begin to understand the long-term human costs of colonial policies. Likewise, by focusing on a broader operationalization of development, we can learn how truly destructive IMF conditional lending policies were on human development. Finally, as states can be affected by both legacy institutions and structural adjustment programs, understanding the ways in which the

SAPs condition the effects of legacy institutions provides a further opportunity evaluate the effectiveness of the conditional lending programs.

After introducing a new multi-dimensional Bayesian latent variable measure of development, this research first conceptually replicates Acemoglu, Johnson and Robinson's (AJR) Colonial Origins of Comparative Development, demonstrating that settlement type impacts not only economic activity (performance), but health, human capital, and environmental outcomes as well. Second, I test the hypothesis that IMF structural adjustment programs negatively impact development. Finally, I interact the undertaking of a structural adjustment program with colonial settlement type to demonstrate that the effects of some neoliberal policies negatively impact overall development even if they provide short term economic growth. Specifically, this paper addresses conditional aid agreements, as well as various forms of structural adjustment programs as implemented by the IMF and World Bank.

Literature Review

AJR seek to explain the differences in development, or economic performance, through institutions. They claim, however, that it is possible the relationship between economic performance and institutions may be endogenous: richer or better performing countries may just choose or can afford to choose better institutions. In order to get around this endogeneity, they use instrumental variables, exploiting the fact that early settler mortality rates from the colonial era could have no direct correlation with current economic performance, except through the effect of the institutions related to settlement type. In places with high settler mortality, Europeans would be unable to immigrate to the new colony and survive, which ultimately lead to extractive institutions. If Europeans were able to survive in the colony, more would come to settle the land, and would demand representation and institutional arrangements similar to that of

the country they arrived from. Colonies set up to be extractive states, most clearly illustrated by the Belgian colonization of Congo, did not guarantee private property rights, did not provide checks and balances, and they did not set up home rule. In fact, quite the opposite is true. Extractive institutions were designed specifically to expropriate as much wealth as possible from the land and local population by any means necessary. At the other extreme, European powers set up colonies with representative institutions like Canada and the United States that guaranteed protection from government expropriation, representation, checks and balances, and private property rights.

AJR find empirical support for all of their claims, that settler mortality rate effected settlement type, which effected early institutions, which effect current institutions, which impacts current development. Other scholars have also sought to explain the variation in economic performance or development. Glaeser, La Porta, Lopez de Silanes, and Shliefer (2004), hereafter GPSS, argue that human capital is a more basic source of economic growth, which leads to a change in political institutions through the demands of a middle class. Clearly, the debate between those in favor of the institutional theory and the more traditional modernization theory is not settled in the literature. Due to the nature of the development variables I develop, I should be able to arbitrate this debate by demonstrating that institutions are responsible for the human capital outcomes, which then also lead to economic development.

Since I seek not only to replicate AJR, but also answer the additional question of the impact of the interaction between neo colonialism and colony type, I find it useful to also engage the literature on the impact of IMF and World Bank policy programs on developmental outcomes. The World Bank and the IMF should be capable of helping LDC's develop. Leaders from these two organizations agree that participating in the world economy is the quickest way

to develop, however participation "yields relatively small income gains that do not translate into persistently higher growth" (Rodrik 2001). As currently constructed, the IMF and World Bank operate in a manner that is more favorable to the Western countries than to those who they originally proposed to help. The developed, highly industrialized, now highly consumerist Western countries have imbued the organizations, and therefore international regimes, with a shortsightedness and sense of immediacy that need not exist. Peet (2003) explains "the particular way in which globalization is brought about might destroy its inherently liberating potential…And global governance institutions such as the World Bank and International Monetary Fund, might bring huge swathes of entire continents under the same pernicious, undemocratic control."

Pandolfelli, Shandra, and Tyagi examine the impact of International Monetary Fund structural adjustment programs on maternal health in sub-Saharan Africa, and find that even after controlling for selection bias and endogeneity, sub-Saharan states which undergo structural adjustment programs experience significantly higher maternal mortality rates. Collier and Gunning (1999) find that "fund supported adjustment programmes have been flawed by a lack of distributional analyses and poor sequencing of reforms", particularly the reform of financial liberalization, which leads to "avoidable hardship" and reduction of growth. Other scholars have found similar hardships related to IMF adjustment programmes: Abouharb and Cingranelli (2006), for example, find that after reaching an agreement on entering an adjustment program, states are more likely to increase physical integrity rights abuses. McGillivray (2003) found that Pakistan's IMF program had no effect on Pakistani economic performance.

Additional research finds that structural adjustment programs also diminish human capital development. Loxley (1990) shows that IMF programs are not responsible for an increase

in development in Ghana, and that compliance with a structural adjustment program would have been unlikely to promote development in Zambia. Similarly, Konadu-Agyemang (2000) observes that the IMF structural adjustment programs have diminished the development of human capital by specifically looking at the widening of inequalities of access to education. Espinoza (2008) likewise finds that in years of structural adjustment, the upper and upper-middle income students disproportionately gained access to higher education compared to the lower, lower-middle, and middle-income quintiles. Munroe and Blake (2017) find that adjustment in Jamaica increased inequality to the point of promoting gang violence in the early to mid-1980s. In Tanzania, Vavrus (2005) finds that the macroeconomic policies advocated by structural adjustment programs have negative consequences for access to schooling, employment, and the risk of HIV infection. Finally, Reimers (1994) examines a sample of sub-Saharan African and Latin American countries from the years 1980-1988. He finds that adjusting countries were more likely to cut finding for educational materials, slash teacher salaries, enroll fewer children in school, and decreased disproportionately the access to primary education for girls.

This provides an excellent jumping off point, when taking the impact of adjustment programs on sub-Saharan African countries into account. Pakistan, unlike many sub-Saharan African countries, was not set up as a purely extractive colony. While the IMF programs worsen developmental situations in sub-Saharan Africa, they may neither help nor harm developmental outcomes in states with more representative institutions, or at least less extractive ones.

Theory

Institutions persist, and institutions matter. These are two important takeaways from Acemoglu Johnson and Robinson's (2001) "Colonial Origins of Comparative Development". One important issue, however, is the narrow operationalization of AJR regarding the concept of

development. Income per capita is a flawed measure of development because it only considers economic activity; it says nothing about whether that economic activity is sustainable, helpful, or bettering the society. Drilling the last barrel of oil out of the ground is economic activity and would enhance GDP growth, but would be unsustainable. Selling guns to child soldiers is economic activity and would enhance GDP growth, but does nothing to develop human capital that provides the basis for a more modern economy. The measurement of development is clearly lacking, and this research addresses that need, and provides an empirical example demonstrating the potential usage of the new measure. I posit that one, inheriting extractive colonial legacy institutions negatively impacts development; two, structural adjustment programs negatively impact development; and three, that structural adjustment programs further negatively condition the developmental effects of extractive institutions.

IMF structural adjustment programs have provided mixed results, at best. Other scholars have provided evidence that IMF programs have negative impacts on developmental outcomes (Abouharb and Cingranelli 2006, Collier and Gunning 1999, Pandolfelli et al 2015, Przeworski and Vreeland 2000). Leaders from the IMF and World Bank argue that participating in the world economy is the quickest way to develop, however participation "yields relatively small income gains that do not translate into persistently higher growth" (Rodrik 2001). While leaders at the IMF have begun to move on from imposing strict austerity conditionality in their programs, this transition is not complete. While not a direct result of IMF Structural Adjustment Programs, bailouts financed multilaterally, such as the Greek bailouts of 2010 and 2013, often impose harsh austerity measures that resemble historical IMF agreements. In the 2010 bailout, for example, the Greek government was forced to cut teacher salary and further reduce public spending by closing and merging schools. Such activity drastically increases the pupil to teacher ratio, which

demonstrably reduces educational outcomes (Bosworth 2010, Clotfelter et al 2007, Jepsen and Rivkin 2002) . Similarly, the 2013 IMF/EU bailout of Greece required the government to put 25,000 civil servants, including teachers, into a "mobility plan", which would dock their wages ahead of impending forced transfers or dismissals (New York Times 2013). This research only explicitly tests the impact of IMF conditional lending but should generalize to other states in crisis which are receiving conditional emergency financial packages. For these reasons and based primarily on the findings of the existing literature, I hypothesize that IMF structural adjustment programs will be associated with worse development scores in both health and human capital development.

H_{1a}: IMF Structural Adjustment Programs will be associated with worse health development

$H_{1b:}$: IMF Structural Adjustment Programs will be associated with worse human capital development

For domestic politics, existing research demonstrates that institutions matter. We see outcomes differ greatly among democracies and autocracies, presidential systems and parliamentary systems, free market economies and centrally planned economies. Acemoglu, Johnson and Robinson (2001) demonstrate that the type of institutions established during the colonial era persist in ways which continue to impact outcomes today and explain a great deal of variation in current economic performance. Likewise, such institutions should affect developmental outcomes beyond economic performance. It is unlikely that countries with extractive institutions prioritize human capital development, or environmental sustainability (Acemoglu et al 2001). In the case Sierra Leone, the All People's Congress, led by Siaka Stevens, took over after decolonization intensified the already extractive legacy institutions. By the time Stevens lost power, his successor, Joseph Momoh, continued to benefit from the

massive expropriation of wealth. Roads collapsed, schools fell apart, and even the national television system quit working when the minister of information sold the transmitter and a radio relay tower literally fell down in disrepair (Acemoglu and Robinson 2012). By the end of his rule, Momoh had completely stopped paying civil servants and teachers, leading to the total collapse of any system which could develop human capital. With no private property rights, and no checks and balances against government expropriation, these states fulfilled their purpose of transferring as much wealth as possible from colony to colonizer. Set up to expropriate as much wealth from the native lands and population as possible, states which inherited extractive colonial institutions still struggle to guarantee positive human development and are often caught in a civil conflict quagmire. Extractive colonial institutions did not allow for representation, and quite often resulted in cruel treatment of natives in order to gain as much wealth as possible for as little cost as possible.

States with representative institutions likely provide better developmental outcomes across all dimensions than states with extractive institutions (Acemoglu et al 2001). States with representative institutions were settled by a large number of Europeans with a desire to replicate the environment they emigrated from. Such states would have checks and balances on the executive, specifically in regard to expropriation of wealth, and also have strong private property rights. Extractive states have no incentive to invest in human capital, or ensure environmentally sustainable industrialization, or increase vaccination rates or other health outcomes. For these reasons, I hypothesize that states which inherited extractive colonial institutions will have worse health and human capital development, in addition to the poor economic performance found by Acemoglu et al.

H_{2a}: Extractive institutions cause worse health development

H_{2b}: Extractive institutions cause worse human capital development

Similarly, international institutions impact development. The IMF, World Bank, World Trade Organization, and the United Nations Development Programme all provide policy advice that directly impacts the overall development of a country. We can see, for example, that the Washington Consensus (a paradigm from the 1980s and 1990s that influenced IMF and World Bank loan conditionality) negatively impacted development in states that undertook those structural adjustment programs (Abouharb and Cingranelli 2006, Collier and Gunning 1999, Loxley 1990, Konadyu-Agyemang 2000), specifically in Latin America and sub-Saharan Africa. The primary conditions of those programs dealt with increasing privatization, increasing liberalization, and decreasing government spending. In theory, these policies should reduce corruption and increase market competitiveness, which should enhance development.

In places with extractive institutions, however, those policy prescriptions are unlikely to have those effects. Increasing privatization is likely to either enhance the wealth of government insiders or oligarchs, or increase the influence of global capital. Liberalization, likewise, is going to benefit domestic and global elites over the average person. When cutting spending, states with extractive institutions are incredibly unlikely to cut spending on private goods to insiders, particularly relative to cutting spending on public goods (Gandhi 2008, Weeks 2012).

In places with representative institutions, though, these policies may not have such adverse effects. Governments will be more likely to focus on privatizing and liberalizing in ways that represent the needs of society at large. Similarly, when cutting spending, it is unlikely that the provision of public goods will be slashed from the budget relative to private goods earmarked for regime insiders. Ghana, for example, inherited relatively representative legacy institutions, and recently implemented an IMF backed Structural Adjustment Program. The IMF advised the

government to decrease or freeze wage increases, remove fuel and utility subsidies, and freeze public sector hiring. The regime implemented many of these policies, but also implemented free high school programs, created the NABCO (Nation Builders Corps) program, which addresses graduate unemployment by hiring graduates to solve public service delivery problems in the sectors of health, technology, agriculture, and education. The Ghanian regime also reinstated nurses and teachers allowances.

H_{3a}: IMF Structural Adjustment Programs will have a conditionally negative effect on health development in places with extractive institutions

H_{3b}: IMF Structural Adjustment Programs will have a conditionally negative effect on human capital development in places with extractive institutions

Alternatively, it may be true that leaders in states which were established with more representative institutions wish to become more extractive, but are constrained by their domestic audience and institutional context. While structural adjustment has frequently been seen as a penalty imposed by the lender of last resort, it may not be true that governments only select into IMF conditionality when they need a loan, but they may actually be seeking those conditions (Przeworski and Vreeland 2000). If a government wishes to change the distribution of goods or finances within a country, but lacks the political will or capital to do so by conventional means, it can use the IMF to play "bad cop". While there may still be political costs involved, it raises the cost of rejecting the policy by domestic opposition. Instead of challenging the party in power, the opposition is now sending a negative signal to global creditors and investors both within and outside of the IMF (Przeworski and Vreeland 2000). In situations where there was no direct financial need or balance of payments crisis preceding the IMF agreement, I would expect

developmental outcomes to worsen following the structural adjustment program and look similar to outcomes in states with an extractive colonial legacy.

H_{4a}: In states with representative institutions that experience no economic crisis, there will be no discernible conditional affect of IMF Structural Adjustment Programs on health development

H_{4b}: In states with representative institutions that experience no economic crisis, there will be no discernible conditional affect of IMF Structural Adjustment Programs on human capital development

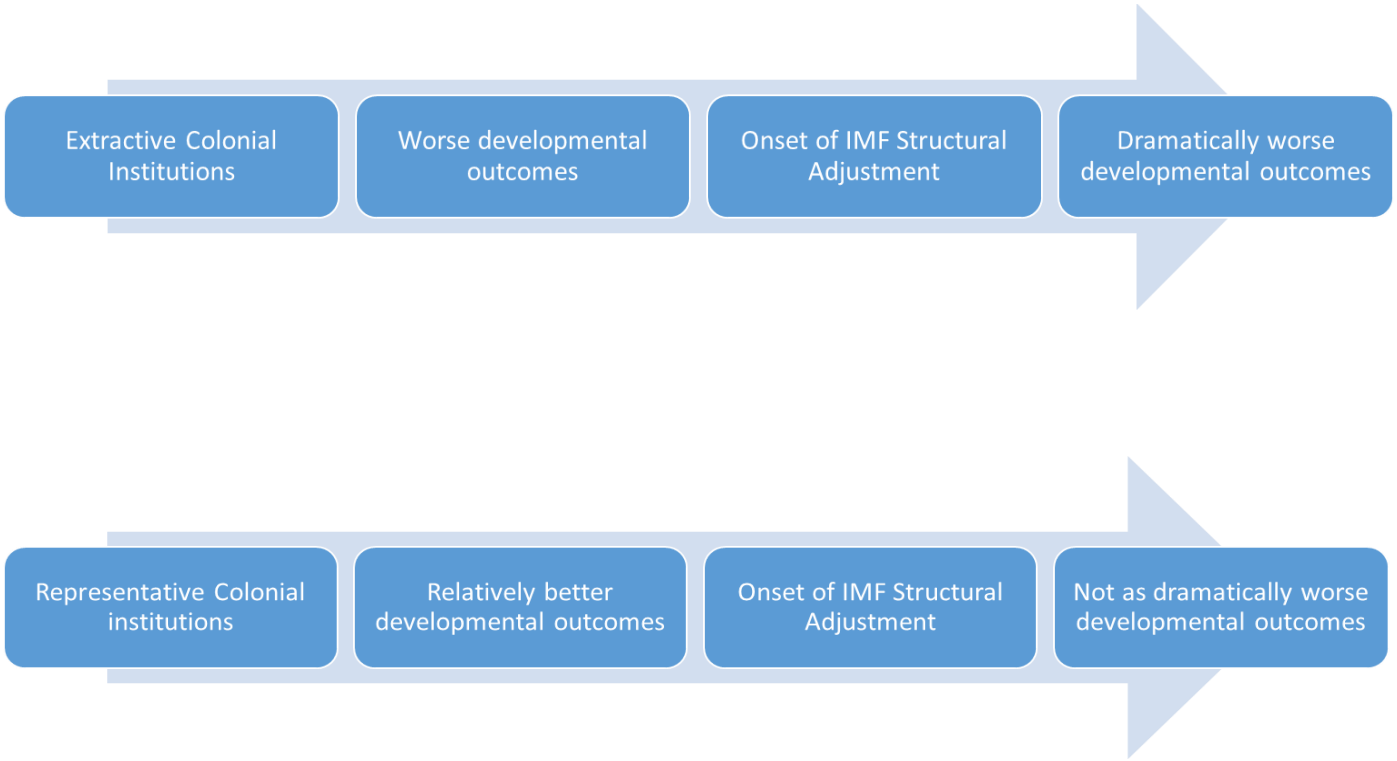

Figure 30: Theoretical Flow Chart

Research Design:

To test my first hypothesis, I estimate an OLS regression with clustered standard errors. The independent concept of interest is the presence of an IMF Structural Adjustment Program. I use two different variables from the literature to test the effects of SAPs on health and human capital developmental outcomes: first, I use a dummy variable which takes the value of 1 if the country was under an IMF program for more than 6 months in that calendar year; second, I use a variable which measures the number of consecutive years a country has been governed by an IMF program. In all models, I include the Polity score (Marshall and Jaggers 2014; Teorell, et al. 2019), to measure the effects of various domestic democratic and autocratic institutions; GDP per capita (World Bank 2015; Teorell et al. 2019), to ensure that macroeconomic performance is not an omitted variable; and a measure of respect for physical integrity rights, which provides a baseline measure for levels of political, social, and economic stability. I also include measures of political capacity, the independence of the judiciary (Powell and Staton 2009), the existence of an ongoing civil war in that year (Gleditsch, et al. 2002; UCDP/PRIO 2013), and regime durability (Marshall and Jaggers 2014; Teorell, et al. 2019).

For my second hypotheses, like Acemoglu, Johnson, and Robinson (2001), I recognize that importance of the endogeneity problem to my research question. It is possible that development causes more productive institutions, rather than institutions causing better development. States which can afford better institutions may have them, which in turn can create a virtual cycle of better performance leading to better institutions leading to better performance. Likewise, states which could not afford better institutions could be trapped in a vicious cycle. In order to remedy this problem, I follow AJR's example and use an instrumental variable: settler mortality rates. In places with high settler mortality rates, settlers would not come to colonize the

area, leading to the development of extractive institutions, which would have a negative impact on current development. In places with low mortality rates, settlers would colonize the area, demanding representative institutions which respected private property rights, which would have a positive impact on current development.

The instrumental variable method is set up in the format of two stage least squares: in the first stage, I demonstrate that settler mortality is responsible for a large amount of the variation in current institutions. Acemoglu, Johnson, and Robinson find that settler mortality alone explains 27% of the variation in institutions today, and that settlement patterns explain about 50% of the variation in early institutions. While AJR only focused on the impact of institutions on economic performance, or GDP per capita, I broaden the focus to take into account different aspects of development that are only weakly correlated with GDP per capita. My dependent variables are two Bayesian latent variables which measure health developmental outcomes and human capital developmental outcomes. Using such a variable should provide better explanatory leverage on the ways in which institutions impact development. There are a number of additional control variables: a dichotomous variable indicating whether a state is a resource intensive exporter, change in economic activity measured by the change in GDP per capita, region of the world, trade as a percentage of GDP, regime type and regime durability, respect for human rights, and whether a war occurred within that country's borders that year.

For my third hypotheses, and what I view as the key contribution of this paper, I assess the conditional affect of IMF SAPs in conjunction with colonial legacy institutions. Borrowing from my earlier tests in this chapter, I include a dummy variable, taken from Dreher and Walter (2010) indicating whether a Structural Adjustment Program was active in the country for six months or more within a given year in one model and a variable from Abouharb and Cingranelli

(2006) measuring the total number of years an SAP has been in place in the second model, in order to test my theory that structural adjustment programs have a much more negative impact on development in states with an extractive colonial legacy than they do in places with representative institutions. Given the methodological complexity of the model incorporating the interaction with the instrumented variable, I also report model results for a non-instrumented version of the institutional variable.

Hypotheses:

H_{1a}: IMF Structural Adjustment Programs will be associated with worse health development

$H_{1b:}$: IMF Structural Adjustment Programs will be associated with worse human capital development

H_{2a}: Extractive institutions cause worse health development

H_{2b}: Extractive institutions cause worse human capital development

H_{3a}: IMF Structural Adjustment Programs will have a conditionally negative effect on health development in places with extractive institutions

H_{3b}: IMF Structural Adjustment Programs will have a conditionally negative effect on human capital development in places with extractive institutions

H_{4a}: In states with representative institutions that experience no economic crisis, there will be no discernible conditional affect of IMF Structural Adjustment Programs on health development

H_{4b}: In states with representative institutions that experience no economic crisis, there will be no discernible conditional affect of IMF Structural Adjustment Programs on human capital development

Results:

Tables 6 and 7 displays the results of the tests for hypotheses 1_a and 1_b. In Table 6, I find strong support for the hypothesis that structural adjustment programs negatively impact health and human capital development, though the effects are substantively a bit small. An IMF program extending an additional year decreases the latent health score by about 5% of a standard deviation, holding all else constant. Similarly, an additional year under the auspices of a World Bank structural adjustment program decreases the latent health score by about 1% of a standard deviation. The addition of another year of IMF structural adjustment programs decreases human capital development by about 3.5%. An additional year under a World Bank lending program, however, is expected to predict an increase of 1.5%.

Table 7 slightly alters the model specification and instead of examining SAP duration, examines whether the country was under a structural adjustment program for five months or more in a given year. I find that the presence of an IMF SAP for half a year decreases the expected health score by about 32% of a standard deviation. Similarly, being under the auspices of a structural adjustment program decreases the expected human capital score by roughly 16% of a standard deviation.

Table 6: SAP Duration and Health and Human Capital

VARIABLES	(1) Health	(2) Human Capital
IMF Duration	-0.0539***	-0.0289***
	(0.00575)	(0.00448)
WB Duration	-0.0111**	0.00617**
	(0.00478)	(0.00275)
Physical Integrity	0.0120	0.0240***
	(0.0107)	(0.00660)
Political Capacity	-0.121***	0.0311
	(0.0406)	(0.0207)
Regime Durability	0.0161***	0.00601***
	(0.00116)	(0.000650)
Ind. Judiciary	0.000412	2.16e-05
	(0.000664)	(0.000153)
GDP PC	5.41e-05***	3.05e-05***
	(3.69e-06)	(2.46e-06)
Change GDP PC	0.00727	0.00563***
	(0.00662)	(0.00208)
Polity 2	0.0508***	0.0370***
	(0.00317)	(0.00186)
War on Location	-0.217***	-0.0962**
	(0.0727)	(0.0408)
Constant	-0.899***	1.938***
	(0.0659)	(0.0386)
Observations	1,365	1,365
R-squared	0.432	0.396

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7: IMF Presence and Health and Human Capital

VARIABLES	(1) Health	(2) Human Capital
IMF Program Presence	-0.306***	-0.0936***
	(0.0437)	(0.0259)
Physical Integrity	0.00530	0.0212***
	(0.0108)	(0.00665)
Political Capacity	-0.121***	0.0297
	(0.0431)	(0.0199)
Regime Durability	0.0159***	0.00612***
	(0.00115)	(0.000616)
Ind Judiciary	0.000138	-3.78e-05
	(0.000675)	(0.000176)
GDP PC	5.33e-05***	2.74e-05***
	(3.93e-06)	(2.22e-06)
Change GDP PC	0.00545	0.00396**
	(0.00661)	(0.00190)
Polity 2	0.0507***	0.0355***
	(0.00319)	(0.00183)
War on Location	-0.204***	-0.0770*
	(0.0740)	(0.0417)
Constant	-0.851***	1.960***
	(0.0710)	(0.0391)
Observations	1,333	1,333
R-squared	0.391	0.344

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8: 2SLS, Polity Instrumented

VARIABLES	(1) Health	(2) Human Capital
Polity 2	0.281***	0.142***
	(0.0228)	(0.0119)
Region	-0.247***	-0.0920***
	(0.0516)	(0.0268)
Oil>1/3 exports	0.546***	0.315***
	(0.143)	(0.0745)
Trade %GDP	0.00613***	0.00396***
	(0.000970)	(0.000505)
Human Rights Mean	-0.257***	-0.0996**
	(0.0749)	(0.0389)
Regime Durability	0.00663**	0.00383**
	(0.00307)	(0.00160)
War on Location	-0.526***	-0.130
	(0.167)	(0.0868)
Constant	-0.506	2.062***
	(0.319)	(0.166)
Observations	839	839

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In Table 8, I estimate a two stage least squares model, using settler mortality as an instrumental variable for democracy as measured by the polity index. I find that better colonial institutions cause an increase in health development by roughly 30% of a standard deviation per unit increase. I also find that better colonial institutions cause better human capital development by 24% of a standard deviation. These findings are similar when using alternative measures of democracy.

Table 9: Interaction Hats and Health

VARIABLES	(1) Health	(2) Health	(3) Health	(4) Health	(5) Health
Region	-0.247***	0.156***	0.210***	0.0265	-0.112***
	(0.0250)	(0.0194)	(0.0198)	(0.0201)	(0.00959)
Oil>1/3 of exports	0.517***	0.387***	0.0904*	1.452***	0.134***
	(0.0617)	(0.0580)	(0.0525)	(0.0914)	(0.0492)
Trade%GDP	0.00579***	0.0101***	0.00926***	-0.00516***	0.00228***
	(0.000415)	(0.000488)	(0.000457)	(0.000566)	(0.000380)
Human Rights Mean	-0.216***	-0.0938***	-0.638***	-0.396***	0.261***
	(0.0336)	(0.0322)	(0.0433)	(0.0371)	(0.0219)
Regime Durability	0.00576***	-0.0151***	-0.0189***	0.000691	0.0102***
	(0.00152)	(0.00207)	(0.00216)	(0.00161)	(0.00125)
War on Location	-0.492***	-0.491***	-0.0509	0.427***	-0.133*
	(0.0912)	(0.0905)	(0.0868)	(0.0862)	(0.0696)
Polity2hat	0.287***				
	(0.0124)				
IMF Duration	-0.0145	0.105***	-0.0318***	0.0210	-0.0646***
	(0.0103)	(0.0377)	(0.00720)	(0.0671)	(0.00575)
polity2hat*imfdur	-0.00563***				
	(0.00185)				
Checks and Balances Hat		1.740***			
		(0.0775)			
Checks*imfdur		-0.0484***			
		(0.0125)			
Exec Constraints Hat			0.210***		
			(0.00909)		
ExecConhat*imfdur			-0.00189		
			(0.00123)		
Econ Freedom Hat				1.981***	
				(0.0849)	
EconFreedomhat*imfdur				-0.00933	
				(0.0106)	
Ind Judiciary Hat					0.000615
					(0.000493)
Ind JudHat*imfdur					0.000693
					(0.00208)
Constant	-0.418***	-6.919***	-2.569***	-12.66***	-0.113**
	(0.162)	(0.281)	(0.156)	(0.505)	(0.0566)
Observations	839	839	839	839	1,916
R-squared	0.620	0.622	0.617	0.617	0.306

Robust standard errors in parentheses
*** p<0.01, ** p<0.05,
*p<0.1

In Table 9, I display results of the two stage least squares regression including the interaction of democracy (instrumented) and the duration of IMF structural adjustment programs. Each model uses a different variable for domestic institutions, which is then instrumented by settler mortality: Model 1 uses Polity, Model 2 uses Checks and Balances, Model 3 uses Executive Constraints, Model 4 uses Economic Freedom, and Model 5 uses the Independence of the Judiciary.

In four of the five specifications, the interaction terms are significant. I display the results of the significant interaction terms in multiple figures for ease of interpretation of continuous by continuous interactions. Overall, the figures demonstrate a strong trend of extending the years of an IMF program worsening outcomes for states with better institutions, while improving predicted health outcomes in states with worse institutions (generally below the mean level at each institutional score) the longer the IMF program continues.

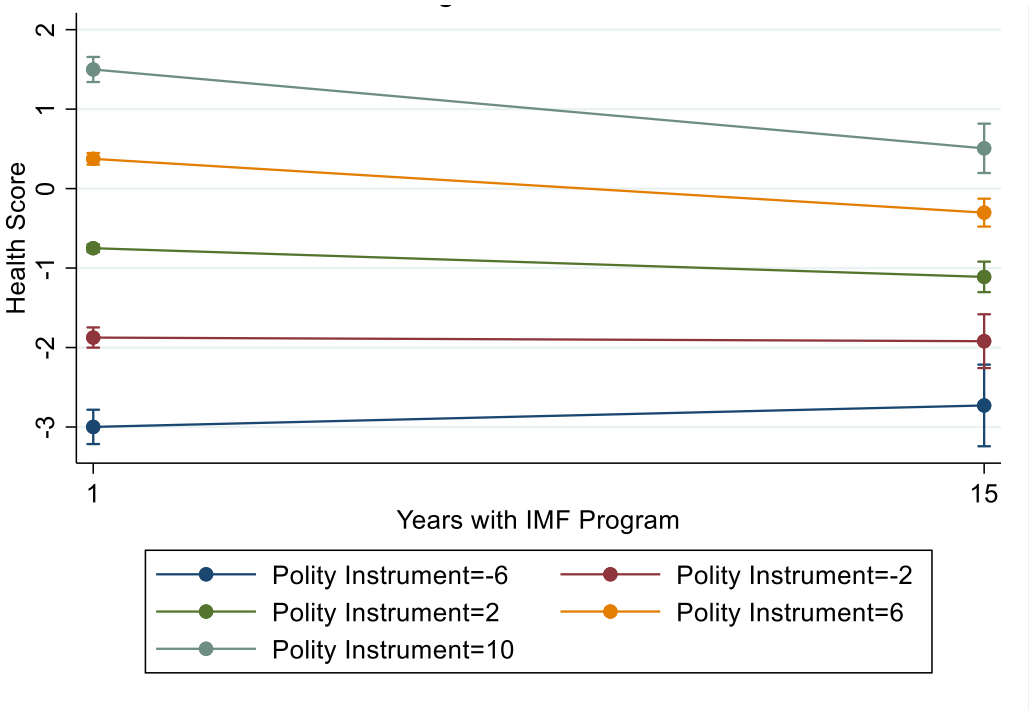

Figure 31: Institutions and IMF Duration Interaction 1

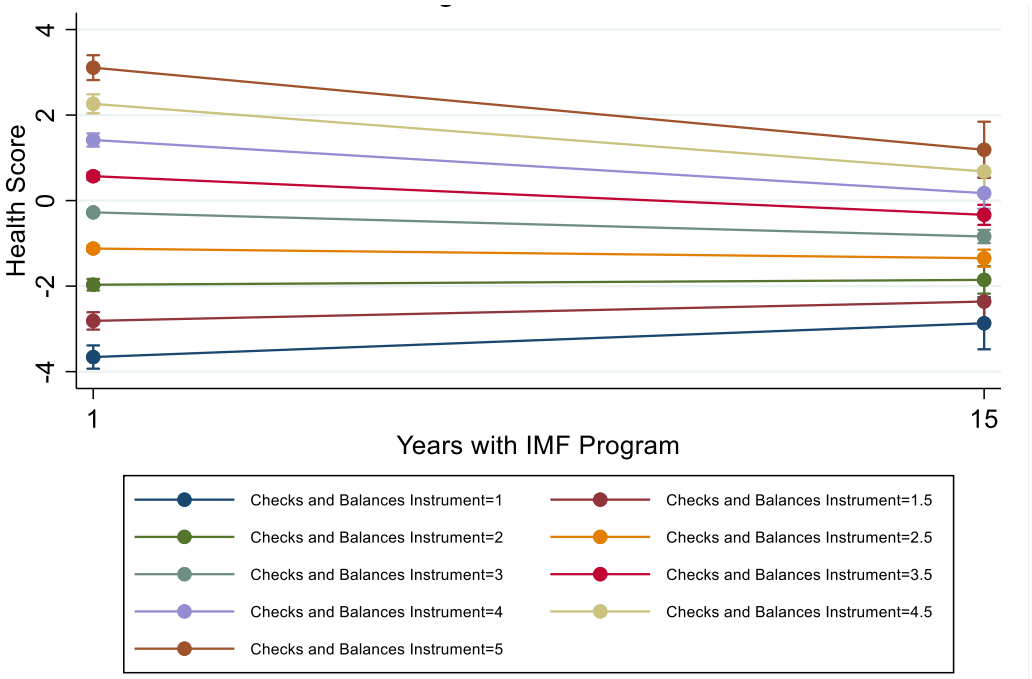

Figure 32: Institutions and IMF Duration Interaction 2

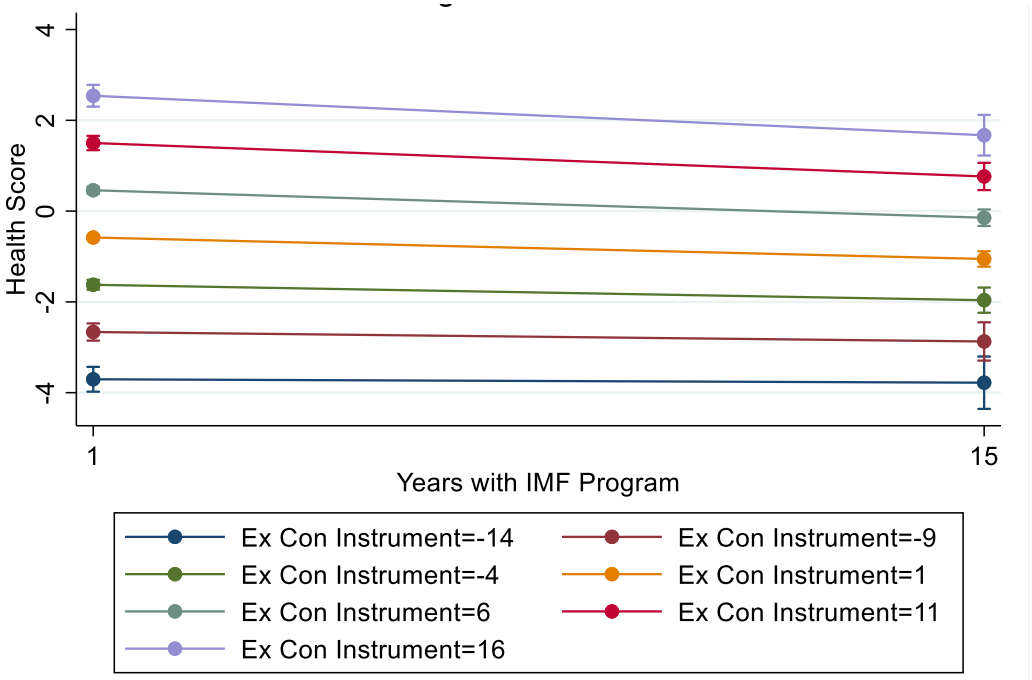

Figure 33: Institutions and IMF Duration Interaction 3

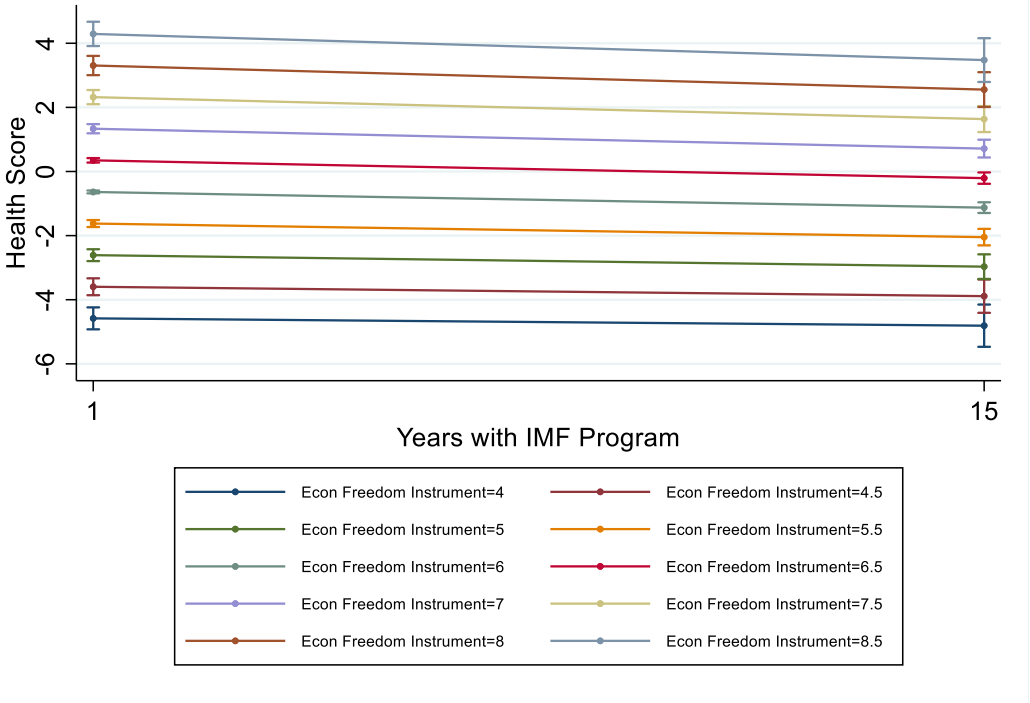

Figure 34: Institutions and IMF Duration Interaction 4

Table 10: Interaction Hats and Human Capital

VARIABLES	(1) Human Capital	(2) Human Capital	(3) Human Capital	(4) Human Capital	(5) Human Capital
Region	-0.0912***	0.113***	0.141***	0.0435***	-0.117***
	(0.0136)	(0.0131)	(0.0137)	(0.0129)	(0.00803)
Oil>1/3 of Exports	0.312***	0.242***	0.107***	0.791***	-0.119***
	(0.0344)	(0.0333)	(0.0316)	(0.0476)	(0.0361)
Trade%GDP	0.00396***	0.00614***	0.00584***	-0.00156***	0.00127***
	(0.000270)	(0.000288)	(0.000280)	(0.000347)	(0.000335)
Human Rights Mean	-0.101***	-0.0352	-0.323***	-0.195***	0.279***
	(0.0228)	(0.0222)	(0.0264)	(0.0241)	(0.0167)
Regime Durability	0.00390***	-0.00620***	-0.00867***	0.00130	0.00334***
	(0.00102)	(0.00128)	(0.00133)	(0.00106)	(0.000734)
War on Location	-0.130**	-0.124**	0.0898	0.337***	0.0398
	(0.0574)	(0.0573)	(0.0560)	(0.0562)	(0.0440)
Polity2 Instrument	0.140***				
	(0.00656)				
Years under IMF Prog	-0.00214	-0.0145	0.00129	-0.0944**	-0.0392***
	(0.00836)	(0.0292)	(0.00595)	(0.0443)	(0.00522)
Polity2Inst*imfdur	0.00120				
	(0.00134)				
Checks and Balances Inst		0.837***			
		(0.0407)			
Checks*imfdur		0.00584			
		(0.00956)			
Exec Const Inst			0.106***		
			(0.00485)		
Exec Const*imfdur			0.000491		
			(0.000981)		
Econ Freedom Inst				0.992***	
				(0.0452)	
Econ Freed*imfdur				0.0156**	
				(0.00683)	
Ind Judiciary Inst					0.000430
					(0.000284)
Ind Jud*imfdur					0.00126
					(0.00100)
Constant	2.060***	-1.123***	0.941***	-4.068***	3.010***
	(0.0950)	(0.165)	(0.0992)	(0.288)	(0.0489)
Observations	839	839	839	839	1,916
R-squared	0.479	0.479	0.479	0.481	0.351

Robust standard errors in parentheses
*** p<0.01, ** p<0.05,
* p<0.1

In Table 10, I display results of the two stage least squares regression including the interaction of democracy (instrumented) and the duration of IMF structural adjustment programs on human capital. None of the interaction terms are significant. Each model uses a different variable for domestic institutions: Model 1 uses Polity, Model 2 uses Checks and Balances, Model 3 uses Executive Constraints, Model 4 uses Economic Freedom, and Model 5 uses the Independence of the Judiciary.

Conclusion

At the moment, I find mixed support for my hypotheses. The mixed results could be the result of an artifact of the data, but future research should enable us to find further clarity. If the results are real and not an artifact of the data, then I have provided additional evidence to support the criticisms of the IMF structural adjustment programs. Structural adjustment programs in general have consistently negative, though small, effects on health and human capital development. As those programs linger, the effects remain and continue to be negative. As hypothesized, increasingly extractive colonial legacy institutions cause statistically significant and substantively large decreases in health and human capital development. Examining the joint effects of colonial institutions and neoliberal international programs shows that in places with better institutions, long term IMF programs decrease health development, while in places with worse institutions, long term IMF programs increase health development. There was no significant difference of IMF programs among different institutions on human capital development.

Situating my results in the literature, this seems to provide further evidence for the selection mechanisms proposed by Przeworski and Vreeland (2001). They find that states with good institutions and economic performance may self-select into unpopular IMF programs in

order to “pass the buck” to the IMF and maintain power. This allows the regime to enforce unpopular austerity measures while mitigating the risk of political backlash from their domestic population. In terms of policy, the IMF and other neoliberal institutions should take great pains to prevent places with good economic performance from abusing the system and undertaking adjustment programs. Such behavior by states can lead to increases in nationalism and the blaming of global forces for the actions of their own elected representatives.

Regarding future research, one thing missing from the literature at the moment is measures of compliance with the structural adjustment programs. While governments agree to undertake these reforms, many do not follow through at all or only follow through partially. It is difficult to say for certain whether the IMF deserves credit or blame for the impact of structural adjustment programs when we cannot accurately measure whether states are adhering to the programs.

In short, this research adds to the knowledge of scholars of development, international organizations, economics, and domestic institutions. By combining the ideas of leaders across multiple subfields, this article accomplishes several notable goals: first, it increases interdisciplinary or at least inter-field communication, contributing to the diversity of knowledge acquisition; second, it provides new avenues for future research regarding the interaction of IOs and domestic institutions; third, it provides an evaluation of policymaking, connecting scholarship to practitioners.

CHAPTER 5

Conclusion

This dissertation set out with one overarching goal, as well as several smaller ones. Primarily, this research set out to update the way scholars operationalize development, in order to "catch up" with the way policymakers discuss development. Chapter 1 and Chapter 2 argued that conceptualizations of development have moved beyond the way scholars often measure development in our research. Chapter 1 discussed the history of the concept and the way development has been measured in the past. Chapter 2 continued this discussion by narrowing in on why existing measures fall short, while also advocating for moving forward by using dynamic latent variables. Parts of the created indices from Chapter 2 succeeded at this goal, while others were unable to overcome limitations from the data. Still, I argue that this approach offers significant improvements over existing indicators. First, the Bayesian latent framework leads to less information loss caused by selecting a single observable indicator to measure development. Much like traditional factor analysis, the Bayesian approach allows for the incorporation of multiple indicators, which increases the reliability of the resulting operation, assuming the "good" indicators are selected. By increasing the number of indicators, the model provides a greater distinction between observations. Second, this method includes estimates of uncertainty allowing for at least a baseline of accountability for measurement error. So long as the additional indicators are not unnecessarily noisy, or do not suffer from excessive missingness themselves, the relative amount of uncertainty about the latent estimations are decreased. By using an appropriate statistical model, aggregating scores with this method does not add complications

common with additive indices (Trier and Jackman 2008). Third, this method allows for breaking down the concept of development into coherent sub-dimensions: environmental sustainability, economic growth and stability, health development, and human capital development. Both scholars and policymakers are often interested in one or more of the sub-dimensions, and use the term development to capture the concept they are referring to. This operationalization allows for greater clarity and should help prevent unnecessary conceptual stretching.

Additionally, this dissertation demonstrates the utility of the new measure by providing answers to questions which previously were unanswered. In Chapter 3, I turned my focus to the effects of labor rights on development. Chapter 3 shows that, all else being equal, states which respect labor rights in practice, enforcing legal protections for substantive labor rights, are more likely to have better health and human capital development. States wishing to improve their health and human capital developmental outcomes should increase their respect for labor rights. Given the large correlation between labor rights and future developmental outcomes, policy makers should pay special attention to the substantive labor rights in their country. A strong, stable labor force can increase FDI flows which in turn can improve production, both through direct infrastructure development and indirectly improving the safety health of their workers, which would then increase worker productivity. Finally, states should work to ensure that as many workers as possible are covered by these protections by working to minimize the size of their informal sector.

Next steps for the research undertaken in Chapter 3 are to enhance the theoretical contribution by expanding the discussion of distinguishing between respect in law and practice. I also intend to more directly test the theoretical mechanisms by breaking up the substantive rights index into its individual parts. The data from Barry, Cingranelli, and Clay also allows for a direct

comparison between the effects of substantive rights and union rights in law and practice, and such a comparison may provide further insight into how states should spend their limited resources. Additionally, since much of the theory rests on the link between labor, FDI, and development, I intend to test the differential effects of respect in law and practice on FDI and other forms of investment, perhaps through structural equation models.

In Chapter 4, I investigated the effects of neoliberal institutions, colonial institutions, and then focused on their joint effects. At the moment, I find mixed support for my hypotheses. Structural adjustment programs in general have consistently negative and substantively small effects on health and human capital development. As those programs linger, the effects remain and continue to be negative. Increasingly extractive colonial legacy institutions cause statistically significant and substantively large decreases in health and human capital development. Examining the joint effects of colonial institutions and neoliberal international programs shows that in places with better institutions, long term IMF programs decrease health development, while in places with worse institutions, long term IMF programs increase health development. There was no significant difference of IMF programs among different institutions on human capital development. This seems to provide further evidence for the selection mechanisms proposed by Przeworski and Vreeland (2001). They find that states with better institutions and economic performance may self-select into domestically unpopular IMF programs in order to play a two-level game, blaming the IMF for the unpopular conditions while reaping an unequal distribution of the benefits. This allows the regime to enforce unpopular austerity measures while mitigating the risk of political backlash from their domestic population. Further empirical tests would be necessary, but on a preliminary basis this research would suggest that the IMF and World Bank as well as other neoliberal institutions should take great pains to prevent places with

good economic performance from abusing the system and undertaking adjustment programs. States which perform well should be restricted from accessing lenders of last resort. Such behavior by states can lead to increases in nationalism and the blaming of global forces for the actions of their own elected representatives, ultimately harming the missions of those institutions.

While this dissertation successfully demonstrates the usefulness of the new measures, it by no means exhausts them. There are an abundance of research questions which remain unanswered. The literature still grapples with the question of whether regime type enhances development. This dissertation does not directly assess that question, though variables for regime type were included in many of the models. Given the endogenous nature of the relationship between regime type and development, advanced econometric techniques would be required. However, preliminary evidence from this research points to the direction that more democratic regimes are at least associated with better developmental outcomes. Further research could untangle causal mechanisms. Another additional research question deals with *compliance* with IMF and World Bank Structural Adjustment Programs. Many countries agree to such programs but very few fully comply with the conditions attached to their loans. Examining the heterogenous effects of compliance with such programs would allow for a more complete understanding of their effects on development.

Finally, though some of the indices reached their desired goals, others did not. Better data is necessary. However, the benefits of this approach vastly outweigh the limitations, and the limitations should be reduced significantly over time. As states improve their abilities to capture information related to the Sustainable Development Goals, better data will become available. The Sustainable Development Goals are still a relatively recent phenomena, having been agreed

to only in 2015 and the resulting agreement only entering in to force in 2016. Governments have had little time to develop the necessary bureaucratic effectiveness to collect and report data relevant to the agreement.

In conclusion, this dissertation offers scholars and policymakers a bridge forward in terms of how development is measured, how development is discussed, and how such measures can be used in evaluating the effectiveness of policy. The measures provided here, even though they are limited by bad data availability, represent an improvement over existing operationalizations of development. Furthermore, this dissertation promotes better policymaking through its assessment of labor rights and development. It is the first study to examine effects of labor rights on development cross-nationally, and offers a fairly comprehensive conclusion that increasing respect for both substantive and collective labor rights improves health and human capital developmental outcomes. This research also provides an answer to questions regarding the role of institutions on development. International institutions like the IMF may harm health and human capital outcomes when assessed on their own. Similarly, the degree of extractiveness of colonial legacy institutions impacts development: as the extractiveness of legacy institutions increase, health and human capital outcomes decrease. Given the strength of the instruments involved in the two stage least squares regression and the consistency of their effects across model specifications, Chapter 4 makes a compelling case that legacy institutions continue to cause maldevelopment today. In the final models of Chapter 4, I find compelling evidence that IMF Structural Adjustment Programs make health and human capital outcomes far worse in places with less extractive legacy institutions, and that more extractive legacy institutions condition the effects of those SAPs in ways that lead to more positive health and human capital

developmental outcomes. Overall, this dissertation has provided multiple meaningful contributions to both the policy community and the scholarly literature.

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Appendix:

Table A1: Correlation Matrix Between Sub-Dimensions and GDP

	Health	Human Capital	Economic	Environment	GDP PC
Health	1				
Human Capital	0.6649	1			
Economic	0.3383	0.2501	1		
Environment	0.5951	0.472	0.4415	1	
GDPPC	0.4538	0.2933	0.4609	0.292	1

Observations: 1,289