Economic Institutions and the Durability of Democracy

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Introduction

Milton Friedman notes that while economic and political institutions are often analyzed independently of one another, the two are actually closely related. Friedman (1962:8) argues that in addition to economic freedom being an important component of freedom more broadly understood, "...economic freedom is also an indispensable means toward the achievement of political freedom." Friedman was writing in the context of the Cold War, where economic and political lines were drawn between capitalist democracies and socialist dictatorships, and in response to the popular thinking of the time that countries could embrace socialist economies and democratic governments, argued (1962: 8) "...that there is an intimate connection between economics and politics, that only certain combinations of political and economic arrangements are possible, and that in particular, a society which is socialist cannot also be democratic, in the sense of guaranteeing individual freedom."

Friedman's conjecture about the relationship between economic and political institutions is at least as relevant in the twenty-first century, when there are increasing demands for more citizen oversight over their governments. Those demands are both internal, as citizens push for more accountability in government, and external, as a result of global pressures by democratic governments that argue in the international arena that citizens in all countries should have the right to exert democratic control over their governments. Understanding the factors that enhance democratic persistence can increase the odds that a country's democracy will become more permanent, so the issue has important policy implications.

In some countries, democracies, once established, tend to remain, while in others, democratic governments are established only to give way to autocracy over a period of years. Following Friedman's conjecture, one would expect that the survival of democratic governments will be affected by the countries' economic institutions. The empirical investigation that follows provides evidence that capitalist institutions enhance the chances that democratic governments will survive, whereas non-capitalist institutions make democracy less durable.

Economic Institutions, Dictatorship, and Democracy

A substantial literature discusses the development of both economic and political institutions. Acemoglu et al. (2001) argue that the colonial origins of countries played a large role in the development of economic and political institutions; countries with inclusive institutions and low settler mortality possess more suitable conditions for long run economic growth, in contrast with extractive institutions, which are designed to plunder rather than produce. Further evidence suggests that poor countries became rich in the 18th and 19th centuries due to the development of institutions that encourage investment (Acemoglu et al. 2002), and both Landes (1998) and Mokyr (1990) note the importance of market institutions to prosperity. However, Acemoglu and Robinson (2000) argue that autocrats will resist implementing institutional changes because those changes may threaten their power. Elites in power will be more likely to retain extractive institutions because those institutions help them remain in power, as Acemoglu and Robinson (2006a, 2012) note. Acemoglu and Robinson (2006a) conclude that when democratic governments are established, moderate levels of income inequality make democratic breakdown less likely. Lawson and Clark (2010) and Sobel and Coyne (2011) look explicitly at the relationship between economic and political institutions.

Acemoglu and Robinson (2001) provide a detailed theory of political transitions. They argue that democratization and authoritarian reversals often occur because of economic conditions. Recessions lower the cost of a popular revolt, which can lead a country towards democracy. In a similar line of reasoning, the underlying economic conditions are affected by the quality of the market institutions. When there is more economic freedom, individuals are better off. Thus, they are less willing to incite a popular revolt because the economic conditions they face are very good. On the other hand, if there is very little economic freedom, the costs of a popular revolt are much lower. Evidence supporting this reasoning is reported by Holcombe and Boudreaux (2013), who find that autocrats retain power longer when they implement market-oriented reforms. Acemoglu and Robinson (2006a) note that even if the individual actors in power change, poor institutions tend to persist because the underlying incentives are never altered. An analysis of the factors that enhance the survival of democratic governments is useful to determine if institutional or constitutional changes can increase the likelihood of democratic persistence. While many studies have identified the positive impact of economic development on democratic transitions (Przeworski, 2005; Svolik, 2008; Jeitschko et al. 2014; Reenock et al. 2013), this study finds an additional positive effect of market institutions on the survival rates of democracies.

Data and Descriptive Statistics

Periods of democratic regimes are identified using data from the Polity2 measure of the PolityIV index (Marshall and Jaggers 2005). Democratic survival is measured as the length of time (in years) that a country has successfully maintained a moderate quality of democratic institutions using the polity2 measure. Polity2 is calculated by combining two measures of institutional quality, Autoc and Democ. The Autoc and Democ variables include measures on the quality of political institutions, including: information on competitiveness and openness of executive recruitment, constraints on the chief executive, and the regulation and competitiveness of participation. Polity2 is expressed as Democ minus Autoc and is scaled from -10 to 10 where 10 represents a strongly democratic regime and -10 represents a strongly autocratic regime. Democratic government is identified as beginning the first year a country's polity2 score exceeds 0 and ending when it becomes non-positive. However, one other adjustment is made when identifying periods of democratic regimes. Significant changes in the polity2 score signal a regime change, but democracies with very high scores would still be considered democratic and this would not suggest that a country experienced democratic failure. PolityIV categorizes this breakdown when the polity2 score decreases by four or more points, and we use the same criterion.

We are primarily interested in democracies at risk, so the dataset does not include countries that have always been democratic during our period of measurement from 1970-2012. Similarly, countries that have always been autocratic are not included in the data by construction. In total, there are 91 periods of democratic regimes in the dataset, of which there are 30 failures. Therefore, about 1/3 of the democracies at risk for failure actually did fail during our period of study. The longest-lasting democratic period in the data set is Venezuela which reverted back to Autocracy in 2008, after 39 years of democratic government, offering evidence that countries are

always at risk of authoritarian reversal. Svolik (2008) emphasizes this fact by noting that people greatly overestimate the probability of failure with short democratic durations and underestimate the probability of failure with long durations.

Data on GDP, population, natural resources, and land area are all taken from the World Bank. Income inequality is measured as the Gini coefficient taken from Standardized World Income Database (Solt, 2009). The dummy variable, Africa, is given a value of 1 if the country is in Africa and 0 otherwise. The Fraser Institute's Economic Freedom of the World Index (EFW) provides data for the measure of the quality of economic institutions. This index is updated annually by Gwartney et al. (2014), and it is specifically designed to measure the quality of economic institutions while omitting measurement of political institutions such as civil liberties.

Figures 1 and 2 illustrate the positive relationships between institutional quality, as measured by EFW, and the length of democratic regimes. Economic development and democratic length are strongly positively correlated with a correlation coefficient of 0.59. This preliminary result supports findings from previous studies (Przeworski 2005; Jeitschko et al. 2014). In addition, economic institutions and democratic regime length are also strongly positively related with a correlation coefficient of 0.51. The central hypothesis of this study suggests that high quality economic institutions facilitate democratic survival, and the correlation coefficient and scatter plot provide support for this hypothesis.

[Figures 1 and 2 about here.]

One concern might be that economic institutions will be less important in predicting democratic survival once economic development has been taken into consideration. After all, economic development and democratic regime length also have a very strong relationship and there is a large literature that documents the beneficial effects of high quality economic institutions on development. Berggren (2003) and De Haan et al. (2006) provide summaries of the literature on economic freedom. More recent studies have reaffirmed the beneficial impact of sound market institutions (Faria and Montesinos 2009; Hall and Lawson 2014). This next section will discuss the empirical methodology employed to control for economic development and show that, independent of the effect from economic development, high quality economic institutions facilitate democratic survival.

Empirical Model

The empirical specification is a survival analysis, sometimes also referred to as hazard, duration, or event history analysis, which estimates the likelihood that a democratic government will remain democratic, or survive, for another year. The time until the event (authoritarian reversal) is the variable of interest and the cumulative number of years a democracy persists is the duration variable. Survival analysis is the preferred method of estimation when the time length is censored, and in this case many countries are right-censored, because they remain democratic at the end of the time period analyzed.

The hypothesis that sound economic institutions facilitate the survival of democratic transitions is tested using a cox proportional hazard model (See, e.g. Cleves et al. (2010) and Kalbfleisch & Prentice (2011)). The proportional hazard model is defined as:

$$h_{ic}(t|x_{ic}) = h_0(t)exp(x_{ic})\beta_x$$
(1)

Where h_{ic} is the hazard a democracy faces in a country c. $h_{ic}(t)$ is proportional to the baseline hazard, $h_0(t)$, at time t and depends on a vector of explanatory variables, x_{ic} . The functional form of $h_0(t)$ does not require specification, though Weibull, Exponential, or Gompertz Functions could be chosen. X is a vector that contains the explanatory variable of interest, EFW, which is the measure of economic institutions from the Fraser Institute's Economic Freedom of the World Index. X also includes control factors that may affect a democratic transition. This includes GDP, a Gini coefficient, natural resources, population, land area, a dummy for parliamentary democracy, and an Africa dummy. β is a parameter to be estimated.

One of the assumptions of the Cox proportional hazard model is proportionality. This assumption is easily checked by interacting time-varying covariates with time measures and testing for statistical significance in the interaction term. The insignificance of these time-varying covariates indicates that this proportionality assumption is not violated (Cleves et al. 2010).

Important Control Variables

Included in this vector is the explanatory variable of interest, EFW, and other control variables that might exert an influence on democratic survival. GDP per capita is included because there is evidence that economic development greatly increases the probability of democratic survival (Przeworski 2005; Jeitschko et al. 2014). Natural resources have been shown to influence the duration of dictatorships. Cuaresma et al. (2011) find that dictators with greater profits in oil have longer tenure. Andersen & Aslaksen (2013) find that oil production facilitates leadership duration but this effect is only found in autocracies. Jeitschko et al. (2014) provide a model that suggests a democracy will survive unless the expected benefit of authoritarian reversal exceeds

the return to a stable democratic environment. Oil profits may contribute to increased stability and a reduced probability of authoritarian reversal. An African dummy is used to control for the differences between regimes in Africa and other regions. African leaders are notorious for corruption and the resource curse (Ross 1999; Sala-i-Martin and Subramanian 2003; Sachs and Warner 2001; Robinson et al. 2006; Mehlum et al. 2006). These institutions may also adversely affect democratic survival. Demographic variables such as population and country size may affect democratic regime length due to the findings that geography affects development (Sachs, et al. 1995; Sachs and Warner 1995, 1997, 2001; Diamond 1997). Svolik (2008) argues that presidential democracies have a worse and parliamentary democracies have a better chance of democratic survival. A Gini coefficient is included in order to control for the possibility that income inequality may disrupt democratic transitions. Acemoglu & Robinson (2006b) argue that societies with more unequal income distributions are susceptible to democratic breakdowns. This builds on earlier literature in sociology by Rubinson & Quinlan (1977) and Muller (1988).

Empirical Results

Table 1 shows the results of eight regressions explaining the durability of democracy using various combinations of the independent variables. The dependent variable is the length of time the democratic regime survives. All of the regressions include two measures of EFW, which represents the degree to which countries have market-oriented economic institutions. The value of a country's EFW index at the time of transition to democracy, efwbeg, is included, along with efwrate, which measures the average annual change in the EFW index during the life of the democracy, and is calculated by subtracting the initial value of EFW from the final value and dividing by the number of years the democratic government was in place. These are the two

variables of primary interest. The logic behind them is that the quality of economic institutions when the transition to democracy occurs can influence the durability of democracy, and improvements in the quality of economic institutions after the democracy is established can also have an effect.

Other factors might influence the survival prospects of democracy, including the per capita GDP of a country. One reason per capita income is an important variable is that there is a strong positive correlation between the ranking of countries by EFW and per capita income. Without including per capita GDP, it would be possible to attribute to EFW an effect on the durability of democracy that actually was the result of income rather than economic freedom. Two GDP variables are included and are calculated the same way as the EFW variables. The first is per capita GDP when the democratic government is established, and the second is the average annual change in per capita GDP over the life of the democratic government.

The first regression in Table 1 looks at the EFW variables along with other variables, leaving out the per capita income variables. The first is the percentage of a country's GDP coming from natural resources when democracy is established, to reflect the possibility of a resource curse. The next two are the population when democracy is established and the land area of the country, because the size of a country might affect the durability of democracy. Countries with greater land area, and larger populations, will tend to be more insulated from their neighbors. Also included is the Polity2 measure when democracy is established, with the idea that the political situation at the transition to democracy might affect its durability. A binary variable for Africa is also included, because many African countries established their own governments only as colonization of the continent was ending in the 1960s.

The coefficients measure the likelihood that democratic government will end in a country in a year, so the negative signs on *efwbeg* and *efwrate* indicate that the higher those variables, the less likely the country is to transition out of democracy. The more economic freedom a country has when democracy is established, the more durable will be its democracy, and the more economic freedom improves after democracy is established, the more durable will be its democracy. This supports Friedman's conjecture that economic freedom enhances political freedom. The only other variable that is statistically significant in the first regression is the Africa variable, and the positive sign indicates that African countries are more likely to transition from democracy, so democratic government tends to be less durable in African countries.

[Table 1 about here.]

The second regression adds the per capita GDP variables measuring both the per capita GDP when a democratic government was established and the average annual growth in GDP during the democratic government. Both are statistically significant, and the negative signs indicate a transition from democratic government is less likely to occur in countries that start with higher incomes, and that have higher income growth. Still, both the EFW variables remain statistically significant, although less so than in the first regression. The third regression drops GDP rate, and shows that the statistical significance of *efwrate* rises. Despite the correlation between the GDP variables and the EFW variables, the EFW variables retain their statistical significance when the GDP variables are included.

The fourth regression includes more regional variables, including a variable that more finely divides Africa, and finds that there is a tendency for Asian, Eastern European, and African countries to have less durable democracies. The fifth regression leaves out the regional variables and adds a variable for parliamentary democracy. The positive sign shows a strong tendency for

parliamentary democracies to be less durable. However, in the sixth and seventh regressions, that include the regional variables along with the variable for parliamentary democracy, the parliamentary variable is not statistically significant. The sixth and seventh regressions differ only because the seventh drops gdprate to show that when that is done, the statistical significance of efwrate increases. Lastly, the Gini is added to the final regression. That regression has fewer observations because data on income inequality is not available for all countries, particularly in earlier time periods. The Gini has the predicted sign, but is not statistically significant.

The empirical results strongly support Friedman's conjecture that the quality of economic institutions affects political institutions. In the regressions in Table 1, the EFW index at the time a democratic government is established is statistically significant at the .05 or better level in every regression, and the average annual change in EFW is always statistically significant at at least the .10 level in every regression. Because of the well-established positive correlation between EFW and GDP, it is noteworthy that the statistical significance of the EFW variables holds up when the GDP variables are included.

The results can also be illustrated using the Kaplan-Meier survival function in Figure 3. That figure shows the probability that a democratic government survives for four different groups of countries based on their initial EFW scores. The top line in the figure shows that for countries in the top 25% by EFW score, more than 90% remain democratic, whereas the bottom line shows that for those in the bottom 25%, reversals into dictatorship come rapidly so that after four years, half can be expected to have reverted into dictatorship, and that less than 10% remain democratic after 20 years. Democracies with higher levels of economic freedom are at less risk for authoritarian reversal.

Conclusion

A substantial literature notes the interaction between economic and political institutions, suggesting that more market-oriented economic institutions tend to enhance the durability of democratic political institutions, and the empirical analysis presented here supports that hypothesis. Measuring economic institutions using the Fraser Institute's EFW index, when democratic governments are established in countries ranking in the top quarter of that index, 90% of them remain democratic after 20 years. For countries in the bottom 20%, the establishment of democratic governments has a 50% chance of reverting to autocracy within four years, and only a 10% chance of remaining democratic after 20 years. The empirical results strongly support Friedman's conjecture that market institutions enhance the viability of democratic governments.

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Democratic Durability								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
efwbeg	-0.719***	-0.487**	-0.608***	-0.636***	-0.626***	-0.566**	-0.655***	-0.917***
	(-3.54)	(-2.23)	(-2.99)	(-2.53)	(-2.74)	(-2.21)	(-3.04)	(-2.86)
efwrate	-6.606***	-3.986*	-6.392***	-4.272*	-4.367*	-4.234*	-6.032***	-7.022**
	(-3.02)	(-1.78)	(-2.94)	(-1.83)	(-1.90)	(-1.83)	(-2.69)	(-2.16)
gdpbeg		-0.00004	-0.00089**	-0.00011	-0.00008	-0.00038	-0.0009**	-0.00096*
		(-0.09)	(-2.39)	(-0.23)	(-0.20)	(-0.73)	(-2.07)	(-1.80)
gdprate		-0.0143***		-0.0188***	-0.0150***	-0.0200****		
		(-3.33)		(-3.72)	(-3.74)	(-3.60)		
resources	-0.0242	-0.0175	-0.0178	-0.00744	-0.00286	-0.00749	0.00265	0.0098
Beg	(-1.18)	(-0.95)	(-0.84)	(-0.39)	(-0.15)	(-0.40)	(0.12)	(0.33)
lpopbeg	0.149	-0.00228	0.00813	-0.338	-0.400	-0.170	-0.237	-0.136
	(0.69)	(-0.01)	(0.04)	(-1.28)	(-1.74)	(-0.57)	(-1.01)	(0.47)
Insize	-0.194	-0.0719	-0.0188	0.0561	0.110	0.0840	0.155	0.16
	(-1.09)	(-0.34)	(-0.10)	(0.24)	(0.49)	(0.35)	(0.72)	(0.56)
polity2	-0.111	-0.0139	-0.0429	-0.00648	0.000645	-0.000502	0.0179	0.123
	(-1.18)	(-0.14)	(-0.44)	(-0.06)	(0.01)	(-0.00)	(0.17)	(0.97)
africa	1.137**	-0.166	0.370					
	(2.33)	(-0.30)	(0.73)					
East				3.166*		-2.164	-3.589	
Europe				(1.86)		(-0.30)	(-1.42)	
Asia				1.472^{*}		-4.935	-2.559	-3.528
				(1.88)		(-0.66)	(-0.93)	(-1.01)
n_africa				3.360**		-2.575	-3.763	-5.737
middle_e				(2.48)		(-0.35)	(-1.36)	(-1.55)
oceania				1.473		-2.831	-1.503	-1.835
				(1.17)		(-0.40)	(-0.64)	(-0.64)
Latin				0.00564		0.218	-0.471	-1.173
				(0.01)		(0.29)	(-0.73)	(-1.49)
parliam					1.817^{***}	6.040	3.766	5.327
					(2.88)	(0.82)	(1.45)	(-1.55)
Gini								0.064
								(1.44)
Ν	90	90	90	90	90	90	90	78

Table 1 – Economic Institutions and Democratic Durability

Note - *t* statistics in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01. Sub-Saharan Africa omitted in columns 4-8. Eastern Europe is included but not shown in column 8 due to lack of variation.