

THE PENNSYLVANIA STATE UNIVERSITY  
SCHREYER HONORS COLLEGE

DEPARTMENT OF POLITICAL SCIENCE

THE RELATIONSHIP BETWEEN DEMOCRATIZATION AND MAINTAINED ECONOMIC  
SUCCESS: AN EMPIRICAL ANALYSIS

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SPRING 2016

A thesis  
submitted in partial fulfillment  
of the requirements  
for baccalaureate degrees  
in International Politics and Economics  
with honors in International Politics

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## ABSTRACT

For decades, prominent democracies, including the United States, have encouraged—and in some cases even forced—democracy in other countries on the basis that it is the best solution for countries’ political and economic issues. Since the next few decades are a key time for currently developing countries to become significant forces in the world economy, many with non-democratic political systems, it is necessary to understand what the best course of action is to encourage domestic economic growth. Supporting economic growth in these countries is imperative for the future of the global economy. Using multivariate and simple linear regressions, this study examines the connection between degrees of democracy and maintained economic success. This study finds compelling evidence that the relationship between degree of democracy and economic success over time is insignificant. Alone, degree of democracy seems to have a negative impact on economic success, but the introduction of other variables decreases democratization’s impact. Though democracy is successful in wealthy countries, it may not be the answer for creating and maintaining economic success.

## TABLE OF CONTENTS

List of Tables .....	iv
Chapter 1 Introduction .....	1
Chapter 2 Literature Review .....	4
<i>Democracy Increases Economic Success</i> .....	5
<i>Non-Democratic Politics Increase Economic Success</i> .....	8
<i>Non-Political Aspects of Economic Success</i> .....	10
Chapter 3 Theory .....	16
Chapter 4 Analysis .....	20
<i>Data and Research Design</i> .....	20
<i>Dependent Variable</i> .....	25
<i>Independent Variable</i> .....	25
<i>Control Variables</i> .....	28
<i>Statistical Analysis and Results</i> .....	32
Chapter 5 Conclusion.....	49
BIBLIOGRAPHY .....	51

**LIST OF TABLES**

Table 1: Descriptive Statistics .....	23
Table 2: Effect of Combined Polity on Annual Percent Change in GDP Per Capita .....	34
Table 3: Effect of Revised Polity on Annual Percent Change in GDP Per Capita .....	35
Table 4: Effect of Recoded Freedom House Score on Annual Percent Change in GDP Per Capita	37
Table 5: Effect of Combined Polity on Annual Growth Rate of GDP Per Capita .....	41
Table 6: Effect of Revised Polity Score on Annual Growth Rate of GDP Per Capita .....	43
Table 7: Effect of Recoded Freedom House Score on Annual Growth Rate of GDP Per Capita	44

## **Chapter 1**

### **Introduction**

Democratization has become a prominent part of the modern world. Many of the wealthiest countries in the world are democratic, which has caused researchers to speculate whether or not a country's degree of democracy impacts its ability to succeed economically. There are several other variables that are correlated with economic growth and maintainable economic success. The presumed correlation between democratization and economic development could be explained by the variables that the two have in common. A correlation between degrees of democracy could be due to democracy yielding economic success, economic development yielding democratic reform, or third party variables having an impact on both. An existing correlation could even be biased, due to the economic success of countries that have been democratic for decades or centuries. This question is important because there is an overwhelming belief by most of the democratic modern world that a non-democratic countries as a whole do not produce thriving economies. It even appears to be proven in studies such as that of Acemoglu and Robinson (2000), which fuels the idea that autocratic leaders may fear loss of power, and therefore withhold industrialization, or improved technology, in an effort to maintain control. Such ideas advocate for democracies, while shutting out autocracies, as a source of economic development and growth. However, this may not always be the case.

Generally, bringing about political change—especially when creating a more democratic government—is more difficult than economic development, since any type of country will benefit from a successful economy. Authoritarian regimes have the power to force economic

development, in the cases that it would be particularly beneficial—and as long as the dictator is not cruel, the people do not generally rise up against him. In fact, Przeworski and Limongi (1997) find that dictatorships are helpful for generating development. In general, the findings from any analysis of the relationship between a particular political system and economic success are bound to be countered by all the ways in which that political system could fail. As such, it would seem that it is easier to focus directly on economic success, rather than using a certain political system to become successful.

Finding how degrees of democracy lead to different levels of economic success allows developing countries to have a solid path to follow in order to become a strong economic presence. It is plausible that by measuring and analyzing levels of democracy and economic success, a country with any given degree of democracy could know what would be necessary to be done in order to develop a thriving economy within its current political system. Having a thriving, successful global economy is reliant on individually successful economies. Thus, encouraging a method of maintainable economic success at the national level is imperative for less developed countries to create and maintain capable, stable, and successful economies, yielding domestic benefits as well as benefits to the global economy.

This paper will attempt to examine the relationship between degree of democracy and maintainable economic growth. Through research into past methods and hypotheses, this paper will attempt to give a more definitive answer to whether or not democratization is imperative for economic success. The purpose of this analysis is to determine the statistical significance of the relationship between degree of democracy and economic success, rather than looking at the direction of that relationship. It will explain the theory that any existing correlation between the degree of democracy and economic success is not actually significant. This view of democracy is

not to portray democratization as a negative thing, but to dissuade the idea that democratization is a cure-all for any social and economic problems in a country. While fully established democracies generally experience economic success, most of them developed in a very different time, and their path to economic success may not be the answer in the modern world. Likewise, within those countries, it is difficult to prove that increasing degrees of democracy yielded the economic success, rather than other factors. In light of the conflicting roles democracy is presumed to play in economic development, the literature suggests that the answer to developing successful economies may not lie in democratization.

## **Chapter 2**

### **Literature Review**

Democracy has become a popular political path for wealthy, modernized countries. As such, democratization is often considered the answer for countries' political and economic problems. States are pushed to modify their political systems drastically, even without the proper institutions in place, in hopes of improving the country as a whole. A country's success is measured more so by its political system than by the economy's ability to sustain its citizens and interact as part of the global economy. Due to democratization's varied impact on the countries that experience it, there is a sizeable amount of literature on the subject. However, there is no consensus between scholars on whether or not democracy has a positive impact on a country's economic success.

Many scholars have studied whether or not a relationship between democracy and economic development exists. This research addresses the question by posing three logical alternatives: democracy aids economic development, democracy hinders economic development, or there is no effect of democracy on economic development. While certain sources provided a broad overview to allow for the development of a theory, other sources provided more specific data through qualitative research on specific countries or regions.



## *Democracy Increases Economic Success*

*Political Regimes and Economic Growth*, an article by Przeworski and Limongi (1993), provides arguments in favor of democracy as a mechanism for economic growth—summarizing studies that include political regime as a determinant of growth. Przeworski and Limongi compared research from 18 different authors, with varying numbers and types of countries, over various time frames, and summarizing the 12 findings on whether democracies grew faster, autocracies grew faster, or there was no difference. The purpose behind this is the idea that “while everyone seems to agree that secure property rights foster growth, it is controversial whether democracies or dictatorships better secure these rights” (Przeworski & Limongi, 1993: p. 51). The authors found eight articles in favor of democracy, eight in favor of autocracy, and five that were indifferent towards democracy. Therefore, the authors concede, “we do not know whether democracy fosters or hinders economic growth” Przeworski & Limongi, 1993: p. 64). They encourage these results to yield further research. The ending is left very open-ended; and the information in the article gives me one good start with which to develop a thesis. This contributes to the area of research because it provides an analytical overview of some of the research that had been done at the time the article was published. It differs from my paper in that it aims to support the hypothesis that democracy promotes economic growth, while my goal is to prove that democracy does not impact economic growth.

Rodrik and Wacziarg (2005) strive to prove the opposite hypothesis in their article, *Do Democratic Transitions Produce Bad Economic Outcomes*, yet end up supporting democracy as a means of economic growth. The authors utilize annual frequency data to examine the within-country effects of democratization on economic growth—including time and country fixed effects. They control for other regime transitions, and check how the patterns differ in various

subsamples (Rodrik & Wacziarg, 2005: p. 50). Rodrik and Wacziarg analyze 154 countries, using Polity IV to define regime transitions, and Penn World Tables as the source for fixed effects regressions and growth data. Their hypothesis is that democratization is followed by bad economic performance—especially in poor, fractionalized countries. When analyzed, at first neither democratic transitions nor the comparison between new and established democracies are statistically significant. Then, the dummy control variables New Democracy, Established Democracy, New Autocracy, Established Autocracy, State Failure, and Small Regime Change are introduced. After the introduction of these dummy variables, the data shows that new democracies grow 0.87 percentage points faster than countries without regime changes, and any small changes in regime are associated with higher growth. Therefore, there is “no support for the claim that democratic transitions bring about adverse economic consequence” (Rodrik & Wacziarg, 2005: p. 52). In the average country described in the sample, democratization came at no cost in terms of growth—with likely benefits of a short-run boost in growth and decreased economic volatility. The article makes a case for democratization as a possible aid in economic growth of developing countries—as well as introducing the measurements in Polity IV and the importance of control variables in analyzing a variable’s influence.

In further support that policies of political regimes may affect the economy, Acemoglu and Robinson (2000) used a reduced-form static model with three groups of agents and two goods to illustrate their main points. This model provides “an interesting interpretation of the attitudes of the landed aristocracy to the rise of capitalism in 19th-century Europe” (Acemoglu & Robinson, 2000: p. 128). Their article, *Political Losers as a Barrier to Economic Development*, looks into how failures within a country’s institutions—thus leading to the failure of a country’s ability to adopt the best technologies—affect economic development. The authors’ findings

implied that industrialization was withheld in some countries due to its threat upon the political power, rather than in an attempt to thwart economic development. The withholding of national improvements that could yield economic success—whether intentionally thwarting economic development or unintentionally—is a fatal flaw in the relationship between autocracy and economic success. A dictator who puts power over national improvements is a hindrance to economic success. In this case, more democratic countries have the advantage in experiencing economic success. This is an interesting aspect of the government's involvement in the development of its economy, and how varying levels of democracy may actually advance or impede upon the success of a country's economy. In democratic countries, citizens generally have a say in policies—particularly regarding institutions—while most autocratic countries decide on policies solely based on the leader(s).

*New Evidence on the Relationship Between Democracy and Economic Growth* attempts to delve further into the study of how democratic institutions impact economic success. De Haan and Siermann utilize a cross-sectional study—measuring countries as democratic, semi-democratic, authoritarian, or transitional regimes for 110 countries and including explanatory variables (De Haan & Siermann, 1995: p. 187). The article looks into the connection between political and civil liberties and economic development, taking into account income, investment share, and secondary school enrollment rate. In the analysis, economic growth is measured by average growth rate of GDP per capita (De Haan & Siermann, 1995: p. 188). Overall, the findings support the implication that “when a country seeks a high level of economic growth, it is not appropriate to adopt a policy in which democratic rights are repressed” (De Haan & Siermann, 1995: p. 193). As such, autocratic countries that repress democratic rights would presumably have a lower level of economic growth than their democratic counterparts that are

less repressive. This analysis supports the idea that increased democracy could have a positive effect on economic growth, rather than no significant effect.

### ***Non-Democratic Politics Increase Economic Success***

*Modernization: Theories and Facts*, an article by Przeworski and Limongi (1997), argues against democracy as a determinant of economic success. The article's findings are based upon "135 countries between roughly 1950 and 1990" (Przeworski & Limongi, 1997: p. 159). Through analyzing a large number of countries and expanse of years, the article provides a relatively inclusive empirical study with many observations. In this analysis, growth rates are expressed in constant US dollars at purchasing power parities in 1985 prices; income is measured as gross national income per capita; and regimes are classified by Mike Alvarez et al.'s "Classifying Political Regimes" (Przeworski & Limongi, 1997: p. 159). National income is used to further compare the success of dictatorships and democracies. In this analysis, it appears that the ideal institutions that could make a difference do not seem to exist under any type of political system. The authors conclude after extensive research that whether democracy hinders or fosters growth is unknown, and more research must be done. However, the authors conclude, "dictatorships are needed to generate development" (Przeworski & Limongi, 1997: p. 177). The ending of this analysis is left very open-ended, which encourages further research in order to solidify whether or not democracy is a determinant of economic success.

In 2000, Przeworski and Limongi published *Democracy and Development* with Alvarez and Cheibub—furthering their 1997 analysis of politics and economic success. This book delves into the complexity of political regimes and economic development in their relationship to the

government. The authors utilize “historical observations of 141 countries between 1950 (or the year of independence) and 1990” for regime classification (Przeworski, Alvarez, Cheibub & Limongi, 2000: p. 14). The authors look into the specific effects of political regimes on the country’s success, as measured by material well-being, carefully explaining each step in their process and the way in which they determine each variable. The analysis measures levels of economic development by per capita income (Przeworski et al., 2000: p. 92). Also, regimes are classified as democracies, mobilizing dictatorships, or dictatorships for the purpose of this study (Przeworski et al., 2000: p. 296).

Przeworski et al.’s (2000) analysis revealed that the appeal of a strong government could be argued as a factor that leads to economic development and success. This brings the necessity of democracy for a thriving economy into question. Plus, the book addresses that “twenty dictatorships (to remind, out of 123) did develop over longer periods of time” (Przeworski et al., 2000: p. 94). These 20 dictatorships reached the level of development where democracy was expected and surpassing it. The existence of these 20 dictatorships, as well as the appeal of strong government in this analysis, fuels the idea that non-democratic political approaches may increase a country’s likelihood of economic success. The method of a historical analysis of a large number of countries inspired my method of research, and their data cut off in 1990 provided a good time period for my research to pick up and carry into present day. However, allowing for only three options when measuring the degrees of democracy is somewhat limiting, which may impact the results.

### *Non-Political Aspects of Economic Success*

Both of the sources in favor of non-democratic political influence on economic success also include a possibility that politics has nothing to do with economic success. In *Modernization: Theories and Facts*, Przeworski and Limongi also argue “politics in general does not affect growth” (Przeworski and Limongi, 1997, p. 15). The authors find that the ideal institutions that could make a difference in economic success do not seem to exist under any type of political system. Though this does not provide much of a starting ground by way of determinants of economic success, it does encourage research into non-political determinants. Likewise, in *Democracy and Development*, Przeworski et al. (2000) explore the idea that political participation and democracy may be more limited in the development of the economy. The authors argue that political systems may not be as important, since—in this analysis—success is determined by material well-being. Such well-being is not only determined by political liberties, but also by the benefits from income, health, and education. Thus, as long as the government can provide citizens with these comforts, the economy can thrive, and high levels of democracy are not necessary.

In their article, *Reassessing the Links Between Regime Type and Economic Performance: Why Some Authoritarian Regimes Show Stable Growth and Others Do Not*, Chandra and Rudra utilize cross-national time series data for developing countries from 1960-2000 (Chandra & Rudra, 2013: p. 269). Their analysis implements the standard control variables: GDP per capita, primary enrollment, openness (measured as the logged sum of imports exports as a percentage of GDP), sectoral diversity, civil war, and fuel exports. Additionally, political participation is measured using Polity IV. The article examined why some authoritarian regimes can do as well as democracies, even with changing leadership. The theory is that economic growth and success

is impacted by allowance “non-institutional forms” of public deliberation rather than regime type (Chandra & Rudra, 2013: p. 263). Their findings suggest that increased public deliberation in most regimes guarantees more stable rates of economic growth than that of their counterparts. “More specifically, the negotiation process, coupled with the implicit caution of policy-makers while setting agendas, prohibits policy makers from implementing uninformed and untried economic policies likely to result in volatility” (Chandra & Rudra, 2013: p. 280). This analysis supported the idea that democracy may not be a determining factor of economic success, as well as providing variables that could control for possible differences in the influence of varying degrees of democracy on economic success.

Edwards’ 1992 article analyzes the relationship between trade policy and growth, leaving out politics as a whole. *Trade Orientation, Distortions and Growth in Developing Countries* used a cross-sectional analysis of 30 developing countries on the average of the measure of variables from 1970-1982 (Edwards, 1992: p. 38). This analysis used basic OLS regressions and measured growth as the growth rate of real GDP per capita. In addition, measures of knowledge, investment, openness, and intervention were included (Edwards, 1992: p. 39). The goal of Edwards’ analysis was to find whether or not trade orientation was related to economic performance. Findings showed that the two are strongly related, and countries with lower income per capita grow more quickly (Edwards, 1992: p. 54). Once again, the inclusion of a country’s level of development as measured by income proves to be important in comparing countries’ growth rates. The article also introduces trade as a potentially important factor of economic success in any country, regardless of politics.

Marsh (1988) analyzes the effects of a few separate variables on economic success in *Sociological Explanations of Economic Growth*. This article uses a sample of 55 less developed

countries over two time periods—1965-1984 and 1970-1978 (Marsh, 1988: p. 41). The goal of this analysis is to find the causes of economic growth—which is measured by growth rates in GNP per capita in constant prices. In this analysis, the authors control for a country's level of economic development and gross domestic investment. Plus, hypotheses are created for multiple influences on development, including the importance of human capital through investment in schooling and literacy—measured as the percentage of the population older than 15 who could read and write. Using multiple regression analysis, the author shows that the variables with the strongest effect on economic growth rates are foreign direct investment (FDI), share of the population in the military, and the primary school enrollment ratio. Marsh (1988) clarifies that looking at certain theories doesn't consider alternatives. That being said, in this analysis, FDI has negative effects on growth and increased military service positively impacts economic growth. Regarding primary school enrollment, there is a significant positive effect during 1965-1984, but not during 1970-1978. This alludes to omitted variables causing the relationship between primary school enrollment and economic success (Marsh, 1988: p. 66). Similar to Edwards' (1992) article, Marsh (1988) does not account for differences in degrees of democracy, thus ignoring any impact it may have. Additionally, the singular interest in less developed countries fails to analyze the impact of these variables in countries that have already achieved economic success, both in the past and present.

Mehlum, Moene and Ragnar (2006) also have a more targeted focus in their analysis. Their article, *Institutions and the Resource Curse*, is based upon an empirical analysis of 42 countries with more than 10% of their GDP growth as resource exports, specifically looking at their annual economic growth. The purpose of this analysis is to explain why certain resource rich countries grow slower while others are top growth countries by analyzing their institutional



arrangements (Mehlum et al., 2006: p. 1). In this analysis, the institutions are measured and compared as producer friendly and grabber friendly institutions (Mehlum et al., 2006: p. 3). The theoretical part of the article explains the allocation of entrepreneurs between production—producer friendly institutions—and unproductive rent extraction—grabber friendly institutions (Mehlum et al., 2006: p. 4). As such, institutions are measured as either producer friendly or grabber friendly, and then further split within those distinctions as strong or weak institutions. The findings support that “the quality of institutions determines whether countries avoid the resource curse or not,” and resource rich countries with strong producer friendly institutions are more successful (Mehlum et al., 2006: p. 16). This article not only clarifies the importance of whether or not a country is rich in resources in its economic success, but also the type of institutions within that country.

Within the article *Geopolitics and the Effect of Foreign Aid on Economic Growth: 1970-2001*, Headey debates the importance of foreign aid in growth. Specifically, the article analyzes whether or not foreign aid—measured both as multilateral and bilateral aid—is an effective means of increasing economic growth rates in developing countries. Headey (2008) particularly distinguishes this article in the analysis of the difference between the effects of aid during and after the Cold War (Headey, 2008: p. 162). The concept of variables influencing success differently during and after the Cold War is interesting, particularly for this paper, which focuses on the post-Cold War era. The analysis uses a panel “consisting of consecutive four year periods from 1970-1973 to 1998-2001 with most variables averaged over the 4 years” in 56 developing countries (Headey, 2008: p. 165). The influence of aid on economic success was different between multilateral and bilateral aid. Findings clarified that multilateral aid is consistently effective in promoting growth, while bilateral aid has been more effective after the Cold War

than it was during it due to a “Cold War effect” (Headey, 2008: p. 174). Though this analysis only included developing countries, it encouraged the idea that modern influences on economic growth, in the post-Cold War era, may even differ as a whole. This idea could be expanded upon in future research.

Minoiu and Reddy (2009) build upon the ideas introduced by Headey (2008). In the article *Development Aid and Economic Growth: A Positive Long-Run Correlation*, Minoiu and Reddy continue Headey’s (2008) research on the effect of multilateral and bilateral aid on growth. The authors “estimate a standard cross-country growth-aid model in a sample of developing countries over 1960–2000. The aid variable is defined as grants plus net loans with a grant element higher than 25 percent” (Minoiu & Reddy, 2009: p. 30). The variable growth is defined as the average growth rate of GDP per capita. Plus, the analysis includes literacy level, income-group classification, and institutional quality. The authors also include the control variables: life expectancy, geography, level of government consumption, social unrest, and terms of trade. Overall, the findings support that “in cross-country regressions, an increase in average bilateral aid from Scandinavian countries by 1 percentage point of GDP over 1960–1990 is associated with average per capita GDP growth rates in the 1990s that are higher by 1.2–1.3 percentage points. The effect is slightly smaller when bilateral aid from a larger number of donor countries is used as a proxy for developmental aid” which is confirmed by panel regressions (Minoiu & Reddy, 2009: p. 37). Once again, bilateral aid in particular has an interesting and notable impact on economic success.

The aforementioned research demonstrates that there are a multitude of ideas about whether or not there is a relationship between democratization and economic success. Further research is needed to determine whether or not the singular act of becoming more democratic can

make a country more economically successful, *ceteris paribus*. Even if there is a relationship between democracy and economic success, researchers tend to disagree on which way the causation would run—whether democracy causes economic development and success, or vice versa. The question remains: does democracy have any impact on a country's economic success? Is it the key to economic development and the answer to countries' economic problems?

## Chapter 3

### Theory

This study considers and analyzes whether or not the level of democracy a country has influences its ability to maintain economic success. The argument made is that a country's level of democracy is not significant in developing and maintaining economic success. A country's degree of democracy can theoretically be considered a measurement of the political institutions in the country, the involvement of the citizens, and/or the distribution of power among those leading the country. However, it could also be as simple as the freedoms that exist in any given country. For the purpose of this paper, degrees of democracy are considered to be a scale rating the openness and involvement of the governments within a country comparable to other governments. Similar to the outlook of De Haan and Siermann (1995) in *New Evidence on the Relationship Between Democracy and Economic Growth*, this analysis measures degrees of democracy in particular through political and civil liberties.

In this case, some may measure democracy more strictly—with specific expectations of political institutions alone. For the purpose of this analysis, I am not interested in the political systems involved, but rather the government's relationship with its citizens, freedom, and fairness as the make-up of democracy. Additionally, some may have coded Democracy as a dummy variable, where a country either has the option of being a democracy or not being a democracy, with no middle ground. A way that I have seen other analyses code for degrees of democracy—sometimes even using similar measures to those that as I am using—is with range variables for democracy, autocracy, and anocracies. Though slightly less limiting than the

singular dummy variable, these still would not have caught all of the mid-range countries that I wanted to catch in my analysis.

With the wide variation of development globally, especially in present-day, the options for degree of democracy do not just fall into black and white categories. As such, plenty of countries who do not have the stereotypical democratic systems try to force democracy to fit, regardless of whether or not their country can support democratic institutions. These scattered democratic ideals leave a range of democracy from fully autocratic to wholly democratic, with plenty of countries existing in the limbo between autocracy and democracy.

Following the difficulty of pinning down only one definition of democracy—the definition of maintainable economic success is often also open to interpretation. Economic success is theoretically cultivated through improvements made in the economy, and this success would be considered maintainable if it is sustained over time. The definition of economic success is so broad that it could truly vary from person to person. In this analysis, the theoretical definition of maintainable economic success is a country's ability to develop and sustain a growth rate that is greater than zero. Some may measure economic success simply as how much money a country has. However, this analysis operates under the assumption that how much money a country has does not come close to describing the success of its economy. One could measure economic success as strong economic policies and institutions, but these measures may be more advanced than some of the beginning to succeed economies would register on. Plus, systems change between countries, and different methods may work for different countries.

The measure of gross domestic product per capita is slightly more specific, accounting for the size of the population of the country in coordination with some measure of the money circulating within the economy. However, the measure of annual percent change in GDP per

capita allows you to see—annually—whether a country is bringing in more money per person or less compared to the previous year. In general, it would make sense for a country to strive for the percent change to be at least zero, if not better. The mild problem with this measure is that highly developed countries have slowed growth rates annually, and may even experience slight drops in the value. However, for the purpose of this analysis, maintained economic success will be defined as the annual percent change in GDP per capita.

*H1: A country's degree of democracy has no significant impact on its ability to create and maintain economic success.*

Some studies—such as those of Przeworski and Limongi (1997) and Mehlum, Moene and Ragnar (2006)—argue that institutional improvements in a country can improve an economy—regardless of its political system. Others, such as Marsh (1988), make arguments for improved human capital and social development. Authors like De Haan and Siermann (1995) attempt to prove that democracy and freedom are entirely significant and necessary for economic success. Meanwhile, authors like Przeworski et al. (2000) recognize that strong non-democratic governments may have an edge in encouraging and developing economic success. Still other researchers speculate that anything from increased involvement in trade—as analyzed by Edwards (1992)—to improvements in public deliberation—researched by Chandra and Rudra (2013)—are the answer to any developing country's economic troubles. In this analysis, I will simply try to answer the question of whether democracy is significant or insignificant, to help put that issue to rest. Conflicting research makes finding an answer difficult, and it is difficult to pin point exactly what causes some economies to thrive while others quickly fail. The purpose of this analysis is to provide an empirical test of the existing theories to see which one is supported by empirical evidence.

The model being tested will look at the influence of any given country's degree of democracy—as considered above—alone on maintained economic success, and then see if the influence is changed once control variables are added in to create a more fair assessment. My method will use one simple linear regression and one multivariate regression. All regressions and analyses will be conducted in Stata 14.1, defining statistical significance as at least 95% confidence in the estimated correlation. The goal of the model is to provide a starting point for future research—both through the significance or lack thereof—of degree of democracy on maintained economic success. Control variables that aim to address different aspects of economies will be used as well.

## Chapter 4

### Analysis

This analysis first establishes the data being analyzed and the research design, and then explains the operationalization of the dependent variable, independent variable, and control variables. Following, the tables from the statistical analyses are displayed and analyzed.

#### *Data and Research Design*

Throughout my examination, my unit of analysis is country-year for 214 countries—every country with accessible data from the World Bank—in order to have a range of economically unsuccessful and successful countries. I am analyzing these 214 countries over the time period from 1993-2014. Since this is time-series data, I added lags of the two measurements of the independent variable—degrees of democracy—in order to analyze the relationship between current economic success and both past and present degrees of democracy. These lags are done to account for the possible influence of past democratization on economic development and success.

Headey's (2008) results in *Geopolitics and the Effect of Foreign Aid on Economic Growth: 1970-2001*—showing that variables may have different influences on growth during and after the Cold War—inspired the focus of this analysis on the post-Cold War era. Since neighboring Eastern-Central European countries may have felt the effects of the Cold War as well, the year 1993 was used to begin with all of these countries as independent. Yugoslavia dissolved in 1990, the Soviet Union dissolved in December 1991, and Czechoslovakia dissolved into the Czech Republic and Slovakia at the beginning of 1993. This analysis is not focused on



East Central Europe, but the countries that make up the area experienced relative liberalization in a short period of time—as seen through their Polity IV scores and Freedom House Scores.

Therefore, starting my research with 1993 allows the most consistency between countries, as well as providing information on the newly created countries that had spent the previous several decades as communist states.

For any country created after 1993, the data until their first year created is considered missing. Countries' polity scores were included for every available year based on the data from the Polity IV Project, since the main measure of degrees of democracy in this analysis is taken from Polity IV. Based on the measures of these variables, the analysis—as described in the tables below—uses simple linear regressions to assess the relationship between the independent variable of degrees of democracy and the dependent variable of maintained economic success. Following this are multivariate regressions to assess any change in that relationship that may occur with the addition of the control variables, such as: natural resource wealth, industrialization, life expectancy, literacy rate, international trade, foreign bilateral aid, foreign direct investment, and dummy variables to measure a country's level of development any given year. These control variables are introduced to evaluate whether or not they alter the significance of a country's polity score on maintainable economic success. In addition to these variables, interaction variables between level of development and degrees of democracy are utilized. These interaction variables are added because it is plausible that countries with higher levels of development and degrees of democracy have slower economic growth because they have already developed, and an interaction variable would help account for that relationship.

“Table 1: Descriptive Statistics,” on the following page contains a univariate analysis of every independent, dependent, and control variable utilized in the analysis, providing the

variable name, total number of observations, mean value, standard deviation, and the variables' minimum and maximum values. This is an overview of the variables that will be applied in my regressions.

**Table 1: Descriptive Statistics**

<b>Variable</b>	<b>Observations</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Minimum</b>	<b>Maximum</b>
Annual GDP Per Capita Growth (%)	4,221	2.352243	6.26921	-62.21435	141.6418
Annual Change in GDP Per Capita (%)	3,839	4.583351	6.479563	-61.43422	145.7776
Combined Polity Score (Polity IV)	3,407	3.361315	6.634007	-10	10
Revised Polity Score (Polity IV)	3,505	3.289872	6.562909	-10	10
Combined Political Rights and Civil Liberties Score (Recoded Freedom House)	4,181	7.148529	3.975967	0	12
Lagged Combined Polity Score (Polity IV)	3,407	3.361315	6.634007	-10	10
Lagged Revised Polity Score (Polity IV)	3,505	3.289872	6.562909	-10	10
Lagged Combined Political Rights and Civil Liberties Score (Recoded Freedom House)	4,181	7.148529	3.975967	0	12
Natural Resource Rich (Dummy Variable)	4,708	.2943925	.4558176	0	1
Manufacturing as a Percentage of the GDP (%)	3,621	13.72932	7.732358	.2370618	47.34367
Life Expectancy	4,190	68.06737	9.856722	27.0789	83.83171
Literacy Rate (%)	502	80.76078	20.7332	10.89465	99.99826
International Trade (%)	3,982	88.68516	52.5786	.0209992	531.7374
Foreign Bilateral Aid (Natural Log)	3,394	18.5603	1.754472	1.754472	23.81557
Foreign Direct Investment (Natural Log)	306	21.65763	21.65763	8.553061	26.14096
Middle Income Economy (Dummy Variable)	3,937	.5958852	.4907822	0	1
High Income Economy (Dummy Variable)	3,937	.3195326	.4663548	0	1
Interaction Between Polity and Middle Income (Polity IV * Dummy Variable)	3,202	1.654591	4.904332	-10	10
Interaction Between Polity and High Income (Polity IV * Dummy Variable)	3,202	1.987196	4.751838	-10	10
Interaction Between Revised Polity and Middle Income (Polity IV * Dummy Variable)	3,268	1.638617	4.865759	-10	10

Interaction Between Revised Polity and High Income (Polity IV * Dummy Variable)	3,268	1.947062	4.711897	-10	10
Interaction Between Recoded Freedom House and Middle Income (Recoded Freedom House * Dummy Variable)	3,816	3.98978	4.222905	0	12
Interaction Between Recoded Freedom House and High Income (Recoded Freedom House * Dummy Variable)	3,816	2.911426	4.827294	0	12
Interaction Between Lagged Polity and Middle Income (Polity IV * Dummy Variable)	3,187	1.629118	4.911637	-10	10
Interaction Between Lagged Polity and High Income (Polity IV * Dummy Variable)	3,187	1.97835	4.743963	-10	10
Interaction Between Lagged Revised Polity and Middle Income (Polity IV * Dummy Variable)	3,253	1.613895	4.872578	-10	10
Interaction Between Lagged Revised Polity and High Income (Polity IV * Dummy Variable)	3,253	1.938211	4.703855	-10	10
Interaction Between Lagged Recoded Freedom House and Middle Income (Recoded Freedom House * Dummy Variable)	3,801	3.980531	4.226812	0	12
Interaction Between Lagged Recoded Freedom House and High Income (Recoded Freedom House * Dummy Variable)	3,801	2.903446	4.810667	0	12

### ***Dependent Variable***

In this analysis, there is only one dependent variable, which is identified as maintainable economic success. This analysis measures maintainable economic success in two different ways in an effort to provide more robust results. The first measure of maintainable economic success is the positive annual percent change in gross domestic product (GDP) per capita. In this measurement, the value of GDP per capita is “converted to international dollars using purchasing power parity rates” based on the 2011 ICP round (World Bank, 2015). As a robustness check, maintainable economic success was also measured as the annual growth rate of GDP per capita. For this measurement of success, GDP per capita is “based on constant local currency” with aggregates in 2005 US dollars (World Bank, 2015). Both definitions of maintainable economic success measure how a country’s GDP per capita changes annually. By using GDP per capita, rather than just GDP, the measurement accounts for the large variation in population size that occurs when countries of varying populations and wealth are compared to each other—since GDP is divided by a country’s midyear population. The measurement of GDP per capita based on purchasing power parity (PPP) is more accurate and inclusive between countries than the measure based on US dollars.

### ***Independent Variable***

For the purpose of this analysis, the variable degrees of democracy is defined in three ways in order to check for robustness. The first measure of degrees of democracy is Marshall and

Jagers' (2014) Combined Polity Score. This score is computed by subtracting a country's autocratic score on a scale of 1 to 10 from a country's democratic score on a scale of 1 to 10. According to the Polity IV Project: Dataset Users' Manual v2013, a score of +10 describes a full democracy, and a score of -10 describes a full autocracy. "Democracy is conceived as three essential, interdependent elements"—the presence of institutions, the existence of institutional constraints, and the guarantee of civil liberties (Marshall, Gurr & Jagers, 2014: p. 14). Marshall et al. define autocracy in terms of the "presence of a distinctive set of characteristics"—essentially that which is not a democracy (Marshall et al., 2014: p. 15).

The second measure of degrees of democracy is the revised combined Polity IV scores published annually by Marshall and Jagers (2014). According to the Dataset Users' Guide, "this variable is a modified version of the polity variable added in order to facilitate the use of the polity regime measure in time-series analyses" (Marshall et al., 2014: p. 17). These revised scores are computed the same way as the Combined Polity Score, but with minor revisions regarding outlier variables, such as those that code for periods without a definitive government. I used the Polity IV Project's Revised Combined Polity Score because it modifies the combined annual Polity score by fixing the scores of -66, -77, and -88 to polity scores that fall within the range of -10 to +10.

The Revised Combined Polity Score is specifically recoded in order to decrease the number of missing observations and improve the accuracy of the score—which is what makes it more useful in time-series analyses. Rather than neglecting all values less than -10, making -66, -77, and -88 understood as missing data, the revised Polity IV score allows each value to be specific to its situation without skewing the data. Plus, the revised scores have a more tangible value that can be understood as a degree of democracy. Instead of having all three values become

missing observations, only -66 is coded as missing. The Polity IV Project: Dataset Users' Manual v2013 explains what changes were made to the Combined Polity Score. Cases formerly identified as “interruption” periods—a country’s occupation by foreign powers—through the number -66 in the original Polity score is now coded as missing data. Cases formerly identified as “interregnum” periods—those with a collapse of central authority—through the number -77 in the original Polity score are now coded as a neutral score of 0.

Cases formerly identified as “transition” periods through the number -88 in the original polity score are now prorated through the intervening years at a constant annual rate. This is done by splitting up whatever the increase or decrease was from the previous defined polity score to the next defined polity score over the years involved in the transition (Marshall et al., 2014: p. 17). For example, Burundi had four years of transition periods from 2001 to 2004 where its polity score was -88. The score in 2000—before the transition periods—was -1 and the score in 2005—after the transition periods—was 6. The increase of 7 polity points is distributed among the transition years, presumably because the government did not become much more democratic all at once. Therefore, the polity scores are revised to: -1 in 2000; 0 in 2001; 2 in 2002; 3 in 2003; 5 in 2004; and finally reaching 6 in 2005 (Marshall & Jagers, 2014). By using this revised score, the analysis can provide a more accurate depiction of the degree of democracy, since there would not be as many values outside of the -10 to 10 scale that are considered missing observations.

The last measure of degree of democracy is a recoded sum of the two main measures of the Freedom House 2016 Scores. The sum was used instead of the aggregate score to better cater to the definition of democracy in this paper—a measure of citizen involvement and political equality. Freedom House Data measures political rights and civil liberties on a scale of 1 to 7—

with 1 representing most free and 7 representing the least free rating (Puddington & Roylance, 2016: p. 21). As such, the sum of these measures ranges from 2 to 14—with 2 being the most free and 14 being the least free. These political rights and civil liberties scores are based on a country's total scores for the questions pertaining to those topics, as scored on 10 political rights indicators and 15 civil liberty indicators (Freedom in the World, 2015). Since polity scores are measured with lower scores measuring the least free—or most autocratic—countries, and high scores measuring the most free—or most democratic—countries, the sums were recoded in order to remain consistent. For the purpose of this analysis, the Recoded Freedom House scores range from 0 to 12—with 0 being the least free and 12 being the freest. The Freedom House (2015) measure is a less direct measure of democracy, but it captures the idea in a way that allows for the measure to be a robustness check.

In addition to these three measures of the degrees of democracy, there is a lag on degrees of democracy built into the model. The recoded Combined Polity Score, Revised Polity Score, and Recoded Freedom House scores were each lagged by one year. No further lags were included in order to keep the measures relatively recent. These lags on the independent variable are meant to account for the possibility that change in democratization from the previous year could affect present economic success, since the influence does not necessarily have to occur simultaneously.

### ***Control Variables***

Due to the nature of my theory and hypothesis, this analysis has many control variables in order to clarify the relationship between maintainable economic success and degrees of



democracy. Mehlum, Moene and Ragnar (2006) focused on how countries with large share of resource exports experience economic success or a natural resource “curse.” The resource curse alleges “that natural resource abundance is harmful for economic development” (Mehlum et al., 2006: p. 12). The article also claims that “with more producer friendly institutions, the resource rich country B outperforms the resource poor country A” (Mehlum et al., 2006: p. 12). The possibility that wealth of natural resources could influence economic success makes natural resource wealth a good control variable for this analysis. First, I defined whether or not a country was rich in natural resources by the potential inflation of economic success due to a large quantity of a particular natural resource in that country. Using a dummy variable, countries identified as resource rich in Appendix 1. Table 1. “Countries Rich in Non-Renewable Natural Resources included in the Analysis,” were set equal to one (Microeconomic Policy Frameworks, 2012: p. 48). All other countries that were not considered resource rich were set equal to zero. This is because prominence of natural resources would presumably promote economic success regardless of the country’s political stability.

Second, in *Political Losers as a Barrier to Economic Development*, Acemoglu and Robinson look into the relationship between withholding industrialization and the negative impact that may have on economic development. If a country’s leaders feel threatened by the changes involved in industrialization, they may avoid it as a threat to their power (Acemoglu & Robinson, 2000: p. 129). Industrializing may impact economic success, the rise of manufacturing is tied to industrialization, and more industrialized countries have an advantage in manufacturing (Acemoglu & Robinson, 2000: p. 129). Therefore, the control variable, industrialization, is defined through the proxy—percentage of the GDP made up by manufacturing. This variable measures the value added of manufacturing—as the net output of a sector—as a percentage of

the GDP (World Bank, 2015). This variable accounts for whether a country's economy is more agriculture-based, or manufacturing based.

Minoiu and Reddy's (2009) analysis of economic growth utilized life expectancy as one of its control variables throughout its empirical study. In this analysis, life expectancy is also utilized as a control variable, and is measured through the World Bank's data on life expectancy at birth in total years (World Bank, 2015). In *Development Aid and Economic Growth*, Minoiu and Reddy also used literacy rate as a control variable. The use of literacy rate, or some other measure of human capital, seems to be consistent within most of the analyses on economic development and success. In particular, Marsh (1988) analyzes the possible importance of human capital through investment in schooling and literacy as a cause of economic growth. In *Sociological Explanations of Economic Growth*, Marsh utilizes the percent of the population over 15 years old who can read and write as the measure of literacy. As such, I followed suit and included literacy rate as one of the control variables in this analysis. Literacy rate is measured by the World Bank's literacy rate as a percentage of people 15 years and older who "can both read and write with understanding a short simple statement about their everyday life" (World Bank, 2015).

Trade is often included as another measure in analyses of economic success. In particular, Edwards (1992) focused on the importance of trade in developing countries as a possible source of economic growth. The findings support that trade orientation and economic performance are strongly related (Edwards, 1992: p. 54). In this analysis, the control variable of international trade is measured by "the sum of exports and imports of goods and services measured as a share of gross domestic product" (World Bank, 2015). This control variables strives to capture a country's involvement in trade with other countries. Foreign bilateral aid is also included as a

control variable in this analysis. For the purpose of this paper, foreign bilateral trade is measured through the World Bank's measure of total net bilateral aid flows in current US dollars. Both Headey (2008) and Minoiu and Reddy (2009) delve into the importance of bilateral trade for economic success in their respective articles. Findings show that bilateral aid has been particularly effective in the post-Cold War era, which makes it a reasonable control for this time-series analysis of countries since 1993 (Headey, 2008: p. 174). While bilateral aid positively impacts growth, Marsh (1988) finds that foreign direct investment (FDI) actually has a negative effect on growth. This is an interesting finding, and it does imply a connection between FDI and economic success—or lack thereof—so it was included in this analysis as a control variable. For this analysis, FDI is measured as the net balance of payments in current US dollars (World Bank, 2015).

Finally, several authors include level of economic development in their analyses, particularly through income classification. Minoiu and Reddy (2009) include income-group classification in their analysis of economic growth. In *Democracy and Development*, levels of economic development are measured by per capita income (Przeworski et al., 2000: p. 92). In this analysis, a similar control variable was created in order to control for countries with different levels of economic development naturally having different growth rates. The World Bank provides annual Gross National Income (GNI) per capita based on purchasing power parity, as well as updated country classifications on July 1 of every year (New Country Classifications, 2015). Using the information from “New Country Classifications,” I created the two dummy variables for middle income and high income. Middle income economies were set to equal to one when the country's GNI per capita was greater than \$1,045 and less than \$12,736. High income economies were set to equal to one when the country's GNI per capita was greater than or equal

to \$12,736. In this analysis, low income economies were left equal to zero to act as the reference point.

### *Statistical Analysis and Results*

The following statistical analysis displays and discusses multiple models, with both single linear regressions and multivariate regressions. The analysis will display and discuss the results of several series of regressions on two different dependent variables. These models are run to test the relationship between degree of democracy and maintained economic success.

Each table represents the effect of one measure of degrees of democracy and its lagged value on one measure of maintained economic success. Within the tables, each independent variable is shown first without control variables, then with control variables that have over 1,000 observations. Next, the independent variables are shown with all of the control variables, running highly correlated control variables in place of each other in separate regressions. Finally, the independent variables are shown with the first set of control variables and interaction variables between degrees of democracy and level of development. In total, ten regressions are run for each measure of the independent variable—and that measure's lagged value—on each measure of the dependent variable. Three measures of the degrees of democracy, and two measures of maintainable economic success, are meant to serve as robustness tests for my results.

Throughout this analysis, coefficients that were significant with at least 95% confidence were considered statistically significant. Variables that are significant with at least 90% confidence are marked for comparison, but are not considered statistically significant. Within the tables, each variable's estimated correlation coefficient is displayed, with the standard error

displayed below in parentheses. At the bottom of the table, the number of observations and the coefficient of determination (pseudo R-squared) for each model are listed. In the final row of the table, the measures of statistical significance are displayed alongside the symbol used to represent them. These symbols are placed next to the estimated correlation coefficients in the table where applicable.

In order to get the most accurate results possible, each measure of the dependent variable is regressed on three different measures for degrees of democracy. In addition to those three definitions of the degree of democracy—measured through their present impact on that same year's economic success—a lagged value of each independent variable is run. The lagged variables' purpose is to test whether the influence of the degree of democracy is more or less significant from the year before. These variables are only lagged one period, in this case year, due to the shorter time analysis. A longer lag would have decreased the observations. Plus, both definitions of maintained economic success are measured annually, meaning that a lag of one year would take the degree of democracy of the base year and analyze its influence on the following year's economic success.

The independent variables and their lagged counterparts are each run alone with the dependent variable—to see their uncontrolled influence on maintained economic success—and then with the introduction of control variables to see if the controls alter the degree of democracy's influence. The control variables in this analysis are based on the factors that other papers have analyzed as having possible correlations with economic success and development, whether or not democracy was involved. The section above on controls provides further information as to where the variables came from. More potential control variables were collected, but they either did not have enough observations to be a substantial contribution, were

not correlated to variables being tested, were not supported by research, or were highly correlated with too many of the other variables being run in the regressions.

**Table 2: Effect of Combined Polity on Annual Percent Change in GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Combined Polity Score	-.0009 (.0165)	-.0187 (.0193)	-.4010 (.7823)	.5666 (.2670)	.1084 (.0737)					
Lagged Combined Polity Score						.0093 (.0171)	-.0200 (.0196)	-.9909 (.2046)	-.1972 (.8998)	.0541 (.0722)
Natural Resource Rich		.0515 (.2577)	-.4739 (9.8355)		.0955 (.2589)		.0930 (.2626)	- 5.9606 (2.2849)		.1314 (.2641)
Manufacturing as a Percentage of the GDP		-.0371* (.0177)		- 1.4199 (.3833)	-.0378* (.0177)		-.0326+ (.0181)		-.4084 (1.1478)	-.0334+ (.0181)
Life Expectancy		.1042** * (.0164)			.1066** * (.0164)		.1050** * (.0167)			.1069** * (.0168)
Literacy Rate			.3438 (.2332)	.5346 + (.0796)				.3798+ (.0536)	.4247 (.1951)	
International Trade		.0116** * (.0031)	.2092 (.0880)	.0847 (.0404)	.0113** * (.0031)		.0117** * (.0032)	.1338 (.0266)	.1567 (.0778)	.0115** * (.0032)
Foreign Bilateral Aid		.5688** * (.0969)	1.3536 (3.0183)	.7169 (.6147)	.5346** * (.0984)		.5977** * (.0985)	3.1325 (.7473)	1.4959 (1.6218)	.5696** * (.1000)
Foreign Direct Investment			3.0960 (2.1100)	-.0717 (1.0156)				2.8723 (.4811)	1.9680 (2.7620)	
Middle Income Economy		.4657 (.4216)		8.7991 + (1.1194)	.6149 (.4263)		.7649+ (.4294)		9.6502 (2.4146)	.8449+ (.4321)
High Income Economy		.1089 (.6005)	- 10.5012 (5.5306)		-.0214 (.6167)		.4710 (.6122)	- 5.9455 (1.6268)		.3070 (.6281)
Interaction					-.1519* (.0765)					

Between Polity and Middle Income										
Interaction Between Polity and High Income										
Interaction Between Lagged Polity and Middle Income										
Interaction Between Lagged Polity and High Income										
Constant	4.7836 *** (.1226)	- 13.3527 *** (2.1954)	- 124.84 83 (53.75 68)	- 45.244 6 (26.62 48)	- 12.9152 *** (2.2095)	4.6598 *** (.1269)	- 14.3783 *** (2.2298)	- 147.09 22+ (12.55 69)	- 111.54 32 (76.85 54)	- 13.9833 *** (2.2451)
<b>N</b>	3,106	1,974	9	9	1,974	3,103	1,975	9	9	1,975
<b>Pseudo R<sup>2</sup></b>	.0000	.0490	.9538	.9969	.0520	.0001	.0537	.9976	.9835	.0554
			+p<.1	*p<.05	**p<.01	***p<.001				

All models presented in this table are single or multivariate regressions

**Table 3: Effect of Revised Polity on Annual Percent Change in GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Revised Polity Score	.0075 (.0179)	-.0156 (.0198)	-.9381 (1.920 9)	.5666 2 (.2670 )	.1084 (.0737)					
Lagged Revised Polity Score						.0110 (.0178)	-.0200 (.0197)	- 1.7636 (1.929 3)	-.1972 (.8998 )	.0568 (.0724)





Revised Polity and Middle Income										
Interaction Between Lagged Revised Polity and High Income										-.0205 (.0850)
Constant	4.6493 *** (.1316)	- 14.9203 *** (2.2064)	- 114.78 52 (134.581)	- 45.24 46 (26.6248)	- 12.9152 *** (2.2095)	4.6329 *** (.1314)	- 15.3099 *** (2.2048)	- 147.85 84 (123.1018)	- 111.5 432 (76.8554)	- 14.9391 *** (2.2199)
N	3,169	2,016	10	9	1,974	3,166	2,016	10	9	2,016
Pseudo R <sup>2</sup>	.0001	.0585	.6009	.9969	.0520	.0001	.0586	.6849	.9835	.0603
			+p<.1	*p<.05	**p<.01	***p<.001				

All models presented in this table are single or multivariate regressions

**Table 4: Effect of Recoded Freedom House Score on Annual Percent Change in GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Combined Political Rights and Civil Liberties Score (Recoded)	-.0360 (.0277)	-.0168 (.0364)	4.1658 (11.5436)	.4899 (.6417)	.5131*** (.1453)					
Lagged Combined Political Rights and Civil Liberties Score (Recoded)						-.0595* (.0277)	-.0457 (.0365)	12.5313 (26.5707)	.3989 (.7594)	.2107 (.1435)
Natural Resource Rich		.1516 (.2641)	25.1780 (63.3242)		.1540 (.2654)		.1032 (.2640)	68.4524 (139.8985)		.1223 (.2659)
Manufacturing as a Percentage of the GDP		-.0227 (.0173)		-.8996 (.4011)	-.0227 (.0173)		-.0248 (.0174)		-.8475 (.4558)	-.0251 (.0174)



House and High Income										
Constant	4.8293** (.2283)	-17.0072** (2.0490)	-20.5053 (178.0539)	-81.3928 (29.1234)	-18.7510*** (2.1223)	4.9996*** (.2276)	-16.8371*** (2.0516)	79.7469 (338.5199)	-84.5343 (32.7159)	-17.5206** (2.1261)
<b>N</b>	3,714	2,302	10	9	2,302	3,709	2,300	10	9	2,300
<b>Pseudo R<sup>2</sup></b>	.0005	.0564	.5806	.9891	.0628	.0012	.0567	.5980	.9864	.0587
			+p<.1	*p<.05	**p<.01	***p<.001				

All models presented in this table are single or multivariate regressions

Regressions 3, 4, 8, and 9 were introduced to attempt to add further control variables, but the sample size became so small that the data was skewed, and therefore these regressions are not discussed in throughout this analysis.

Tables 2, 3, and 4 provide various models where annual percent change in GDP per capita is regressed on the three measures of degrees of democracy. Table 2 specifically addresses a series of regressions where annual percent change in GDP per capita is regressed on the combined polity score. In all of these regressions, both the combined polity score and the lagged combined polity score remain insignificant. Regressions 1 and 6 show that even without the introduction of control variables, combined polity score does not have a statistically significant effect on annual percent change in GDP per capita. The control variable of manufacturing was statistically significant with 95% confidence when run with combined polity score, but not with lagged combined polity score. In addition, the control variables life expectancy, international trade, and foreign bilateral aid were all positive and significant in each regression with 99.9% confidence. Surprisingly, none of the measures of level of development proved to have a significant impact on economic success in these regressions. When introduced, the only interaction variable that was significant was the interaction between polity and middle income

economies. Overall, the regressions in table 2 fail to reject my hypothesis—that degrees of democracy do not have a significant impact on economic success.

Table 3 specifically addresses a series of regressions where annual percent change in GDP per capita is regressed on the revised polity score. Once again, revised polity score, and the lagged revised polity score, are not statistically significant in any of the regressions. Life expectancy, international trade, and foreign bilateral aid were all positive and significant in each regression with 99.9% confidence, but manufacturing was only significant with 95% confidence when run in the regression with the revised polity score and the interaction variables. Similarly, the only interaction variable that was significant was the interaction between revised polity and middle-income economies. Since the revised polity score is insignificant in every regression, this table still fails to reject my hypothesis that degrees of democracy do not have a significant impact on economic success.

Table 4 specifically addresses a series of regressions where annual percent change in GDP per capita is regressed on the recoded Freedom House score. In contrast to the other tables, the recoded Freedom House score is not insignificant in every regression. When run with control variables and interaction variables, the recoded Freedom House score has a statistically significant estimated coefficient of .5131 with 99.9% confidence. This means that for every one degree of democracy increased in the recoded Freedom House score, the annual percent change in GDP per capita increases by an estimated .5131%. When run alone with annual percent change in GDP per capita, the lagged recoded Freedom House score has a statistically significant negative effect on annual percent change in GDP per capita with 95% confidence. In this regression, for every one degree of democracy increased in the recoded Freedom House score, the annual percent change in GDP per capita decreases by an estimated .0595%.

The pattern continues that life expectancy, international trade, and foreign bilateral aid were all positive and significant in each regression with 99.9% confidence, but in this table manufacturing is not statistically significant. In the regression that included interaction variables, middle income economies and the interaction between the recoded Freedom House score and middle income economies were both statistically significant with 99.9% confidence, but the existence of a middle income economy (middle income economy=1) increases annual percent change in GDP per capita by 3.2699%, while each increase of one in the value of the interaction term would decrease annual percent change in GDP per capita by .5876%. The high-income economy variable and its respective interaction term had a similar relationship, but with only 95% confidence. When considering the lagged value of the recoded Freedom House score, once again the existence of a middle income economy increases the annual percent change in GDP per capita by 1.9468%, while each increase in its respective interaction term decreases the annual percent change in GDP per capita by .2963% with 95% confidence. Since the recoded Freedom House score proves to be statistically significant in certain regressions, this does not support my hypothesis that degrees of democracy are statistically insignificant for economic success.

**Table 5: Effect of Combined Polity on Annual Growth Rate of GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Combined Polity Score	-.0235 (.0155)	-.0245 (.0178)	-.3713 (.7092)	.4110 (.3341)	.0440 (.0648)					
Lagged Combined Polity Score						-.0170 (.0157)	-.0321+ (.0180)	-.9039 (.1784)	-.3444 (.6987)	-.0005 (.0639)
Natural Resource Rich		-.0741 (.2381)	.5008 (8.9155)		-.0581 (.2395)		-.0195 (.2420)	-4.4410 (1.9928)		.0078 (.2435)
Manufacturing as a Percentage of the GDP		-.0536*** (.0163)		- 1.2444 (.4797)	-.0538*** (.0163)		-.0495** (.0166)		-.2622 (.8912)	-.0501** (.0166)

Life Expectancy		.0997*** (.0152)			.1005*** (.0153)		.1042*** (.0155)			.1055*** (.0155)
Literacy Rate			.3691 (.2114)	.5355 (.0997)				.4017+ (.0467)	.4302 (.1515)	
International Trade		.0142*** (.0029)	.1871 (.0798)	.0754 (.0505)	.0141*** (.0029)		.0146*** (.0029)	.1186 (.0232)	.1376 (.0604)	.0145*** (.0029)
Foreign Bilateral Aid		.6892*** (.0896)	1.6098 (2.7360)	1.2353 (.7692)	.6740*** (.0910)		.7016*** (.0908)	3.2155 (.6518)	2.0252 (1.2593)	.6856*** (.0920)
Foreign Direct Investment			2.3998 (1.9126)	-.3664 (1.2709)				2.1977 (.4196)	2.0252 (1.2593)	
Middle Income Economy		.4320 (.3873)		7.5829 (1.4008)	.5039 (.3911)		.5846 (.3954)		8.0612 (1.8748)	.6310 (.3991)
High Income Economy		.1667 (.5573)	- 9.4476 (5.0132)		.1198 (.5719)		.2961 (.5682)	-5.3184 (1.4188)		.1799 (.5845)
Interaction Between Polity and Middle Income					-.0808 (.0674)					
Interaction Between Polity and High Income					-.0419 (.0762)					
Interaction Between Lagged Polity and Middle Income										-.0437 (.0667)
Interaction Between Lagged Polity and High Income										.0077 (.0763)
Constant	2.6265** * (.1153)	- 17.4670** * (2.0292)	- 118.44 1 (48.7282)	- 51.372 7 (33.3200)	- 17.2607** * (2.0437)	2.5073** * (.1167)	- 18.2480** * (2.0539)	- 138.4944* (10.9516)	- 115.54 34 (59.6753)	-18.0346*** (2.0674)
<b>N</b>	3,303	2,065	9	9	2,065	3,288	2,052	9	9	2,052
<b>Pseudo R<sup>2</sup></b>	.0007	.0601	.9552	.9942	.0610	.0004	.0638	.9979	.9882	.0644
			+p<.1	*p<.05	**p<.01	***p<.001				

All models presented in this table are single or multivariate regressions

**Table 6: Effect of Revised Polity Score on Annual Growth Rate of GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Revised Polity Score	-.0144 (.0169)	-.0221 (.0182)	-.8968 (1.8688)	.4110 (.3341)	.0440 (.0648)					
Lagged Revised Polity Score						-.0170 (.0170)	-.0326+ (.0181)	-1.6634 (1.8956)	-.3444 (.6987)	.0033 (.0644)
Natural Resource Rich		.0165 (.2415)	-6.745 (23.3925)		-.0581 (.2395)		-.0052 (.2416)	- 13.3042 (21.0928)		.0205 (.2432)
Manufacturing as a Percentage of the GDP		-.0492** (.0166)		-1.2444 (.4797)	-.0538*** (.0163)		-.0510** (.0167)		-.2622 (.8912)	-.0514** (.0167)
Life Expectancy		.1034*** (.0152)			.1005*** (.0153)		.1111*** (.0153)			.1124*** (.0153)
Literacy Rate			.3353 (.5683)	.5355 (.0997)				.3906 (.5158)	.4302 (.1515)	
International Trade		.0152*** (.0029)	.0374 (.1846)	.0754 (.0505)	.0141*** (.0029)		.0155*** (.0029)	-.0672 (.2202)	.1376 (.0604)	.0154*** (.0029)
Foreign Bilateral Aid		.7232*** (.0910)	2.9775 (7.2927)	1.2353 (.7692)	.6740*** (.0910)		.7289*** (.0910)	5.2984 (7.0449)	2.0252 (1.2593)	.7138*** (.0922)
Foreign Direct Investment			1.5810 (5.1109)	-.3664 (1.2709)				1.3422 (4.5943)	1.6140 (2.1445)	
Middle Income Economy		.7080+ (.3886)		7.5829 (1.4008)	.5039 (.3911)		.5175 (.3898)		8.0612 (1.8748)	.5662 (.3936)
High Income Economy		.4910 (.5646)	-8.7521 (13.4787)		.1198 (.5719)		.2174 (.5659)	-2.0046 (15.4920)		.1108 (.5826)
Interaction Between Revised Polity and Middle Income					-.0808 (.0674)					
Interaction Between Revised Polity and High Income					-.0419 (.0762)					
Interaction Between Lagged Revised Polity and										-.0478 (.0672)

Middle Income										
Interaction Between Lagged Revised Polity and High Income										.0012 (.0769)
Constant	2.4735* ** (.1242)	- 18.8800* ** (2.0406)	- 108.5953 (130.9069)	- 51.3727 (33.3200)	- 17.2607* ** (2.0437)	2.5032* ** (.1248)	- 19.2436* ** (2.0403)	- 139.2476 (120.9465)	- 115.5434 (59.6753)	- 19.0497* ** (2.0535)
N	3,377	2,109	10	9	2,065	3,364	2,095	10	9	2,095
Pseudo R <sup>2</sup>	.0002	.0689	.5681	.9942	.0610	.0003	.0697	.6523	.9882	.0704
			+p<.1	*p<.05	**p<.01	***p<.001				

All models presented in this table are single or multivariate regressions

**Table 7: Effect of Recoded Freedom House Score on Annual Growth Rate of GDP Per Capita**

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Combined Political Rights and Civil Liberties Score (Recoded)	-.0458+ (.0255)	-.0091 (.0337)	3.9016 (11.2352)	.2720 (.6261)	.4838*** (.1297)					
Lagged Combined Political Rights and Civil Liberties Score (Recoded)						-.0907*** (.0256)	-.0626 + (.0333)	11.9513 (25.8531)	.1734 (.7043)	.1353 (.1227)
Natural Resource Rich		-.0091 (.0337)	24.4204 (61.6326)		.0193 (.2455)		-.0530 (.2437)	66.0778 (136.1203)		-.0367 (.2453)
Manufacturing as a Percentage of the GDP		-.0395* (.0160)		-.8249 (.3914)	-.0391* (.0160)		-.0430** (.0160)		-.7724 (.4227)	-.0432** (.0160)
Life Expectancy		.1040*** (.0154)			.1062*** (.0154)		.1083*** (.0154)			.1104*** (.0154)



Literacy Rate			.4711 (.7753)	.4993 (.1382)				.8285 (1.2926)	.4897 (.1471)	
International Trade		.0150*** (.0029)	.1225 (.2252)	.1088 (.0573)	.0148*** (.0029)		.0151*** (.0029)	.2921 (.5042)	.1144 (.0591)	.0151*** (.0029)
Foreign Bilateral Aid		.7852*** (.0822)	-3.5741 (11.7984)	1.5537 (1.0302)	.7524*** (.0834)		.7714*** (.0823)	-11.3251 (25.3371)	1.5823 (1.0958)	.7483*** (.0835)
Foreign Direct Investment			.3394 (6.8054)	.3982 (1.5277)				-2.8003 (11.2980)	.53369 (1.6355)	
Middle Income Economy		.5594 (.4042)		8.2730 (1.8536)	3.0164*** (.7367)		-.0430 (.0160)		8.3351 (1.9669)	1.6592* (.7170)
High Income Economy		.4211 (.5665)	- 23.7553 (32.2603)		2.4600* (.9629)		.4343 (.5675)	-48.3891 (76.9313)		.8317 (.9556)
Interaction Between Recoded Freedom House and Middle Income					-.5382*** (.1352)					
Interaction Between Recoded Freedom House and High Income					-.4838*** (.1486)					
Interaction Between Lagged Recoded Freedom House and Middle Income										-.2319+ (.1284)
Interaction Between Lagged Recoded Freedom House and High Income										-.1389 (.1432)
Constant	2.6847** * (.2112)	- 20.1130* ** (1.8977)	- 19.4716 (173.2974)	-80.0424 (28.4188)	- 21.7882*** (1.9572)	3.0135*** (.2117)	- 19.7336** * (1.9022)	77.0287 (329.3777)	- 83.143 3 (30.3435)	- 20.3005** * (1.9654)

<b>N</b>	4,015	2,406	10	9	2,406	4,000	2,397	10	9	2,397
<b>Pseudo R<sup>2</sup></b>	.0008	.0648	.5458	.9877	.0710	.0031	.0656	.5649	.9862	.0671
			+p<.1	*p<.05	**p<.01	***p<.001				

Tables 5, 6, and 7 provide various models where annual percent change in GDP per capita is regressed on the three measures of degrees of democracy. Table 5 addresses a series of regressions where annual growth rate of GDP per capita is regressed on the combined polity score. In Table 5, all regressions run with combined polity score and with the lagged value of combined polity score yield a statistically insignificant relationship. Manufacturing proves to have a significant negative impact on annual growth rate of GDP per capita throughout the regressions—with 99.9% confidence when run with the combined polity score and with 99% confidence when run with the polity score’s lagged value. Similar to the previous tables, life expectancy, international trade, and foreign bilateral aid have positive statistically significant influence on annual growth rate of GDP per capita with 99.9% confidence throughout the regressions. No other variables prove to be statistically significant in these regressions. Overall, these regressions fail to reject my hypothesis—that degrees of democracy do not have a significant impact on economic success.

Table 6 addresses a series of regressions where annual growth rate of GDP per capita is regressed on the revised polity score. Again, all regressions run with revised polity score and with the lagged value of revised polity score yield a statistically insignificant relationship. Manufacturing has a negative impact on annual growth rate of GDP per capita in each regression, with 99% confidence in three of them and with 99.9% confidence when run with the interaction variables and the revised polity score. Life expectancy, international trade, and foreign bilateral aid continue to have positive, statistically significant influence on annual growth

rate of GDP per capita with 99.9% confidence. These regressions also fail to reject my hypothesis.

Table 7 addresses a series of regressions where annual growth rate of GDP per capita is regressed on the recoded Freedom House score. The recoded Freedom House score is statistically significant in most regressions, but when run with the interaction variables, it has a positive, statistically significant impact with 99.9% confidence. However, when run without control variables, the lagged recoded Freedom House score has a statistically significant negative impact on annual growth rate of GDP per capita with 99.9% confidence. The effects of the control variables are similar to that of Table 4—with life expectancy, international trade, and foreign bilateral aid all positive and significant in each regression with 99.9% confidence—except in this table, manufacturing has a significant negative effect on annual growth rate of GDP per capita.

In the regression that included interaction variables, middle income economies and the interaction between the recoded Freedom House score and middle income economies were both statistically significant with 99.9% confidence, but the existence of a middle income economy (middle income economy=1) increases annual percent change in GDP per capita by 3.0164%, while each increase of one in the value of the interaction term would decrease annual percent change in GDP per capita by .5382%. The high-income economy variable and its respective interaction term had a similar relationship, but with only 95% confidence for high-income economies. When considering the lagged value of the recoded Freedom House score, once again the existence of a middle income economy increases the annual percent change in GDP per capita by 1.6592%, but the interaction terms were not statistically significant. Since the recoded Freedom House score proves to be statistically significant in certain regressions, it once again

does not support my hypothesis that degrees of democracy are statistically insignificant for economic success.

Though the regressions run with polity and revised polity scores supported my hypothesis, the models run with the recoded Freedom House scores did not. Freedom House scores measure freedoms of citizens more-so than they measure political systems, which could be why these measures did not support my hypothesis. Overall, a country's FDI, literacy rate, level of development as measured through income, and natural resource wealth were consistently insignificant. However, life expectancy, international trade, and foreign bilateral aid were all positive and significant throughout the models. Their significance could suggest that they have a relevant influence on economic success, rather than the influence of degrees of democracy.

The results of my research indicate that there is some evidence that the relationship between degree of democracy and maintained economic success is insignificant. However, failing to reject my hypothesis using one of my three dependent variables only partially supports the idea that the path to maintainable economic success may not be set by implementing democracy. Four of the tables support the idea that degree of democracy is insignificant, while the other two tables had inconclusive results, but they could support the idea that higher degrees of democracy actually are not beneficial in developing and maintaining a successful economy. These results encourage further research into what does influence maintained economic success. If half of the control variables were insignificant, and the pseudo  $R^2$  value is very low, there must be other explanations for maintained economic success. Presumably, the pseudo  $R^2$  value was so low because the predictors in my first model didn't have much impact, and there are many other factors that contribute to economic success.

## **Chapter 5**

### **Conclusion**

This analysis pursued an answer to the question: do degrees of democracy influence the development and maintenance of economic success? Currently, scholars are split when addressing this question. As the literature review shows, some scholars believe democracy aids economic success, others believe non-democratic systems promote economic growth, and still others believe that the solution for economic success is not political. My hypothesis was that degrees of democracy do not significantly influence maintainable economic success. My empirical chapter showed that, as a whole, democracy is not significant in influencing success either positively or negatively. However, a small portion of the regressions provided inconclusive results.

In order to create a model of development that countries could follow to yield economic success over time, further research must be done into what is significant, rather than what is not. This analysis was meant to act as a starting point in providing a tentative response as to whether or not democracy should be relied upon for maintained economic success. Using my findings, future research could look into whether or not being natural resource rich becomes fully significant with the inclusion of other variables. In addition, future research could look into the impact of aid on maintained economic success, and even analyze the impact of different types of aid on economic success over time. Research could examine whether or not this hypothesis is true in different regions. Also, future research could see if it is institutions rather than degree of democracy that influences maintained economic success.

As analyzed in this paper, not only is mass democratization—forced or chosen—highly improbable, but it may not even be the best way to improve a country. My research and results encourage the idea that democracy may not be the end-all, be all answer to global issues. Undoubtedly, wealthy countries with stable economies thrive under democracy. However, there may be steps to take before a country can change its political system. When countries thrive economically, it is beneficial to the global economy. Therefore, setting aside the focus on democratizing the world and instead focusing on developing strong individual economies may be an important step going forward. Democratizing countries that are currently either partially or entirely autocratic may be beneficial in the long term, but in the short term, economic development may thrive under less than democratic regimes.

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