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THE EFFECTS OF GOVERNANCE AND INEQUALITY ON ECONOMIC GROWTH

A Thesis Submitted

in Partial Fulfillment

of the Requirements for the Designation

University Honors

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Date   Dr. Bryce Kanago, Honors Thesis Advisor, Economics Department

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Date   Dr. Jessica Moon, Director, University Honors Program

ABSTRACT

This paper reevaluates the variables affecting economic growth. I consider models previously proposed by economists to explain the linkage economic growth has with measures of political influence and inequality. The model I use considers two different models. The first scenario uses a common intercept between all countries while the second allows each country to have its own intercept. Political influence is measured by the score and variation of the score of the polity index as well as the score for how protected property rights are. Inequality is measured by the Gini Coefficient. The model produces some evidence of political influences influencing economic growth but fails to find evidence of inequality influencing economic growth.

Introduction

It has long been recognized that citizens of some countries live better than citizens of others. The citizens in the poorest countries may not even have enough money to have any decent meals on most days. Most people, however, may not realize why some countries are so poor. Depending on why a country is poor, its government may have the ability to reduce this level of poverty. Some government leaders, however, may need to do more thinking and innovation to raise the standard of living. I seek remedies to reduce poverty by looking at what determines economic growth. To determine what correlates with economic growth, I use a regression model. The regression model will address variables that measure political influence as well as the influence of inequality on economic growth. The following sections provide more specific information as to what variables this paper will include in the regression model and addresses what the results of the regression analysis mean people and governments may be able to do to reduce poverty and poorness by increasing economic growth.

Problem

Many countries grow faster than other countries. Therefore, they have much higher standards of living than the countries that do not and have not grown as fast. For some countries, the lack of growth can result in such hardships as hunger, malnourishment, poor medical facilities, and a lack of sanitation in their inner cities. Some people in charge of governments run their government in a way intended to keep them in power while ignoring their citizens who are not well off and suffering from poverty. When the people who run the government care about their citizens, however, they would want a way to reduce these hardships for their citizens but they may not know a way that would work well.

Purpose

The purpose of my paper is to reexamine the influences that traditional variables have on economic growth by using a regression model. In addition, the effects of a variety of political variables and variables influenced by politics such as inequality will be examined. Political influences will be measured as a country's amount of trade as a percent of GDP, legal structure and security of property rights, the average of the polity index, and a moving standard deviation of the polity index. Inequality is measured by the Gini Coefficient. This paper will accomplish the important task of revealing what and to what degree certain political influences correlate with economic growth so that those who make decisions can help maximize economic growth in their respective jurisdiction. Maximizing economic growth would help a government enhance the standard of living that its citizens can enjoy by reducing overall poverty.

Definitions

Coup d'état – throwing a government out of power by military style force

Economic Growth – yearly percentage change in income in a country per person

Efficiency – doing something with the lowest necessary cost and not wasting

Gross Income – amount earned without accounting for costs or taxes

Human Capital – a person's accumulation of knowledge and skills through education and experience

Income inequality – the variation in income across individuals or households

Instability of the Political Regime – social unrest actually caused by the government

Instability within the Political Regime – social unrest not caused directly by the government

Net Income – income after subtracting taxes

Per Capita GDP – Gross Domestic Product per person

Physical Capital – capital consisting of touchable elements such as business equipment and business structures

Property Rights – allow individuals to own land and capital, control how it is used, and worry little about it being taken abruptly

Public Consumption – goods provided in the aggregate level by the government for people

Quintiles – used to split everyone into 5 different income groups based on how much they make

Red Tape – figurative terminology for paperwork and activities that reduce incentives, create delays, and otherwise reduce efficiency

Regression Model – statistical model used to determine what relations exist between variables

Scree Plot – plotting of data with scores to determine what variables may be more relevant

Standard of Living – measure of how well or not someone is likely to live usually measured by income per person

Steady State Growth – the rate of growth a given economy heads toward for about a 20 year long run

Total Factor Productivity – how many goods or services can be produced given the inputs level

Utility Function – used to compare the satisfaction level one has at a given consumption amount

Worker's Welfare – a measure of how well-off workers are measured by income per worker

Literature Review

Political influences on economic growth have been studied extensively. Alesina and Rodrik (1991) studied political influences of workers and capitalists through an endogenous model and found a negative relationship between the rates of capital taxation and growth. They also consider the influence of labor, capital, and technology on output level. They also studied government distributions to public investments and workers. They found that concern for

worker's welfare and an unequal distribution of capital correlate negatively with economic growth. They also found that the form of government can influence growth rate determinants such as income distribution. They found that democracies with low inequality grow the fastest on the average (Alesina and Rodrik, 1991).

Alesina, Ozler, Roubini, and Swagel (1992) studied the impact of political instability on economic growth using a broader definition than previous studies for political change than simply coup d'états to include constitutionally allowed changes too, that "in countries and time periods with a high propensity of government collapse, growth is significantly lower than otherwise" (1992, 0). They found that to be robust to how they defined "government change". They also found, however, that "no obvious relationship between democracy and growth" exists (Alesina et al., 1992, 7). Alesina et al, (1992) claim that uncertainty about aspects such as property rights drive the effect of political change on economic growth. They believe exceptions to this general rule exist when a high propensity to change to a better form of government exists or when there is certainty that a government will collapse.

Jong-A-Pin (2008) studied the link between growth and political instability farther. He began his study by considering 25 possible indicators of political instability. Using a scree plot to determine which factors had eigenvalues high enough to require further analysis, he determined that politically motivated violence, mass civil protest, instability within the political regime, and instability of the political regime required further analysis. However, the only significant result he found was a negative correlation between instability of the political regime and economic growth. Instability of the regime considered changes in the chief executive, cabinet changes, major constitutional changes, coups d'états, number of veto players who drop from office, political regime changes, major government crises, and level of government stability (Jong-A-

Pin, 2008, 18). He claims that this variable best represents uncertainty of property rights. He used five year averages for his data to reduce the potential for measurement error. He found significant correlations between his four variables and political instability indicators used in previous literature such as Barro's revolutions, coups, and assassinations, Perotti's Principal Component index, Hibb's Principal Component Protest and Principal Component Violence, and Alesina et al.'s logit generated measure of regime changes. He concludes there "to be no relationship (whatsoever) between mass civil protest and economic growth" (Jong-A-Pin, 2008, 26).

In order for investigation into economic growth determinants to be beneficial, it is important to understand the channel through which these determinants impact economic growth as well. Alesina and Perotti (1995) explored the channel through which income inequality affects economic growth. They found that higher income inequality increased political instability. They found that this socio political instability created uncertainty for producers and savers and so reduced investment. Since investment is important to the amount of physical capital and since a higher level of it raises output, a country has, a reduction in investment reduces the economic growth rate. They also found that higher taxes are correlated with social tensions and can affect investment negatively.

However, Alesina and Perotti (1995) also found that income inequality could exude some upward pressure on investment and growth because rich people tend to save more so having more rich people increases investment as a share of GDP. They measured political instability by creating an index that took the average number of assassinations, deaths in domestic disturbances, coups (successful and unsuccessful), and the level of democracy of a given nation in a year into consideration. This index correlated inversely with investment, the third and fourth

quintiles of income levels (or the middle class), and the amount of primary school enrollment at the start of their data period.

Others have investigated channels of impact on economic growth as well. Aisen and Veiga (2012) found that political instability affects economic growth by reducing both productivity growth and the accumulation of physical and human capital. They found that the majority of the adverse effects of political instability occurred through the total factor productivity channel while smaller amounts occurred through the physical and human capital accumulation channels. They measured political instability by the number of new premiers or the number of times more than 50% of the cabinet post holders are changed in a year and found a robust, negative correlation between this variable and economic growth. Negative correlations with growth were also discovered for inflation, government expenditure as a percentage of GDP, and slightly with democracy. Positive correlations with economic growth were found with economic freedom and ethnic homogeneity.

Multiple economists have studied the linkage between income inequality and economic growth. Barro (2000) found that credit market imperfections influence this linkage because inequality matters more to economic growth in poorer countries. Poorer countries will see a higher change in economic growth from income inequality than richer ones. This increased importance in poorer countries comes about as the result of the imperfections of law enforcement and bankruptcy laws. Poorly functioning financial systems imply a failure to collect all the money lent. This implies a transfer of income and assets from the rich that lend the money to the poor that borrow the money and do not pay it back which implies reduced income inequality. That allows the poorer to take make investments that they otherwise would not be able to make. This increase in investment helps increase economic growth. Barro (2000) measured inequality

as the ratio of mean to median income. Specifically, he found that growth's directional relation to inequality tends to depend on whether per capita GDP in a given country is greater or less than $2070 in 1985 United States dollars with those with higher GDP per capita having inequality have a positive effect on economic growth.

Persson and Tabellini (1994) and Li and Zou (1998) found conflicting results regarding the correlation between income inequality and economic growth with Persson and Tabellini finding an inverse relationship but Li and Zou finding a positive relationship. Halter, Oechslin, and Zweimüller (2013) echoed this conflicting finding by claiming that inequality helps in the short run but hinders in the long run. Persson and Tabellini (1994) found a highly negative relationship between income inequality and growth for democracies only. They claim that a more level distribution of income implies a more equal distribution of skills which leads to a higher growth potential. Some of the explanation, however, is attributable to what happened as a result of World War II. "World War II brought about a more equal distribution of income as well as a set of important technological innovations" (Persson and Tabellini 1994, 610). They used 20 year periods and measured inequality as the share of income going to the highest 20% of income earners. Li and Zou (1998) found a positive relationship between inequality and growth when including public consumption in the utility function. They argue that more equal income distribution results from high taxes which hinder growth. They suggested multiple ways to measure inequality such as the differences in the amounts of "gross income, net income, or expenditure [across income groups] and it can be per capita or per household." These are what the Gini Coefficients were calculated from (Li and Zou, 1998, 322). They also used five year averages in their data.

Finally, Mauro (1995) studied the effects of corruption on economic growth. He

determined that corruption reduces investment which reduces economic growth with subjective

data from *Business International* on corruption, red tape, and efficiency, and other variables. He

even found "evidence that institutional inefficiency *causes* low investment" (Mauro, 1995, 695).

He determined that population growth, education, government expenditure relative to GDP, and

corruption, and initial per capita income help determine the steady state of income per capita

(Mauro, 1995, 701). Mauro (1995) used ethnolinguistic fractionalization to correct for some

variables evolving jointly. Ethnolinguistic fractionalization correlates highly with corruption and

other institutional variables such as government expenditures relative to GDP and distortions

(Mauro, 1995, 683). Ethnolinguistic fractionalization refers to the probability of drawing two

people from a country at random from different ethnolinguistic groups (Mauro, 1995, 682-683).

He also found marginal significance for dummy variables for Africa and Latin America.

Research Methods

My research employed a regression analysis using panel data from 38 countries over the

years 1975 to 2014. I considered multiple independent variables including initial GDP per capita,

inflation, population growth, level of human capital, government expenditures as a percent of

GDP, trade as a percent of GDP, legal structure, and security of property rights, government

stability, and income inequality. I used the statistical software Stata to determine if and in what

direction these variables affect economic growth. The variables were measured using 5 year

averages to smooth the data of any peaks or valleys from inflationary or recessionary periods.

Data for this research comes from the Penn World Table 9.0, the Fraser Institute, UNU-WIDER,

and the Center for Systemic Peace. The Fraser Institute and the Center for Systemic Peace

provide measures of political influences via measures of legal structure and security of property

rights from the Fraser Institute and the polity index from the Center for Systemic Peace. The

World Income Inequality Database provides Gini Coefficients for countries to measure what if any impact income inequality has on economic growth.

Significance

This thesis updates previous work regarding the linkage between economic growth and income inequality and political influences. It will reconsider models from many previous papers. One was written by Aisen and Veiga (2013) considering political influences while the others considered income inequality and its effect on economic growth. I will combine the models to see if the relationships they revealed are still relevant about twenty years after some of these authors first studied the effects of political influences and income inequality on economic growth. The combination of the variables from the models from these many papers and the addition of recent data will test the robustness of previous findings. If the conclusive findings are found to still be relevant, there will be a solid indication of what actions government leaders may take to make the lives of their citizens better and reduce hardships such as poverty. In addition, conclusive results regarding income inequality's effect on economic growth would provide evidence that one side is more likely to be correct.

Hypotheses

My paper will test multiple hypotheses regarding political influences. It will examine whether the degree to which a government is autocratic or democratic influences economic growth. This will be measured by determining what if any correlation exists between the polity index and economic growth. The degree to which governments change from autocratic to democratic or vice versa affects economic growth. This will be measured using the standard deviation of the polity index and its correlation if any with economic growth. Political influences will also be tested for their effect on economic growth by measuring what, if any, correlation

exists between the legal structure of property rights score on a scale of 1 to 10 has with economic growth.

The influence of income inequality will be examined by looking at the Gini Coefficient for the current period and the preceding period. It is possible that income inequality in a previous period may influence economic growth in the opposite that current period economic growth influences economic growth because income inequality affects economic growth through fast acting mechanisms as well as slow acting mechanisms (Halter et al. 2013, 81). Overall, this paper will estimate the degree to which government purchases as a percentage of GDP, politics and inequality affect economic growth.

Data

Data come from the Penn Table 9.0, The Fraser Institute, UNU-WIDER, and the Center for Systemic Peace. I start with Aisen and Veiga's (2013) model regarding economic growth. They model ln(economic growth) = f (ln(initial GDP per capita), investment as a percentage of GDP, primary school enrollment, population growth, trade as a percent of GDP, inflation, government expenditure as a percentage of GDP, cabinet changes, index of economic freedom, and the legal structure and security of property rights).

The initial GDP per capita measure will be the GDP per capita average from the previous five year period. It is calculated for each year as GDP divided the population. The sign of the coefficient is expected to be negative because measuring this variable should indicate convergence because theory assumes that there should be convergence. Convergence means that countries with lower levels of GDP should be able to grow faster and "catch up" with others. Output GDP and population come from the Penn Table.

Some other variables also come from the Penn Table. Investment as a percentage of GDP

comes from the Penn Table as csh_i. Instead of primary school enrollment, I use the Penn Table's measure hc for human capital accumulation which measures a person's accumulation of knowledge and skills through education and experience. These measurements represent capital accumulation. The sign of the coefficients on these variables should be positive because they both enable people to be more productive.

Population growth is the percentage change in population from year to year from the Penn Table. The sign in front of its coefficient should be negative because population increases imply the dilution of the capital stock. That implies that capital per person is less. That means that the productivity of the capital will also have to spread over more people as well. Since economic growth is measured with respect to per capita GDP change, this reduction in productivity per person will imply lower GDP per person as well.

Trade as a percentage of GDP is measured as the sum of exports and imports as a percentage of GDP measured from the Penn Table as csh_x+csh_m. The sign on this should be positive because higher exports and imports indicate openness to trade. Openness to trade allows countries to use their resources in a way that gives them the best advantage and trade for the things that they do not produce with comparatively few resources. It also provides competition for existing firms which may make them more competitive.

Inflation represents the yearly change in the general price level of goods and comes from the Penn Table as the change in the price level of CGDPo. Its sign should be negative because it represents an inability on the part of the government to control economic stability and possibly that the government is spending above its means.

Government expenditures as a percentage of GDP is measured as the percentage of government consumption in GDP measured on the Penn Table as csh_g. Its sign should be

negative because it represents crowding out. Crowding out means that government borrowing prevents some private borrowers from borrowing to finance an investment.

Aisen and Veiga (2013) tested the impact of government instability on economic growth by cabinet chances. Due to the difficulty and cost of obtaining data used in previous studies, I test government instability by using the polity index. The polity index is a measure on a scale of -10 to 10 with -10 representing a perfectly autocratic government and 10 representing a perfectly democratic government. The polity index measures come from the Center for Systemic Peace. I consider the average and standard deviation of the polity index. The average of the polity index reveals how autocratic or democratic a country is while the standard deviation of the polity index measures the degree to which governments change between autocratic and democratic. The average has an undetermined sign due to previous studies not finding conclusive evidence regarding whether democracy influences economic growth. The standard deviation of the polity index is expected to have a negative coefficient because government instability between autocracy and democracy should increase uncertainty about what will happen creating uncertainty about protection and property rights and, thus, dampen economic growth.

Aisen and Veiga (2013) considered the effects of economic freedom and property rights security in their model but not at the same time. My model uses the measure of how well governments protect property rights from the Fraser Institute. It is called "Legal Structure and Property Rights Security". The sign on this coefficient should be positive because people are more willing to invest when the government will protect their property rights increasing their likelihood of reaping the rewards of their production and innovations.

To Aisen and Veiga's (2013) equation, I add a measure of inequality. I consider the average of the Gini Coefficients over the 5-year period to measure income inequality. Gini

Coefficients are calculated based on comparisons of cumulative population proportions against the income that population proportion receives. 0 means perfect income equality while 100 means perfect income inequality (OECD). I also consider the effects of inequality from the previous 5-year period. The Gini Coefficients come from UNU-WIDER. Due to the mixed results obtained when measuring income inequality's relation to economic growth in the past, the expected sign on this coefficient is undetermined. The table below summarizes the data for 38 countries from 1975 to 2014:

Variable	Mean	Standard Deviation	Minimum	Maximum	Expected Sign
Economic Growth	.0263	.0299	-.1141	.1337	N/A
Initial GDP per Capita	23.2251	.9001	20.8211	25.0097	-
Inflation	.5844	.3089	.1416	1.4498	-
Population Growth	.0124	.0082	-.0036	.0397	-
Human Capital	2.5713	.6555	1.1412	3.7187	+
Government Expenditure (% of GDP)	.1716	.0587	.0682	.5029	-
Trade (% of GDP)	.6079	.6140	.0469	4.5882	+
Economic Freedom Index	6.5108	1.2967	2.47	8.88	+
Legal Structure / Property Rights Security	6.2384	1.8591	1.15	9.28	+
Standard Deviation of Polity Index	.4998	1.1476	0	8.9554	-
Average of Polity Index	6.2464	5.5595	-9	10	-
Income Inequality (Gini Coefficient)	38.6259	8.4993	23.9165	65.4	?
Lagged Income Inequality	39.1043	8.8181	22.5	65.4	?

Regressions

TABLE 1						
REGRESSION RESULTS CONSIDERING COMMON INTERCEPT						
Variable	With All Variables		No Political Variables		No Inequality Variables	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Initial GDP per Capita	-0.02542	-4.45***	-0.02645	-4.54***	-0.02567	-4.59***
Inflation	-0.02853	-2.65***	-0.02849	-2.49***	-0.02716	-2.54***
Population Growth	-1.01382	-2.21**	-0.88336	-2.05**	-1.11628	-2.69***
Human Capital	0.01707	2.89***	0.01535	2.81***	0.01703	3.03***
Government Expenditure (% of GDP)	-0.07418	-2.29**	-0.07494	-2.23**	-0.06951	-2.12**
Trade (% of GDP)	0.00995	3.74***	0.01099	4.05***	0.01021	3.95***
Legal Structure / Property Rights Security	0.00391	2.09**	0.00386	2.02**	0.00400	2.09**
Average of Polity Index	-0.00062	-1.11			-0.00061	-1.12
Standard Deviation of Polity Index	0.00021	0.19			-0.00003	-0.03
Income Inequality (Gini Coefficient)	-0.00063	-1.47	-0.00056	-1.46		
Lagged Income Inequality	0.00044	0.92	0.00033	0.71		
Dyear2	-0.02052	-3.17***	-0.02100	-3.14***	-0.01993	-3.01***
Dyear3	-0.03770	-6.94***	-0.03828	-7.03***	-0.03674	-6.63***
Dyear4	-0.01945	-2.95***	-0.02060	-3.06***	-0.01925	-3.05***
Dyear5	-0.00721	-1.00	-0.00860	-1.22	-0.00810	-1.27
Dyear6	-0.01500	-2.25**	-0.01620	-2.56**	-0.01604	-2.56***
Dyear7	-0.01511	-2.72***	-0.01620	-3.16***	-0.01585	-3.18***
Dyear8	0.00060	0.13	-0.00011	-0.02	-0.00033	-0.08
Constant	0.60979	4.72***	0.63457	4.70***	0.60762	4.84***
* Significant at the 10% level						
** Significant at the 5% level						
***Significant at the 1% level						

The strong negative relationships indicated by the variables starting with "Dyear"
indicate that there was some phenomenon going on in the world during that given time period to
make growth lower than it otherwise would have been. This phenomenon would have been
affecting all or at least most countries' economic growth in a negative manner. Each of the five
year periods from 1975 to 2004 seem to have this strong negative relationship when each country
has the same intercept. When each country has its own intercept, each of the five year periods
from 1975 to 2009 seem to have this strong negative relationship.

TABLE 2					
REGRESSION RESULTS WITH COUNTRY SPECIFIC INTERCEPTS					
Variable	With All Variables		No Political Variables		No Inequality Variables	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Initial GDP per Capita	-0.07932	-5.97***	-0.07859	-6.01***	-0.07983	-6.21***
Inflation	-0.04277	-3.16***	-0.04391	-3.18***	-0.04181	-3.06***
Population Growth	-0.22711	-0.41	-0.27141	-0.49	-0.25570	-0.44
Human Capital	0.03212	2.03**	0.03159	1.96**	0.03360	2.15**
Government Expenditure (% of GDP)	-0.12219	-3.28***	-0.12223	-3.27***	-0.12369	-3.20***
Trade (% of GDP)	-0.00266	-0.38	-0.00194	-0.29	-0.00225	-0.33
Legal Structure / Property Rights Security	0.00439	2.12**	0.00414	1.95**	0.00433	2.06**
Average of Polity Index	0.00024	0.57			0.00030	0.73
Standard Deviation of Polity Index	0.00114	0.93			0.00091	0.76
Income Inequality (Gini Coefficient)	-0.00058	-1.06	-0.00053	-1.01		
Lagged Income Inequality	0.00050	0.83	0.00045	0.79		
Dyear2	-0.07292	-3.91***	-0.07336	-4.01***	-0.07175	-3.85***
Dyear3	-0.08163	-5.35***	-0.08194	-5.48***	-0.08012	-5.29***
Dyear4	-0.06064	-4.12***	-0.06067	-4.23***	-0.06018	-4.09***
Dyear5	-0.04410	-4.45***	-0.04389	-4.55***	-0.04487	-4.49***
Dyear6	-0.04555	-4.90***	-0.04543	-5.07***	-0.04641	-5.05***
Dyear7	-0.03578	-4.84***	-0.03600	-5.23***	-0.03649	-5.06***
Dyear8	-0.01199	-2.77***	-0.01196	-2.87***	-0.01293	-3.05***
Constant	1.85368	6.18***	1.84267	6.30***	1.85960	6.32***
* Significant at the 10% level					
** Significant at the 5% level					
***Significant at the 1% level					

Regression Findings

The regression analysis indicates a strong presence of convergence both when there is a

common intercept and when each country is allowed to have its own intercept. The positive

correlation between initial GDP per Capita and economic growth is highly statistically

significantly negative both regardless of whether countries have their own intercept and

regardless of whether political and inequality variables are considered together or only political

or only inequality variables are considered. The negative relationship implies that other things

the same countries that start out with lower levels of initial GDP will "grow faster" or

"converge" to the steady state level of GDP per capita.

The regression analysis also indicates a strong inverse relationship between inflation and economic growth regardless of whether countries each had their own intercept or a common intercept between countries. High inflation indicates macroeconomic instability and can also create uncertainty. Countries with little control over their money supply will not be able to control the price level as well as countries with more control over their money supply and also may be less able to use monetary policy to stabilize economic fluctuations.

The regression analysis indicates a strong negative relationship between population growth and economic growth but only when all countries have a common intercept. This indicates that each country likely has a somewhat constant population growth rate over time so the effect would be picked up more in the particular country's intercept. The significant negative relationship between population growth and economic growth found when there is a common intercept is robust to whether political and inequality variables are considered together or separately. The negative relationship implies that as the capital and wealth stock of a given country is diluted from having to be spread to more people through population growth, economic growth is expected to be lower than it would have otherwise been.

The regression analysis found a strong and statistically significantly negative relationship between government expenditure as a percent of GDP and economic growth. This finding is robust to whether countries have their own intercept or a common intercept as well as to whether political and inequality variables are considered together or separately. This implies the phenomenon "crowding out" has evidence to support its existence. "Crowding out" means that the government is using funds that could have been borrowed by private citizens to invest and earn a return on, but instead the government takes from the private citizens a larger portion of GDP. This finding could also imply evidence that higher taxes correlate negatively with

economic growth as a higher level of government consumption may also imply higher taxes. This finding differs from the negative but insignificant relationship found by Aisen and Veiga (2013).

The regression analysis also found that trade as a percent of GDP has a statistically significantly positive relationship with economic growth. The relationship is insignificant, however, once each country is allowed its own intercept. The significant relationship found when countries have a common intercept is consistent regardless of whether political and inequality variables are considered together or separately. The significant relationship indicates that countries have higher economic growth when they are more open to trade. The openness to trade allows countries to produce what they have a comparative advantage in while importing what they lack comparative advantage in. The insignificant relationship between trade and economic growth when each country has its own intercept likely indicates that each country has relatively consistent trade policies over time so the effects are picked up in the constant.

The regression measured political influence on economic growth by considering how well governments protect property rights by a score of 0 to 10 via the legal structure and security of property rights variable. It also considered political influences by the average and standard deviations of the polity index. The average of the polity index indicates whether countries are more autocratic or democratic with higher values indicating less autocratic and more democratic while the standard deviation of the polity index indicates the degree to which a country changes from autocratic to democratic or vice versa. Of these three considered variables, only the score of how well the government protects property rights was significant. It was marginally significantly but positive indicating that there is some association between governments protecting property rights and economic growth. This implies evidence that people may be more willing to work for

what they can keep without concern for others stealing.

Lastly, this regression considered the influence income inequality may have on economic growth. Unfortunately, my research fails to clarify the debate in previous literature over the directional influence income inequality has on economic growth. They found opposing directional influences while I find insignificant results. I was able to consider more countries than some previous research considered because my data start in the year 1970 while a number of countries have data in the Penn Table that begins in the year 1970. Many other studies considered data going back to the 1960s.

<div align="center">

Proposal / Recommendations

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Based on previous findings and current findings in my research, the first action government leaders can take to help increase economic growth would be to control their level of inflation if they do not already do so. Generally, economists agree that inflation is directly related to the money supply growth. This implies that a government that wants to control its country's level of inflation needs to control its growth of money supply. The level of money supply in the United States is controlled by the Federal Reserve as they are the ones that have the authority to create money. The Federal Reserve has controlled the US money supply enough such that the United States has had little average annual inflation for quite some time now. Instead of controlling their money supply, some governments pay off their debts by creating money to do so. No longer doing this would likely help a given country grow more economically.

Another action a government could take to help its country grow economically would be to decrease the amount of consumption on the part of the government. This would allow private citizens more opportunities to invest and earn a return on their investment. The private citizens

would also be responsible for maintaining the upkeep of the business equipment and business structures involved in the investment activities. That means the government would be wise to consider the costs and benefits of expenditures before making those expenditures.

Another action a government could take to increase economic growth in a country would be to increase their openness to trade. This allows the citizens of a given country to use the resources in that country in a comparatively advantaged way. By doing that, citizens of a given country can use their resources to produce products that they can produce more efficiently. Also, they can import products they do not make as efficiently from other countries. Some producers who would not be competitive with foreign companies prefer not allowing as much trade so there is less supply of products which allows them to charge more. However, the consumer would get stuck paying that higher price. Overall, a country as a whole will be better off being more open to trade.

One final suggestion the model of this paper suggests may be beneficial to economic growth is for a government to secure and protect property rights. The positive coefficient on that variable indicates that people are more likely to invest in what they can keep and hang onto. Motivating people to invest is a must for growth in the economy.

Expanded Discussion of Significance

My research sought to reexamine the relationships political and economic variables have with economic growth. In doing this, I sought to provide potential guidance regarding what governments can do to reduce poverty and miserable living conditions by increasing economic growth. I examined the relationships some political variables and the Gini Coefficient for income inequality have with economic growth to see if previously discovered relationships are still relevant. Unfortunately, the only relationship found to still be relevant out of the variables tested

was the relationship between the legal structure and security of property rights and economic growth. That means that it is in the best interest of a government that cares about the lives of its citizens to protect property rights so investors can retain what they own and be confident enough to invest in more.

In addition to this relationship, including some variables that were discovered a long time ago to affect economic growth revealed some more possible courses of action to help enhance the lives of the poor in a given country. For example, the government could control their money supply growth so citizens that stand to lose wealth value do not lose some of their wealth from the currency simply losing value to inflation. In addition, governments can consume less to allow the private sector to invest more and earn some more return on their investment. Countries can be more open to trade so more products can be produced to be consumed than would otherwise be allowed when countries are only able to work with the resources they have within their borders. Also, more people will confidently invest more when they can confidently hold on to what they have already thanks to their government helping to secure their property rights.

Summary / Closure

My research evaluated whether the relationships that political influences and income inequality have with economic growth are still valid given the passage of time and the ability to now include more countries. Unfortunately, the results regarding income inequality are inconclusive for the current and preceding periods. The results for the influence of the level of autocracy or democracy and the degree of change between them on economic growth were that for my measures, sample, and controls, the level of autocracy or democracy and the degree of change between them do not matter. It is important to note that this does not necessarily mean these relationships are no longer valid. While it could mean they are invalid, it could also mean

that the relationships are reflected better with other measures. For example, I measured the political influence by the polity index while other researchers use cabinet changes to measure political influence. There was one relationship found to be consistent with past research. The legal structure and security of property rights does still marginally correlate positively with economic growth. This produces solid evidence that this relationship is likely still valid. Multiple relationships other variables have with economic growth that have strong support from previous empirical research such as the relationship between economic growth and trade were found to likely still be relevant. Overall, another regression analysis ran in twenty years when data will be available for more countries than it currently is may reveal what relationship economic growth has with political influences and income inequality influences. One could also study the specific year periods from 1975 to 2009 to determine what exactly made growth significantly lower in all countries. One could also study the last data period from 2009 to 2014 to see if it being significantly higher than the other years was the reason the other years had a strong indication that their economic growth was significantly lower on the average.

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