INSTITUTIONS, DEMOCRACY AND GROWTH IN THE VERY LONG RUN

BY

KONSTANTIN YANOVSKIY

Head of Institutional Development Department
Gaidar Institute for Economic Policy
Moscow, Russia

SERGEY SHULGIN

Russian Presidential Academy on National Economy
and Public Administration
Moscow, Russia

ABSTRACT

In this paper we tested the hypothesis of the "political" basis for the "economic" rights. We constructed our own variables of political regimes' classification for years 1820-2000. We found significant positive interdependencies between the Democracy's indicators and Economic Growth. Protection of the Private property rights requires, first and foremost, due guaranties for the personal immunity as a key precondition. Power to arrest discretionary undermines any formal guaranties of private property, low taxation benefits etc. Personal immunity should be defended even for "unpleasant" person (say, H. Ford or W. Gates) or for the chieftains' challengers (to make "rights of the meanest … respectable to the greatest"). It means the free speech; religious freedom and other "political rights" should be respected. Democracy, as political competition system weakens governments' power to break personal freedoms and property rights.

INTRODUCTION

The basic hypothesis of this paper is that the fundamental precondition for the due protection of private property and hence for modern economic growth is personal immunity. The broad definition of personal immunity includes the guarantee of rights such as the right to life, personal freedoms[1] and the inviolability of private property. Further, it encompasses the requisite institutions for the enforcement of these guarantees, which can often be perceived of in political terms as the so-called "Political Rights". This concept seems very trivial, but it is regularly ignored in both theory and practice.

Safeguards for the individual person against arbitrary arrest, against capture, or against any form of deprivation of freedom, are, in effect, the most essential pre-condition for the existence of the modern institution of private property. Such safeguards constitute a key and integral element of the right of ownership. When they are weakened or missing, the right of ownership loses all meaning. And indeed, property can easily be taken away from an economic agent if the opportunity is easily available to deprive the agent of personal freedom. Deprivation of freedom, or the threat of such deprivation, is a classic way of confiscating or taking away property.

At times this is done with the pretext of demanding payment for arbitrary taxes. Property was confiscated in this way in different countries in different ages. John, King of England, also known as John Lackland, Charles I (England), and Philip II (Spain and the Netherlands) were among the first rulers to run into violent resistance on the part of property owners against practices of this sort.

The source of the threat may lie with the state or with a private gang; that is, the threat can hail from any sort of roving or stationary bandit. Inadequate attention has been paid to this circumstance in contemporary literature, where we occasionally find even violence discussed as an instrument of enrichment (Hirshleifer, 2001), and security as a factor in determining a business climate. This is to be explained by the fact that in countries whose citizens are the authors of the overwhelming majority of the materials the country publishes in peer-reviewed periodicals and respected publishing houses, safeguards of this sort have been in existence for centuries, and seem to be self-evident and able to be taken for granted. The growth spurts which authoritarian countries have historically achieved proved to be unsustainable (Przeworski et al, 2000). Rule of Law (RoL) regimes which provide personal immunity and property guarantees for all economic agents consistently outperform every competing form of socio-political organization in the long run. Indeed, these Rule of Law countries have always been a source and

---

[1] The idea was quite clear both for King Charles I and for the British property owners who beheaded him. He jailed owners to extort money and corrupted court processes; the owners reacted in kind.

accelerant for growth in other economies by providing them with knowledge, capital, and sometimes by exporting their advanced institutions to less developed countries.

To date history has provided no basis to suggest that any favorable "starting conditions", "initial capital", or "impulse", have been capable of securing long term economic growth (average rates of 1.5 – 2% or more per capita GDP growth) over a period of centuries[2]. Our inquiry can therefore be largely reduced to the question of which laws are to be regarded as reasonable, and what package of such laws might be said to constitute a satisfactory, or at least minimal, prerequisite for growth.

Is it the case that the institutions of RoL democracies and the notions of personal liberty are just luxuries that only the rich and developed countries can afford?

THE QUESTION OF DEPENDENCE AND CAUSALITY

The choice and elaboration of the essential set of institutions required for the support of long-term economic growth, as described by Adam Smith, is still among the most enduring and fundamental problems of the science of Economics. Mancur Olson pointed to freedom as a key precondition for economic growth, in as much as it tends to provide long-term transaction guarantees against even stationary bandits. Conversely, a number of researchers, for example W.Wo and O.Davis, have claimed that the existence of a causal relationship between economic freedom and growth is unclear. This paper attempts to provide the requisite research and discussion that are needed in order to definitively conclude this discussion.

Douglas North et al. (North, Wallis, Weingast, 2009) tried to define institutional conditions for long run economic growth. Their book ("Violence and Social orders") however, leaves the reader without clear description of institutional machinery for the private property protection under the "Open Access orders". The book does not contain clear and explicitly stated criteria of successful transition to "Open Access orders" although the Walpole vs. Bolingbroke contest description (p. 203) could deliver us at least the formal test of "opposition leaders' personal safety".

Robert Barro (1999) stressed the issue of the Rule of Law by forming the Rule of Law Index which is based on ratings and expert opinion (1999, 2). Barro based his analysis on Lipset's (1994) vision of the origins of Democracy. Lipset hypothesized that Democracy is caused and supported by sustainable economic development, political and cultural maturity.

---

[2] 1.5% over a period of 180 years would have been sufficient to transform a country, not affluent even by the standards of the late 18th century (such as China with a per-capita GDP of 600 USD in 1990), into a country of a medium level of development (like the Czech Republic or Argentina). At a rate of 2%, however, it would have taken 200 years for an extremely backward African country with a per-capita GDP of 400 USD in the early 19th century to become a highly developed one, with a per-capita GDP exceeding that of France, Finland and Belgium in 2000.

Later, K. Okui (2005) demonstrated the absence of a statistical connection and indicated the interdependence of political and economic rights. The same view is shared by Wo (2005), whose conclusions are based on his own methodology for analyzing and testing mutual influence and causality. It should be noted that the absence of a statistical connection may be explained by the existence of complex cause-and-effect relationships between institutions and economic growth.

Paldam and Gundlach (2008) trace two approaches to the work of two laureates of the prize memorializing Nobel: North and Kuznets[3]. Advanced economic analysis techniques look excessive being based on the experts' subjective evaluations data. The ratings statistical data are extremely vulnerable to criticism itself. So, the most convincing argument, then, seems to be furnished by a qualitative analysis, rather than an economic one[4].

It is vital to note that the relative importance and direction of causality may vary from one society to another due to different levels of development. According to a number of researchers, the demand for institutions typical to those of rule-of-law democracies tend to take root among a significant percentage of the population only after a sufficiently high level of per-capita GDP has been achieved (Mau - Starodubrovskaia 2001).

As noted above, Olson (2000), who was convinced that the direction of causality is from democracy to economic growth, described one of the causes of this phenomenon. Long-term and complex transactions are sensitive to risk, institutional peculiarities, etc., and it is therefore essential that property rights be protected by ironclad guarantees which can only be ensured in a Rule of Law democracy. It follows, therefore, that persons who have achieved a certain level of economic success cannot continue to expand their success when confronted by hampering institutional limitations.

---

[3] The first of these is referred to as the Grand Transition (GT), and the second as the Primacy of Institutions (PoT). The authors provide a survey of works in economics, including their own writings, in which attempts have been undertaken to make evident and to explain the causal connection between democracy and growth.

[4] Two sets of countries are listed, with one, according to the authors' view, providing evidence in favor of GT, and the other of PoT. In the first ("twins with different economic systems"), the authors compare countries with similar starting economic, historical, and cultural givens, whose development histories, beginning at some specific point, go their separate ways. The ones got more or less decent safeguards for private property and a market economy. The other countries had socialist experiments foisted on them. After decades, or even generations elapse, the gap between their levels of economic development turns out to be impressive. In the authors' view, the pair Thailand – Burma does not fit into the set. We believe that the authors have exaggerated the influence of English institutions upon Burma's society and state. The limited nature of this influence becomes evident if we compare this country with India. In India, the English have been constructing their institutions at least beginning as far back as the Sepoy Mutiny of 1857 (from court system and free press, to local legislative assembly – see Government of India Act, 1919; Government of India Act, 1935 http://www.legislation.gov.uk/ukpga/1935/2/pdfs/ukpga_19350002_en.pdf).
The second set introduces countries which attained a high level of economic development between 1950 and 2000. However, this set appears to be providing a non-symmetrical argument vis-à-vis the "pair of twins." Singapore reached a high level of development in the presence of sound English institutions, which it began rapidly to dismantle (1989, something not reflected by the Polity Score). By contrast, society in most countries in the set had considerable democratic experience before reaching a high level of economic development (Austria, Greece, Ireland, Israel, Italy, Portugal, and Spain). Only two instances are available which demonstrate in an unambiguous way the attainment first of riches, and only then, of democracy: Korea and Taiwan.

At the individual level, a more obvious rationale that leads to the demand for such institutions is the necessity to protect the level of wealth and the accumulated resources that have already been attained; the more numerous the people with high incomes and substantial property, the higher the demand for such institutions[5] of protection. For example, the driving power behind, and indeed the leaders of, the English and American Revolutions were landowners. Likewise it was an awareness of these issues that motivated the Finnish elite to redistribute portions of their estates in favor of the exiles from the Karelian Isthmus[6] in order to prevent their de-socialization and political marginalization. Also, many politicians viewed the growth of a class of property owners favorably, seeing them as natural supporters of the irreversibility of market and democratic reforms.

In *Institutions and the Impact of Investment on Growth*, Gwartney et al. (2005) substantiate the existence of an influence exerted by qualitatively assessed institutions (measured by the Economic Freedom of the World Index – EFW) on economic growth by means of investments which are predominantly private. In their work they apply the EFW to data on economic growth during the period 1980-2000.

The data for the "Governance Matter" project, funded by the World Bank over a period of 11 years, included an assessment of the quality of institutions, political stability and the existence of a Rule of Law state. This data was based on public polls[7] and experts' evaluations (Kaufmann et al. 2007). This is a clear indication that the World Bank's leadership places considerable stock in the valence of the hypothesis of direct causality between institutions' Rule of Law qualities and its economic growth rate.

Shleifer and his colleagues examined "political institutions" such as freedom of speech (Djankov - Shleifer 2003). Their findings regarding the impact of institutions on economic growth (Glaeser - Shleifer et al, 2004) supported Lipset's hypothesis about the direction of causality.

What distinguishes rule-of-law states from rule-of-force ones appears to us to be much more significant than the difference between common law and civil law legal families. This distinction appears to us irrelevant to most countries in which the authority of the judges is subordinate to the executive branch of government, while legal procedure itself serves a merely decorative function[8].

---

[5] Thus, the stipulations of the Coase theorem concerning the presence of well-established property rights and zero transaction costs are predicated on the existence of a strong rule-of-law State (or the necessity of its presence for achieving the optimum, outside the dependence on the initial distribution, which already exists under ***rule-of-law democracy***).

[6] Solsten, Meditz, 1988

[7] The poll estimates the confidence in the police, judicial system and personal experience as a crime victim. Other indicators were defined by consulted experts.

[8] La Porta, Lopez-de-Silanes, Shleifer, Vishny, 1998.

In our paper we develop a set of very simple logical variables[9] to assess the quality of political institutions (see *Table 1* below). We classify a country as a Rule of Law Democracy if and only if all three of the following conditions are met: the government steps out and let the opposition assume the office if losing an election[10]

The government may lose a widely publicized and politically significant case in the Court, and will comply with this decision

The Opposition mass media criticizes the Government harshly, and calls for its replacement without revenge or punishment.

Thus basic individual rights[11] and freedoms are secured and perpetuated as routine practices. For instance: USA, England after 1832, the Third Republic in France prior to 1940, etc.

And we classify a country as a "Limited Government" (LG) if any of above listed are "True".Our indicators to a significant extent reflect the condition of a society, and not only of the state[12].

An analysis of the recent history of post-socialist countries, together with comparative institutional analyses covering a lengthy period of economic history (the last century) shows the crucial importance of the independence of the courts and the media. They proved to be a more significant factor than taxation and business regulation. This conclusion was initially arrived at

---

[9] It is our view that any legal norm or law-enforcement practice can be described by means of a finite number of variables, even though creating this description might require considerable time and effort.

[10] Przeworski's Democracy criteria (Przeworski et al. 2000: 17).

[11] ***Basic individual rights and freedoms*** (We reject the propagandist clichés concerning so-called "national" or "collective" "class" rights) are understood to be private property ownership, including the freedom of entrepreneurship and pricing in the sphere of trade; personal immunity in the broad sense, including the right to life. This definition encompasses the inviolability of a person's right to publicly criticize the authorities or profess religious values which are different from those of the authorities. These principles correspond to the "natural rights" as developed by John Locke. In other words, these are the institutions mentioned above that provide a person their assurance of property rights. ***Demand for such institutions*** can be evidenced by actions undertaken by the public that aim at acquiring or defending certain institutions, e.g., participation in mass actions which demand the introduction or abolishment of certain norms.

For example, voting for the party, supporting or opposing the establishment of certain institutions, respective political activism (volunteering for or donating to an electoral campaign, etc). The parties are formally classified according to their relationship to the Basic Institutions. Formal definitions of "Free elections", "Opposition Media", "Rule of Force" etc can be found in the report by the Jerusalem Institute for Market Studies http://www.jims-israel.org/pdf/InstitutionsGrowth.pdf

[12] Especially when sufficiently large values have accumulated for the variables RoL and RG. If certain norms have become established in society, norms which limit violence and foster respect for property, then these norms were operative even in California of the days of the Gold Rush. All prejudices and myths notwithstanding, the death rate in this region was lower than in the FDC, that stronghold of modern American liberalism larded with police officers and disarmed citizens in comparable numbers.

Historically, the differences between the roving bandits "holding a license" and those without a state affiliation, have not been that great. The boundary between them has blurred (consider Francis Drake, Stepan Razin, Hayreddin Barbarossa, the PLO, et al.). That is, the "providers" of violence stand out only in civilized society with a limited government. Before this, or without this, differences between the various kinds of roving bandits are reducible to minor points. The only significant kind of difference in this connection obtains between the roving bandit and the stationary one. And even that is far from always necessarily the case.

on the basis of a comparative and statistical analysis of institutions in post-communist countries during the 1990s (Mau – Yanovskiy - Zhavoronkov et al. 2003).

These studies have caused us to recognize certain institutions as fundamental and to therefore focus on them in our analysis. We have ascertained that fundamental institutions are those that protect the right to life by limiting the risk of death at the hands of "roving" or "stationary" bandits. These institutions provide personal immunity, including for citizens with non-traditional beliefs who are critical of the authorities or the prevalent religion.

According to the extent to which these rights are guaranteed, it is possible to categorize all countries as either Rule of Law (RoL) countries[13], or Rule of Force (RoF) countries where discretionary regulation prevails. It is also possible to consider countries in transition as a distinct and separate category.

This paper aims to demonstrate the importance of those institutions that ensure physical safety and personal immunity by pointing out that, in the absence of these institutions, guarantees of universally recognized private property rights either cease to exist or are rendered meaningless. A person kept in detention and/or threatened with death will, as a rule, agree to surrender any property rights he may have. Our research is predicated upon an important assumption as to the lexicographical character of demand (or preference) for life and freedom. We will attempt to substantiate this assumption by the following brief review.

Clearly, even statistically significant interdependence cannot be adduced as proof; it is at best an illustration that demonstrates the possibility of correlation or causation. We believe the most acceptable approach on which to base our hypothesis is a combination of statistical analysis and a reasonable micro-level interpretation of the incentives of economic agents. It is self-evident that the propensity of the overwhelming majority of agents is to obtain material goods and to enjoy freedom, and that these agents attach the highest priority to obtaining these goals. We attempted[14] to describe this phenomenon by way of examining Human Life Value (HLV) in

---

[13] ***Rule-of-Law (RoL) societies and countries*** are societies governed in accordance with well known and published legal norms based on the priority of the fundamental rights and freedoms of the individual over the collective and state interests. RoL societies provide the necessary guarantees of these norms, rights and freedoms, in order to ensure their implementation, including by force. Among such guarantees is the independence of the courts, which is provided for by laws and custom, and is evidenced by the fact that the State, represented by high officials and agencies, can not infrequently lose in socially significant and widely publicized cases to an individual citizen (many such examples may be easily accessed in press archives). An example of this is the U.S. Supreme Court's decision on the illegality of procedures for detaining terrorists at the Guantanamo military base An example of this is the U.S. Supreme Court's decision on the illegality of procedures for detaining terrorists at the Guantanamo military base (for example, the decision on the Hamdan vs. Rumsfeld case, 04-702; the decision was announced on June, 29 2006). , which created serious problems for the U.S. administration), which created serious problems for the U.S. administration.

[14] In some countries, a conditional assessment of human life value is established by legislation. The US Ministry of Transportation uses a conditional estimation of the value of human life when assessing the efficiency of investments in measures designed to ensure transport safety. At present, the conditional human life value in the USA amounts to 3 million USD. The insurance market demonstrates that as far as the market agents are concerned, the assessed value of life is comparable to the value of all owned assets. For details see: respective Jerusalem Institute (JIMS)

the fields of life insurance and hostage trades[15]. It must be emphasized that there exists no clear division between the two values of protection of life and freedom. A person seized by terrorists or other "roving" or "stationary" bandits finds himself or herself in conditions that clearly threaten his or her life and / or dramatically lower their quality of life. For example, jailed businessmen would be happy to exchange all of their assets for life and freedom[16]. Therefore, the threat of incarceration could be an effective tactic to extort money from businessmen (e.g., the Gusinsky case, 2000).

The level of protection can be defined as a value inversely related to the level of threats to life and freedom[17]. Scully (1997) analyzed the worse cases of violence (highest level of danger). He supposed the rational dictator could use the mass murder to strengthen his power and prevent challenges, if people's life is cheap enough. We believe the less danger to be murdered for the economic agent, higher probability of private investments and stronger agents' incentives to "pursuit happiness" (to reach economic successes). So the ambitious rational dictator should sometimes restrict his repressions against skilled personnel heavily invested previously in their Human capital (Hitler, Stalin – supports Scully's approach). Less ambitious dictator (Pol Pot) specially focused repression against intellectuals (contradicts to the same).

Olson notes that as projects become more time consuming and transactions more intricate, guarantees must be at the highest level. It follows that the necessary condition for economic growth is a progressive reduction in the level of threats to the life and freedom of a citizen. For example, the Communist elite of China had broken the consecution of regular waves of the mass repression (murders). . The lack of the guaranties problem in China has been solved to some extent by unofficially granting personal immunity to foreigners from developed RoL democracies (till the "Rio Tinto" – Stern Hu case[18]).

As people are usually inclined to value their life at least as high as the sum of all their assets, the very existence of private property institutions without basic guaranties of life and

---

for market studies working paper http://www.jims-israel.org/pdf/InstitutionsGrowth.pdf. It was found that the demand for a complementary good such as Health is not elastic.

[15] The ransoms for hostage in Iraq supposedly range from 50 thousand to 2,5-7 million USD – see for example http://www.cbc.ca/news/background/iraq/hostages.html ; http://www.timesonline.co.uk/tol/news/world/iraq/article723364.ece

[16] Cases of Huang Guang Yu (PRC), Khodorkovsky (Russia) and many others in the Rule of Force countries show the real value of formal private property guaranties without RoL practices.

[17] The list of the levels of human life and freedom protection description presented in the JIMS WP: http://www.jims-israel.org/pdf/InstitutionsGrowth.pdf . Scully (1997) analyzed the worse cases of violence (highest level of danger). He supposed the rational dictator could use the mass murder to strengthen his power and prevent challenges, if people's life is cheap enough. We believe the less danger to be murdered for the economic agent, higher probability of investments and stronger incentives to "pursuit happiness" (to reach economic successes). So the ambitious rational dictator should sometimes restrict his repressions against skilled personnel (Hitler, Stalin). Less ambitious (Pol Pot) specially focused repression against intellectuals.

[18] http://www.channelnewsasia.com/stories/afp_asiapacific_business/view/448282/1/.html

liberty is meaningless. Thus, the assumption about the lexicographical character of peoples' demand (or preference) for life (quality of life, life and freedom) proved to be reasonable.

STATISTICAL ANALYSIS

To validate our hypothesis we have conducted a statistical analysis. Before progressing to that data, it is worth mentioning that others, such as Przevorski et al. (2000), have arrived at similar conclusions. He shows[19] that in the absence of decisive advantages that would tend to affect economic growth, democracies exhibit a higher stability in terms of growth rates than do dictatorships.

As further "common sense" evidence to support our hypothesis, it is apparent that the overwhelming majority of rich countries are democratic. However, it inevitably becomes necessary to test the hypothesis that in the historical very long run (VLR) period, in excess of 100 years, a democratic regime or - to be more precise - a RoL democracy (Mau - Yanovskiy - Zhavoronkov et al. 2003) will exhibit a positive statistical connection to growth rates of per-capita GDP. In our research we used a 180-year sample because it offers considerably more possibilities for analyzing the existence of cause-and-effect relationships between democratic institutions and economic growth.

The statistical illustration presented below demonstrates the presence of a clear and strong relationship between a number of variables. This data is a rough draft due to the numerous "re-establishments" of missing data which led to a weakening of the connection[20].

The obtained interrelationships confirmed the null hypothesis that a Rule of Law democracy provides advantages when compared to all alternative regime types in the historical very long run of our sample set. The available data is sufficient for this conclusion to be proved.

Data and the collection method

Before progressing to the data we feel it is necessary to clarify and explain a few points. The statistical data in the form of per-capita GDP are taken from the works of Maddison (2001, 2003). The Oil Monarchies are not included in the data set because we did not wish to complicate the model with the introduction of yet another variable that we were not testing. Also, the duration of the regime of rule-of law democracy in a country was determined on the basis of data found in Freedom House, Przevorski et al. (2000), Tanin-Lvov (2001) and in a number of sources used for collecting the data for estimating the values of variables 3-5 (*Table 1*).

---

[19] He analyzes the forty year period 1950-90 based on a sample of 100 countries.
[20] That is, so as not to artificially strengthen the interdependence.

The data that Maddison provides for a large number of countries and practically all the large global regions, makes it possible to approximate the intervals of the initial per-capita GDP for another 145 countries.

Unfortunately, there is no GDP data on many countries for the 19th century. Where GDP data for a third world and non-democratic country was unavailable, we used the per-capita GDP index for the year 1820. We established the year 1820 as a minimum level for this category of countries described by Maddison to extend the sample. We used a reduced sample of countries with Maddisons' assessments of per capita GDP provided directly as well (*Table 2*, dependencies 1a and 2a).

Maximum assessments were used for particular regions containing countries that have experienced democratic rule for decades. For countries that were "less mature" in this respect, or those with only a few years of democratic experience during the period 1820-2000, we chose the minimum level. This distinction resulted in a reduction of the average rate of growth of per-capita GDP for democracies, and an increase of such growth for authoritarian countries. This was done to prevent an overestimation of the significance of democracy[21]. In other words, the "reconstructed" data inevitably and intentionally reduces the explanatory capacity of the model by limiting the effect of potential outliers.

The total number of countries in the "big" sample is 145, including the regional data application for the relatively young countries which had GDP values for 1820. Of that number, the data of 94 countries have been "reconstructed" by data on the respective regions.

To detect the existence of an independent court system (see criterion (2) above) we assumed the stability of both the old RoL democracies and the totalitarian countries (such as the USSR 1917-91; PRC since 1949, etc.).

Thus, we mainly focused on the countries where some indications of political competition were found and therefore the probability that judges enjoyed independence was seen as definitely non-zero[22] (for example Egypt, Iran in the 1980-90s). We also paid special attention to the underdeveloped countries (periods) that were assessed to be at a high level, comparable to old RoL democracies by the Freedom House and Fraser Institute (Economic Freedom Index) experts (marked as "partly free" or "free" by the Freedom House – Mali since 2002).

We used the same approach to collect data for criterion 3 ("opposition media"). The simplest task proved to be sorting the countries according to Przeworski's criterion (criterion 1).

---

[21] Naturally, this has overrated the significance of initial GDP for further growth, because in an absolute majority of cases, countries with an experience of democracy have had significantly higher rates of growth than non-democratic countries during the 180-year period under discussion.

[22] The long-term activity of a civically skilled opposition or an elite cleavage causing a long-lasting equilibrium of power both happen so rarely that it is not difficult to detect them all, and check if the Government ever lost a widely publicized and politically significant case in the Court and complied with its decision, and could it ever lose in a court of law.

We simply used the following sources and conducted an additional check if the criteria 2 and 3 values were found to be different from Przeworski's criterion value.

For cross-country analysis (see *Table 2* for the outcomes) we analyzed the data exactly as described above. For Causality Analysis we used time-series for selected countries, so the average growth rate (GDPavgrowth) variable was replaced by yearly GDP growth rate data.

Table1
Selected variables ' List and Descriptions[23]

№	Designation of Variables	Description of Variables
1.	GDPavgrowth	Average rates of per-capita GDP growth for the period of 1820-2000
2.	StartGDP	Per-capita income at beginning of the period (1820)
3.	DemocrTaxp	Duration of taxpayer democracy period (years)
4.	RoL Democracy	Duration (number of years) of the RoL Democracy period (number of years when all three RoL Democracy conditions were met)
5.	RestrictGovt	Number of years when at least one of the three ROL conditions mentioned above was met
6	Polity IV, P4	The variable constructed through the use of the PolityIV data set. Polity IV = DEMOC – AUTOC + 10 DEMOC and AUTOC are variables constructed in Polity IV

Causality analysis

In regression analysis, statistically significant relationships between variables do not answer the question of the direction of the influence exerted by variables on one another, i.e. causality.

For data which creates a "time series" by its very nature, there exists the Granger (1969) approach which helps determine whether the variables influence one another. The Granger test indicates to what extent the current values of Y can be explained by the previous values of Y, and shows whether the values of X lag or lead the current explanation of Y. It is believed that variable X is the Granger-cause for Y if X helps improve the explanation of Y.

To test Granger-causality we ran the following regressions:

(1) $Y = c_0 + c_1 Y_{t-1} + \ldots + c_n Y_{t-n} + k_1 X_{t-1} + \ldots + k_n X_{t-n} + e_t,$

(2) $X = d_0 + d_1 Y_{t-1} + \ldots + d_n Y_{t-n} + l_1 X_{t-1} + \ldots + l_n X_{t-n} + \varepsilon_t,$

where **n** is the number of lags taken into account in this model. When we deal with yearly data time series, the number of lags in the model show how many previous years (of X and Y) are taken into account in explaining the current values of X and Y.

For the first equation, F-statistics are the Wald statistics for the hypothesis that the coefficients k are simultaneously equal to 0: $k_1 = k_2 = \ldots = k_n = 0$. The null hypothesis can be stated as: X is not the Granger-cause of Y; i.e., the values of the variable X taken with a certain lag do not influence the current value of variable Y.

---

[23]   Wee published data and methological comments on website http://yanovskiymoshe.com/?p=97 .We present here only the variables contained in the dependencies of *Table 2*.

We believe that X is the Granger-cause of Y if, on the one hand, it is possible to reject the hypothesis that X is not the Granger-cause of Y (*i.e., the coefficients k in regression (1) significantly differ from 0*), and, on the other hand, it is impossible to reject the hypothesis that Y is not the Granger-cause of X (*i.e., the coefficients d in regression (2) are not different from 0 at the required level of significance*).

We have used Granger causality tests in order to assess the direction of causality with respect to RoL (Rule of Law) variables and the rates of economic growth in the period 1820-2003. On the basis of data on the population of European counties and by using the RoL variable for each of these countries, we constructed the RoL_TOTAL1 variable[24] for 12 European countries by assessing the RoL of every country according to its population.

After performing the Granger test on a model with two-year lags, we observe the direction of causality from RoL to economic growth, meaning that we can reject the null hypothesis at the 1% level of significance. Conversely, we do not observe causality from the rates of economic growth to RoL; i.e., we cannot reject the hypothesis that all the coefficients are equal to zero when using rates of economic growth with lags to explain RoL.

The same result is observed in the model with 5 lags. That is, our hypothesis is proved correct and RoL is proven to be the Granger-cause for the rates of economic growth.

Similarly, the results of models assessed with 10 and 15 lags demonstrated that there exists a mutual influence between RoL and the rates of economic growth. We also obtained like results regarding causality with data relating to the rates of economic growth and variables constructed using the Polity IV data base.

The assessment of models with short lags show that the direction of Granger-causality is from RoL to high rates of economic growth. When the lags are increased, there remains only the mutual influence of variables.

However, if the 30's and 40's of the 20th century are excluded from the period under study, we find that short-term dependence is preserved in the causality direction from RoL to high rates of economic growth. In models with longer lags, however, the influence of rates of economic growth on RoL weakens.

In the models with variables based on the Polity IV data, causality remains in evidence in the short run, but after excluding the 30's and 40's of the 20th century the relationship between RoL and economic growth loses significance in comparison with models with a large number of lags.

---

[24] Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland and the UK.

When analyzing the direction of causality between the Limited Government variables (LG) and the rates of economic growth, it is possible to find another causality direction that differs from that observed for European countries.

For 15 Latin American[25] countries, as well as for nations with longer statistical series for economic growth such as El Salvador, Nicaragua and a number of other countries, where statistics are available beginning from the 1920's, the models with a small number of lags display no significant relationships. However, when additional lags are included in the model, the emergence of a Granger-causality direction from rates of economic growth to the LG variable is observed.

We have analyzed the direction of causality between the Limited Government variable and the rates of economic growth for individual countries in Eastern Europe. We considered countries with GDP data sets available for the past 50 years, in particular, Hungary, Bulgaria, Czech Republic and Slovakia.

Regarding Hungary, there is a clear absence of a causality relationship from the RG variable to the rate of economic growth. Evidently, this is because of redundancy; a similar direction of causality is obtained when using the variable based on the Polity IV data. The very same conclusions regarding Hungary can be made with regard to the Czech Republic and Slovakia, both in terms of the Limited Government variable and the Polity IV variable.

For all models – both those where the Limited Government variable was used, and those where the variable based on the Polity IV data was used – the hypothesis of the existence of Granger-causality directed from institutional variables (Limited Government or Polity IV) to the rates of economic growth cannot be rejected.

Comments

Based on our conclusions, we can considerably augment Przevorski and his colleagues' observation that dictatorships, while demonstrating more frequent periods of considerably higher economic growth than democracies, also cause equally spectacular economic collapses; i.e. that they demonstrate economic instability. Even where democracy does not demonstrate any economically measurable advantages over an observed forty-year period, it still ensures higher rates of long-term (150-200 years or more – see Dependencies 1 and 2, *Table 2*) economic growth due to the long-term stability it provides.

The long-term period of observation alleviates the problem of comparability regarding the technical conditions of economic growth. Recent decades, characterized by an acceleration of

---

[25] GDP_Bolivia, GDP_Costa Rica, GDP_Cuba, GDP_Dominican Republic, GDP_Ecuador, GDP_El Salvador, GDP_Guatemala, GDP_Haïti, GDP_Honduras, GDP_Jamaica, GDP_Nicaragua, GDP_Panama, GDP_Paraguay, GDP_Puerto Rico, GDP_Trinidad and Tobago

technological progress, have provided higher rates of economic growth. However, it is true that this factor has also decreased the relative significance of democracy as a factor of growth.

Technological progress is conducive to the acceleration of economic growth in any country which avails itself of its achievements. The typical tendency of institutionally underdeveloped countries to adopt innovations is largely compensated for by the incomparably lower costs of access to the results of research and development- because of lax intellectual property laws. Frequently, such advancements are acquired in such countries by way of theft of intellectual property. Thus, projects with a short period of recoupment and low sensitivity to failure in protecting property rights, can be implemented with significantly greater efficiency, which results in the temporary acceleration of economic growth.

The acceleration of scientific and technological progress in the 20th century has influenced the rate of economic growth. The average annual rate of 1% was quite satisfactory in the 19th century, while long-term rates of growth during the greatest technological period of advancement in the 20th century have exceeded 3%.

This technological factor could grant a significant advantage to a democracy that is based on the universal right of suffrage over a taxpayer democracy in a comparative analysis of these two institutions. For this reason we have not conducted such an analysis in the present study, although we consider the difference between the two institutions to be very significant.

An historical analysis of the source of investments is another very significant factor in determining economic growth in the long-term. Investments as outliers have the potential to reduce the demonstrative importance of a democratic regime or one which maintains another set of legal norms that are conducive to economic growth.

As opposed to the more underdeveloped parts of the world, countries which can be considered to have achieved "developed" status by the middle to the end of the 19th century were characterized by their experience of a Rule-of-Law State and democratic rule. These countries, the majority of which were Protestant, became the source of investment in the broadest sense – of finance, knowledge and human capital – for the rest of the world.

This wealth of developed capital was certainly not used efficiently in all developing countries and regions. Nevertheless, it is apparent that the success achieved by various eastern Asian countries, which have never experienced democracy or have become democratic only recently, is the result of the efficient use of capital supplied by developed countries. Clearly no active trade balance between these Asian countries and Europe or North America would have been possible without the investment, financial acumen, technical specialists and managers provided by the developed nations.

Table 2

#	Dependent variables	Independent Variables	Coefficient (adjusted)	Number of observations	T-statistics	R^2- adjusted
1.	GDPavgrowth	RoL Democracy	0.549	145	7.863	0.297
1a.	GDPavgrowth	RoL Democracy	0,528	49	4,402	0,265
2.	GDPavgrowth	RestrictGovt	0.582	145	8.567	0.335
2a.	GDPavgrowth	RestrictGovt	0.0000211	49	3,86	0,217
3.	GDPavgrowth	StartGDP	0.333	49	2.420	0.092
4.	RoL Democracy	DemocrTaxp	0.869	145	20.970	0.753
5.	RoL Democracy	StartGDP	0.808	49	9.412	0.646

CONCLUSIONS

Our analysis supports the hypothesis regarding the ability of RoL Democracies to provide the best framework for VLR economic growth. RoL Democracies induce economic growth throughout the world by exporting their capital, knowledge and institutions as well. Conversely, the export of institutions from regimes such as the USSR, Nazi Germany, PR China, cause economic failures. Even the supply of free oil and gas, weapons and educational services to their allies proved not to be due compensation for the same. As these externalities are ignored by most of the models reviewed above (and by ours as well), the advantages of RoL Democracy institutions as illustrated by *Table 2* (Dependencies 1 and 2) are confirmed even more robustly.

The hypothesis regarding the direction of causality could not be rejected. RoL democracies provide significant guarantees of private property and thus they are the best framework for stimulating private saving, investment and sustainable economic growth in the long-term.

Private property can be said to be protected only if a person's right to life and liberty is guaranteed[26]. In a certain sense the modern institution of private property is a product of the appearance of RoL regimes. Without the guarantees of life and personal immunity, agents' demand for private property is very low as they would clearly prefer to save their lives, rather than their money. Thus, a regime where an independent court system and independent media exist provides much more favorable conditions for economic growth in post-communist countries. This is true as long as stable voter demand for such institutions exists over an extended period so that such values become deeply-rooted and broadly shared. This in turn should lead to a constitutional guarantee for the above through formal legislation, as well as informal societal and cultural standards.

The advantages of a Rule of Law democracy are rooted in the guarantee of personal immunity. The freedom provided by a RoL democracy is a necessary condition for the effective

---

[26] Such provisions must be potent enough to guarantee the immunity even of a person whose religious faith is not shared by the government, or of a person who is critical of the government.

protection of private property and for continued economic prosperity and growth in the very long run.

REFERENCES

Barro R.J. Determinants of Economic Growth, London: MIT Press, 1999

Barro R.J. Determinants of Democracy // Journal of Political Economy, vol. 107(6), pp. 158- 183, 1999

Djankov S., McLiesh C., Nenova T., Shleifer A. Who Owns the Media? // Journal of Law and Economics, vol. 46(2), pp. 341-381, October 2003

Glaeser E.L., Shleifer A. Legal Origins // Quarterly Journal of Economics, vol. 117(4), pp. 1193-1229, 2002

Glaeser E.L., La Porta R., Lopez-de-Silanes F., Shleifer A. Do Institutions Cause Growth // Journal of Economic Growth, vol. 9, pp. 271-303, 2004

Grubel H. Economic Freedom and Human Welfare: Some Empirical Findings // Cato Journal, vol. 18, No 2, pp. 287-304, 1998

Granger C.W.J. Investigating causal relations by econometric models and cross-spectral methods // Econometrica, vol. 37, pp. 424-438, 1969

Gwartney J.D., Lawson R.A., Block W.E., Economic Freedom of the World: 1975-1995, New York, Cato Institute, 1996

Gwartney J., Lawson R. Measuring Economic Freedom, // Cato Journal, vol. 15, 1997

Gwartney J., Holcombe R., Lawson R. The Scope of Government and the Wealth of the Nations // Cato Journal, vol. 18(2), pp. 163-190, 1998

Hirshleifer J., The Dark Side of the Force. Economic Foundation of Conflict Theory, Cambridge University Press, 2001

Holcombe R., James Gwartney, Robert Lawson Institutions and the Impact of Investment on Growth, papers New Orleans Public Choice Annual meeting, 2005 www.pubchoicesoc.org

Kaufmann D., Kraay A., Mastruzzi M. Governance matter IV. Aggregate and individual Governance Indicators 1996-2006, World Bank policy research working papers 4280, WB Washington, D.C., 2007 http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2007/07/10/000016406_200070710125923/Rendered/PDF/wps4280.pdf

Kuznets S. Modern Economic Growth: Rate, Structure and Spread, New Heaven; London: Yale University Press, 1966

La Porta R., Lopez-de-Silanes F., Shleifer F., Vishny R. Law and Finance // The Journal of Political Economy, vol. 106(6), pp. 1113-1155, 1998

Lipset S.M. The Social requisites of Democracy Revisited: 1993 Presidential Address // American Sociological Review, vol. 59, pp. 1-22, February 1994

Maddison A. Monitoring The World Economy 1820-1992, Paris, OECD, 1995

Maddison A. The World Economy. A Millennial Perspective, Paris, OECD, 2001

Maddison A. The World Economy Historical Statistics, Paris, OECD, 2003

Mau V., Starodubrovskaya, I. The challenge of Revolution (Oxford, Oxford University Press, 2001).

Mau V., Yanovskiy K. Political and Legal Factors of Economic Growth in Russian Regions, // Post-Communist Studies, vol. 14(3), 2002

Mau V., Yanovskiy K., Zhavoronkov S., Maslov D. Institucionalnye predposylki sovremennogo ekonomicheskogo rosta, IET, wp#106r (Institutional preconditions of the modern economic growth), 2007

Mijiyawa A.G. Economic Growth Sustainability: Do Institutions Matter and which one prevails?, ISNIE 2006 Conference, Boulder, Colorado (USA)

North D.C., Wallis J.J., Weingast B.R. Violence and Social Orders. A conceptual Framework for Interpreting Recorded Human History, Cambridge University Press, 2009

Olson M. The Hidden Path to a Successful Economy, in C. Clague & G. Rausser (eds), The Emergence of Market Economics in Eastern Europe, Oxford, Blackwell, pp. 55-75, 1992

Olson, Mancur, Power and Prosperity, New York, Basic Books, 2000

Okui K. Causality between Political Freedom and Economic Freedom papers New Orleans Public Choice Annual meeting, 2005 www.pubchoicesoc.org

Pipes R. Property and Freedom, Vintage Books, 2000

Paldam M., Gundlach E. Two Views on Institutions and Development: The Grand Transition vs. the Primacy of Institutions // Kyklos, vol. 61(1), pp. 65-100, February 2008

Przevorski A., Alvarez M.E, Cheibub J.A., Limongi F. Democracy and Development. Political Institutions and Well-Being in the World 1950-2000 Cambridge University Press, 2000

Scully G. Democide and Genocide as Rent-Seeking Activities // Public Choice, vol. 93 (1–2), pp. 77–97, 1997

Solsten E., Meditz S.W. ed., Finland: A Country Study, Washington: GPO for the Library of Congress, 1988 http://countrystudies.us/finland/77.htm

Wikipedia: Foreign Hostages in Iraq http://en.wikipedia.org/wiki/Foreign_hostages_in_Iraq

Wo W., Davis O. Freedom and Growth: A Dynamic Panel Data Model, papers New Orleans Public Choice Annual meeting, 2005 www.pubchoicesoc.org

Yanovskiy K., Mau V., Fomitchev O., Javoronkov S., Lederman L. Investment Risks in Russia's Regions: Political and Legal Origins, IET – CEPRA 2002

Yanovskiy K., Mau V., Javoronkov S. et al Importirovannye instituty v stranah s perehodnoy ekonomikoy : effektivnost i izderjki (Imported institutions in the Transitional countries : efficiency and costs), 2003 IET, WP#68

Yanovskiy K., Zhavoronkov S., Zatcovetskiy I. Demokratia kak sredstvo tushenia pozhara (Democracy as a Tool for extinguishing of the Fire) // Obshestvehhye nauki I sovremennost (Social Science and Contemporaneity) # 2, pp. 47-58, 2007

http://www.freedomhouse.org/template.cfm?page=15&year=2006 The freedom in the World, http://www.freedomhouse.org/template.cfm?page=16 The freedom of the press in the World Freedom House, USA