



Asian Economic and Financial Review

journal homepage: <http://aessweb.com/journal-detail.php?id=5002>



INSTITUTIONS AND ECONOMIC GROWTH

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ABSTRACT

The objective of this paper is to study the effect of institutional factors on economic growth of a set of 37 developed and developing countries for six successive periods of five years, from 1975 until 2000, using a static panel data model. The key findings generated by this empirical test stipulate a dominant effect exerted by economic institutions on economic growth of the total sample of countries and developed countries.

Key Words: Political institutions, Economic institutions, Static panel data, Economic growth.

JEL:O43, O47, C23.

INTRODUCTION

The relationship between institutional and economic performance has been the subject of several theoretical and empirical works. Since the pioneering work of NORTH (1991) attention is drawn to the importance of institutional factors in achieving good results in terms of growth and economic development.

In empirical work, to study the relationship between institutional and economic growth, a sound institutional environment is able to provide a positive climate that encourages economic agents, both domestic and foreign, to invest more in activities with high added value. On the contrary, institutions of poor quality can increase uncertainty, unpredictability, instability, corruption and transaction costs. In an institutional setting like this, private enterprise is discouraged especially in terms of tangible and intangible investment. The result is certainly vulnerable economic performances, as the growth mechanisms are blocked and the country's potential is limited.

To investigate the relationship between institutions and economic growth we will proceed as part of this work, a model of static panel data. On a sample of 37³ countries, developed and developing for

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six successive five year periods from 1970 to 2000, then divided into two groups: 17 developed and 20 developing countries. Before starting the econometric studies, it should begin with a review of the empirical literature on the relationship between institutions and economic performance in the first section. The second section of this work will be devoted to the choice of variables, the determination of their sources, the interpretations of results.

REVIEW OF THE EMPIRICAL LITERATURE

While theorists are still far from complete work on the issue that focuses on channels through which institutional variables influence and can influence the economic sphere. Several empirical studies have emerged, with the aim to provide additional arguments to the controversial association between institutions and economic performances. Indeed, many historical evidence also shows that the countries' economic growth has been associated with the establishment of a sound institutional framework. This finding was supported by sound empirical evidence, which showed the negative effects of institutional infrastructure failing (low respect of law, lack of credibility and corruption, political instability among others) on investment and growth.

However, these studies suffer from a range of issues, the most important are the qualitative aspect of institutional variables, hence the problem of measuring these variables, the reliability of sources and the subjectivity data. I will, in what follows, move to a review of the empirical literature on the subject.

Civil Liberties, political rights, and economic growth

Kormendi and Meguira (1985) are among the first researchers who are interested in studying the impact of institutions on economic performance of nations. In fact they have examined the effect of civil and political liberties, among other factors, on economic growth and investment for 47 countries during the period from 1950 to 1977. The result that they obtained is that countries that have a high level of civil liberties are most successful. Subsequent studies made by Scully (1989) and Tullock (1987) found a positive association between civil liberties and economic growth for a large number of countries.

Studies conducted in the 90s to test the relationship between regime type and economic growth have interpreted the index of civil and political liberties published by "Freedom House" as a measure of democracy. Barro (1996) and Helliwell (1994) found that these indices are positively

³Brazil, Belgium, Canada, Chile, Colombia, Costa Rica, Democratic Congo, Denmark, Ecuador, Egypt, Finland, France, Germany, Ghana, Greece, India, Indonesia, Ireland, Italy, Japan, Malaysia, Mali, Morocco, Netherlands, New Zealand, Pakistan, Philippine, Singapore, South Africa, Spain, Sweden, Syria, Thailand, Tunisia, Turkish, UK, United States

related to economic growth only when some explanatory variables are omitted from the relationship such as: education and investment rate.

Isham, Kaufman and Pritchett (1997) analyzed the impact of the quality of governance on the performance of a hundred projects funded by the World Bank in some developing countries during the period 1974-1993. They found good performances in nations with high levels of civil liberties, as measured by the index of "Freedom House". The fact that a one point increase in this index is associated with an improvement of one point in the rate of return of the project. The civil unrest, approximated by the frequencies of riots, strikes and protests are also negatively associated with performance of projects. Barro (1996), Helliwell (1994), Burkhart and Lewis-Beck (1994) have all concluded that the positive relationship between income and democracy is widely attributed to the effect of income on democracy and not vice versa.

In general, the effect of democracy on economic growth is far from being clear since the results that studies of this relationship led are very heterogeneous. Although attempts to measure democracy have begun since the 80s, notably with the database Bollen (1980) which put at the disposal of statisticians comparable indicators of democracy (available in over 110 countries) established from the indices of political rights and freedoms listed by Banks (1979) and Taylor and Hudson (1972). Because this indicator was not available but for two years, the variable most used today is the Gastil (1986), available for most countries and covers indicators of electoral process, freedom of association and political expression.

So, although these indicators are relatively old, they could not contribute to the elucidation of the role of democracy in the growth process. As a result, we are now witnessing a multitude of results concerning this relationship. Indeed, according to Alesina and Perotti (1994), democracy has no effect on economic growth. They also point out the heterogeneity of the group of authoritarian countries in terms of economic performance.

Borner, Brunetti and Weder (1995) have identified three empirical studies leading to a positive relationship between democracy and economic growth, from three in the opposite direction and ten which identify no conclusive relationship.

In another study, Barro (1996) sought to test the hypothesis of a nonlinear relationship. He found that a nonlinear relationship between economic growth and these indices are better able to cover all the data, than a linear relationship. The conclusion drawn from this study is that promoting democracy is conducive to growth when the initial level is low and negative when this level is high. Other researchers have resulted in contradictory effects: according to Tavares and Waczaing (2001), democracy on the one hand, increases the accumulation of human capital and reduces income inequality, which accelerates growth. On the other hand, it reduces the accumulation of physical capital and increases public consumption which decelerates growth. Striking result, fertility rates are much lower in democracies, regardless of income level, and they fluctuate in one direction or the other in case of transition from dictatorship to democracy or vice versa. This observation

means, as observed Przeworski et al (2000), that even if democracy does not affect GDP growth, it would have on the GDP per capita.

Another conclusion proved: if the economic performance of dictatorships ranging from excellent to disastrous, those democracies tend to be located halfway between these extremes. It is often under a dictatorial regime that the fastest growing were recorded, but no democracy has ever recorded performance as bad as the worst dictatorships (Przeworski et al, 2000). The same goes for poverty reduction. It seems that, in economic, democracy preserves the worst, but it does not guarantee the best.

Frequency of Political violence and Economic Growth

The classic study of the determinants of growth of Barro (1991) tested the effect of indicators of political instability, which it considers detrimental to property rights. The two measures of violence used by Barro are: the average number of revolutions (or coups) and political assassinations. The result which leads this work is that these two variables are negatively and significantly related to the growth rate and the share of private investment in GDP between 1960 and 1985.

Alesina and Perotti (1996) also found that political instability weakens the share of investment in GDP. Generally, empirical studies have been conducted to test the said relationship agree, despite the diversity of samples and indicators, on the adverse effects of political instability on economic performance of the country concerned. Thus, studies of Barro (1996), Azam et al (1996) showed a direct negative impact of political instability on economic growth. Guillaumont. P et al (1999) have shown that political instability is a key variable to explain the systematic underperformance of African countries over the period 1970-1990. De Haan and Siermann (1996) do not contest the effect of instability on growth, but state that this happens mainly by the investment variable. Fosu (1992) emphasizes the variable of human capital as a channel of influence. The addition of interactive variables allows to deduce that it is through the fall of the latter factor productivity (human capital), that growth is permanently affected by political instability.

However, in addition to the heterogeneity of sources of impact, there are some dissenting voices in this empirical consensus. If the study of Londregan and Poole (1990) is the only one that finds a non-negative effect of instability on the level of economic growth, Levine and Renelt (1992), on their part, emphasize the small robust aspect of the results concerning the impact of institutional variables on the economic performances.

The Aggregate Index of governance and economic growth

In their study, "Governance Matters," Kaufmann, Kraay and Zoido Lobaton (1999) studied the correlation between the six aggregate indicators of governance "voice and accountability", "political stability and violence", "effective government", "weight regulation, "" rule of law "and" fight against corruption "and economic performance measured in terms of per capita income, infant mortality and literacy rates. They found that each indicator is positively correlated with the logarithm of GDP per capita and the literacy rate and negatively with the rate of infant mortality.

The analysis goes beyond the simple correlation and considering a study that traces the interrelationships between governance and the growth rate of income through a series of cross-sectional regression between this rate and each indicator of governance. Taking as reference the approach set out by Hall and Jones (1999) in which the difference between GDP per capita across countries is attributed to the level of "social infrastructure" in each country which, according to Kaufmann et al, express aspects of governance already mentioned.

Hall and Jones measured the social infrastructure as the average of several indicators of governance from PRS (Political Risk survey) and a variable measuring trade openness constructed by Sachs and Warner. For their study, Kaufmann et al, using the same approach used several indicators of governance, gathered from many sources, to define the nature of the relationship may exist between governance and economic growth for a large sample of countries. They establish a regression between the three dependent variables: the logarithm of GDP per capita, infant mortality and literacy rates and the six governance indicators. The essential conclusion, this study found, is that "good governance is crucial for economic performance. The estimate shows that an increase in standard deviation for one of the indicators of governance leads to an increase of 25 (for "voice and accountability") to 4 times (for "political instability and violence") per capita income and a decrease of 2.5 to 4 times the infant mortality rate and an increase of 15 to 25 times of literacy.

CHOICE OF VARIABLES AND ESTIMATION METHODOLOGY

Choice of Variables

The theoretical work that attempted to study the relationship between institutional factors and economic growth suggest the existence of a close link, direct and indirect, between institutional quality and economic growth:

- The institutions that provide an environment that protects property rights and equal opportunity are able to offer economic agents, domestic and foreign, the incentive to invest and accumulate skills.
- Optimal use of human capital needs of institutions guaranteeing property rights, contract enforcement and civil liberties, which can hinder the development of rent-seeking activities and corruption.
- Democracy has an indirect effect on growth by boosting the level of education.
- Referring to some indicators of institutional quality, such as the functioning of legal rules, political instability, corruption and bureaucratic quality, some studies were able to show that efficient institutional framework promotes the most productive investments and, eventually, growth.
- The efficient institutions are able to prevent the persistence of bad policies.
- On the contrary, a poor quality of institutions leads to a risky environment, a high transaction costs, lack of investor confidence, lack of predictability and transparency and promotes corruption. Hence a decline in investment and blockage of economic mechanisms.

-Weak institutions lead to a misallocation and waste of resources and lead to a bias in the choice of individuals. However, the proper functioning of these mechanisms is possible only when favorable conditions are met. Indeed, previous work on the study of the relationship between quality institutions and economic performance have agreed on the existence of three types of effects of political institutions on economic growth. The first is a direct effect on productivity, the second effect operates through the accumulation of capital, and the third through the quality of economic institutions. Political institutions are important "that" as determinants of the efficiency of economic institutions.

Our model incorporates several measures used to control variables. Previous studies have shown that they account for a significant share of national differences in growth rates in recent decades. Thus, the variables used in this study are: *Y*: the growth rate of real GDP per capita. *YI*: the initial growth rate of real GDP per capita. *INV*: the ratio of gross capital formation in GDP. *OPEN*: the ratio of the volume of trade in GDP: $(X + M) / GDP$. *GY*: Government expenditure, approximated by the share of government consumption in GDP. *HK*: the stock of human capital, approximated by average years of schooling in the total population. *Inflat*: the inflation rate, measured by changes in the GDP deflator. *FDI*: the ratio of net foreign direct investment in GDP.

The political rights (PR): defined by the degree of government control by individuals. *Civil liberties (CL)*: it is the freedom of the press, freedom of assembly, free of political organizations, free trade unions, religious institutions free and independent judiciary. Both indicators are measured on a scale of 1 to 7. 1 being the highest degree of freedom and 7 the lowest.

Economic Freedom (EF): a composite index determined by five main factors: the size of government, legal structure and security of property rights, access to sound money, freedom of trade at the level International and regulations of credit, labor and business.

This indicator is rated on a scale of 1 to 10. 1 being the lowest degree of economic freedom and 10 the highest.

All variables are for the period 1975-2000 because of data availability for all countries in the sample.

All economic variables are taken from the report on development in the world [2005], variables related to political rights and civil liberties are taken from the annual report of Freedom House Freedom in the world while the variable "economic freedom" is removed from the site of the Cato Institute.

The variable "human capital" is extracted from the database of human capital in Barro-Lee (2000).

Estimation Methodology

The econometrics of panel data seems to be an avenue of research most relevant to the estimation of growth factors that take into account two dimensions: individual and temporal, provides insight into the various factors that might explain the growth.

Specification tests of the individual effects

In a study of static panel data, it should first check the specification of homogeneous or heterogeneous data.

However, when working with aggregate series, it is relatively unlikely that the growth function is strictly identical for all countries studied, especially when the sample of countries under study, is heterogeneous (different development level), that is the case in our sample. If the assumption of complete homogeneity is rejected, and if it turns out that there is a similar relationship between growth and explanatory variables for all countries, the source of heterogeneity may come from the model constants α_i . However, there is no guarantee that the countries studied have the same level of structural productivity. In contrast, structural factors can cause structural differences in productivity levels between countries.

It should then test the hypothesis of a constant common to all countries:

$$H_0: \alpha_i = \alpha \quad \forall i \in [1, N]$$

$$H_a: \exists (i, j) \in [1, N] / \alpha_i \neq \alpha_j$$

$$\text{With } F = \frac{(SCR_1 - SCR_2)/(N-1)}{SCR_2/[N(T-1)-K]} \Rightarrow F = \frac{(0.274311 - 0.194746)/36}{0.194746/[37(6-1) - 10]} = 1.986$$

Which SCR_1 is the squared residuals sum of the model: $y_{i,t} = \alpha_i + \beta X_{i,t} + \varepsilon_{i,t}$ (individual effects model) and SCR_2 the squared residuals sum of the constrained model (model perfectly homogeneous):

$$y_{i,t} = \alpha + \beta X_{i,t} + \varepsilon_{i,t}$$

Fischer statistics for the hypothesis H_0 , denoted by F is equal to 1,986 ($F = 1,986$). This value is compared to a threshold Fischer ($N-1$) and $N * (T-1)-K$ degrees of freedom, that is to say by a F (36, 175). The p -value (1.48) is below the threshold of 5%.

For this threshold, we reject the null hypothesis H_0 of equality constants α_i . Our model is therefore an individual effects model, the question here is how these individual effects must be specified: should we adopt the assumption of fixed effects or rather the hypothesis of random effects? However, for panels of limited time dimension (typically the case of macroeconomic panels), there may be substantial differences between the achievements of both GLS and Within estimators (Hausman (1978)).

Therefore, beyond the economic interpretation, the choice of the specification, and thus the estimation method, is particularly important for such panels.

The whole strategy of specification test of individual effects is then based on the comparison of two estimators (GLS and Within), whose divergence reflects the presence of a correlation and the adoption of the fixed effects model and the Within estimator is imposed.

Otherwise the two estimators give essentially identical results, the adoption of the random effects model is recommended.

Specification test of Hausman

The specification test of Hausman (1978) is a general test that can be applied to many problems of specification in econometrics. But its most common application is the specification tests of the individual effects in panel. It thus serves to discriminate between fixed and random effects. Hausman recommends to base the test on the following statistic:

$$H = (\hat{\beta}_1 - \hat{\beta}_2) \left[\text{var}(\hat{\beta}_1 - \hat{\beta}_2) \right]^{-1} (\hat{\beta}_1 - \hat{\beta}_2) \quad (1)$$

The first estimator (indexed par1) is an estimator between (MCG), while the second (indexed by 2) is an estimator Within. Under the null hypothesis of correct specification, this statistic is asymptotically distributed according to a chi-square (K-1) degrees of freedom, where K is the number of variables in the model.

The hypothesis tested concerns the correlation of individual effects and explanatory variables:

$$H_0 = E(\alpha_i / X_i) = 0 \text{ versus } H_a = E(\alpha_i / X_i) \neq 0 \quad (2)$$

Under H_0 the model can be specified with individual random effects and we must retain the GLS estimator (BLUE estimator). Under the alternative hypothesis H_a model must be specified with individual fixed effects and we must adopt Within estimator (unbiased estimator). Thus, if the H-statistic (Equation 1) is greater than the threshold $\beta\%$, we reject the null hypothesis and it favors the adoption of fixed effects to specify the model. Otherwise, the null hypothesis is accepted and the adoption of the random effects model is needed.

Note that the Hausman test is degenerate when the sample's size T tends to infinity. Indeed, in this case, the GLS estimator converges to the Within estimator, which implies that the numerator and the denominator of the Hausman statistic tend to zero. Hence, the fixed effects models and random effects are indistinguishable and are perfectly similar. Henceforth, the question of the specification of these effects is irrelevant.

Application

The completion of the test statistic of Hausman is 0 for the three samples. Since the model contains eleven explanatory variables including the constant ($k = 11$), this statistic follows a chi-square with 9 degrees of freedom. Thus, adopting a random effects model is preferred and the GLS estimator is chosen for the three samples. By the very construction of our sample, it was not possible to estimate the fixed effects model because we have country-specific variables that were invariant over time, this is the case of the initial GDP variable per head. Perform a fixed effect regression would have led to this variable arbitrarily out of all explanatory variables. We must therefore focus on the results of the GLS estimator with random effects.

ESTIMATION RESULTS AND INTERPRETATIONS

According to the above, our equation is of the form:

$$(\log Y_{i,t} - \log Y_{i,t-1}) = \alpha_i + \beta X_{i,t} + \mu INS_{i,t} + \mu_i + v_{i,t} \quad (3)$$

Where $X_{i,t}$: control variables defined above, $INS_{i,t}$: institutional variables already defined, μ_i : individual heterogeneity, [$\mu_i \sim \text{iid} (0, \sigma^2\mu)$] and the error term v_{it} [$v_{it} \sim \text{iid} (0, \sigma^2v)$]. The estimation results of this equation for the three samples are given as follows:

*Case of total sample:

The estimation results of our model for the total sample are satisfactory both econometrically as that of the economic interpretation. Indeed, most variables that are either control or institutional seem to have had an effect on economic growth. The estimation results of our model for the total sample, shown in table 1 (see Appendices), are therefore expected given the empirical and theoretical considerations already mentioned:

Note that the coefficients are elasticities that are interpreted as relative changes that provide information on the variation in growth rate of GDP / capita (real) following a unit change in the variable in question.

- The coefficient of initial GDP per capita is negative in all equations and statistically significant in most cases. Suggesting a convergence of the sample countries, that growth is accelerating away from the stationary state is slowing and in reasonable proximity thereto.

- Public expenditure does not exert an effect on economic growth of countries considered, the fact that the coefficients of this variable are not statistically significant, despite their still positive signs.

- Investment positively influences economic growth in these countries, because its coefficient is always positive and statistically significant indicating a dominant effect on economic growth.

- The coefficient of the variable "trade openness" is sometimes positive, sometimes negative but still not statistically significant indicating a lack of association between this variable and economic growth in these countries.

- The effect exerted by foreign direct investment on economic growth in these countries is statistically significant when the two political variables namely "political rights" and "civil liberties" are introduced.

This can be explained by the fact that a healthy political environment attracts foreign investors as it contributes to the profitability of their projects. In the other equations this variable is not significant statistically, despite the sign of its coefficient is always positive.

- The coefficients associated with the variable inflation are negative and statistically significant, because this variable is considered a measure of "financial repression", where most studies have shown its negative impact on economic growth.

- The effect exerted by the human capital is ambiguous because this variable changes sign an estimate to another.

In practice, the effects of human capital on growth is far from obvious and may even be negative. Thus, Casselli et al (1996), using panel data, found a negative relationship between human capital and economic growth. Islam (1995) found the same negative relationship between these two variables. Hojo (2003) found a significant positive effect of education on productivity despite its negative effect on economic growth.

The study of Alfaro et al (2004) led to a disconnect between education and economic growth in two of four cases. In general, the belief that human capital constitutes a socially productive investment, first confirmed by a series of works, now faces an unexpected empirical finding: the most careful estimates, those who dismiss the best potential biases, are unable to demonstrate that education is a productive factor in the aggregate (Gurgand, 2002). Measurement errors could, in theory, be the cause of this result, but this explanation remains highly inadequate.

- The "economic freedom" has a major effect on economic growth. Indeed, the coefficient of this variable is always positive and statistically significant.

Indicating that the protection of property rights and contractual rights and a sound legal structure is likely to promote economic growth through stimulating investment.

These observations are comparable to Borner, Bodmer and Kobler (2004) who found almost the same coefficients [0009 (3.61), 0.012 (4.11) and 0009 (2.92)] and the same degree of significance and robustness for a variable close to ours called "quality of economic institutions" closely related to the security of property rights as is the case for the variable we used. Alfaro et al (2004) have introduced a variable called "institutional quality" related to the security of property rights and found almost the same coefficients as our [0005 (2.62) and 0011 (2.82)]. Among 32 empirical studies that tested the relationship between economic freedom and economic growth, thirty have used the same as ours and have adopted three five-year intervals, as is our case, the conclusion, almost as common to all these studies is that this variable is positively related to economic growth.

- The "civil liberties" and "political rights" do not seem to be correlated with economic growth in these countries. Result, which can find an explanation which states that on the one hand, the political institutions will have an indirect effect on economic growth, an effect that passes through investment and human capital in particular.

On the other hand, political institutions are important "that" as determinants of the efficiency of economic institutions. Once these are positively correlated to economic growth, political institutions of the mission is accomplished.

*** Case of developed countries**

The key observations that we can identify the table2, in the appendices, representing the results of estimating the group of developed countries, are:

- The coefficients of initial GDP per capita are still negative and statistically significant. This confirms the idea of convergence between these countries.

- The coefficients of "spending" are small but they are statistically significant with signs always positive. Hence, a positive but low, spending on economic growth in these countries. This result

reinforces the idea that public spending positively affect economic growth when used to finance investments directly where indirect cost that is the case of investments in basic infrastructure, education, health ... etc..

- "Trade openness" has a positive effect on the robust economic growth in these countries.
- Inflation keeps the same negative and statistically significant effect, already noted for the total sample of countries.
- "Foreign direct investment" does not appear to be correlated with economic growth given the non significance of the coefficients of this variable.

This same result was reached by the study of Alfaro et al (2004) who used the same variable to test the effect of FDI on economic growth of a set of developed and developing countries. Indeed, in three out of four coefficients of this variable are not significant, with different signs [-0.076 (-0.25) 0.16 (0.48) and 0.063 (0.27)].

- The investment always has a major effect on economic growth.
- The variable "civil liberties" does not appear to be correlated with growth, despite the positive sign of its coefficient.
- Political rights have no effect, it seems, on economic growth in these countries that the sign of this variable is still negative but not statistically significant. This result is to reinforce the idea that the relationship between measures of democracy and economic performance is far from clear (Barro, 1996, 1997; Durham, 1999) because on the one hand, economic growth in the long term implies a state of rights and protection of civil and political freedoms, as stated North (1995), and secondly, as noted by Olson (1982), political freedom promotes the requirements of groups special interest for redistributive policies. The efforts of these groups may produce a legislative deadlock and political sub-optimal, and thus affect growth. In a literature review, Brunetti (1997) compared 17 studies finding a positive correlation, negative or not significant between growth and democracy.
- Human capital has a positive and statistically significant effect on economic growth. However, once the variable of economic institutions is introduced in the regressions, the coefficients of "human capital" become statistically insignificant while keeping a positive sign. This result can be justified by the fact that the productivity of human capital improves with the presence of an enabling policy environment that stimulates private initiatives by guaranteeing political rights and basic civil.

* Case of developing countries

The estimation results of our model for developing countries (table 3 in the appendices) are expected:

- The coefficient of initial GDP per capita is negative (expected) but it is not always statistically significant, meaning that the convergence between these countries is transient.

-The same applies to the variable "government spending" which has a positive sign, but statistically insignificant. This means that public spending does not contribute to economic growth in these countries.

- "Trade openness" has a negative effect on economic growth in developing countries. This result can be justified by the fact that most of these countries suffer from a dislocation between the industries where the lack of dissemination of positive externalities of export industries to other branches.

- Foreign direct investment has no influence on the economic performance of these countries in most cases. Indeed, the coefficient of this variable is always positive but is statistically significant only when the two political variables namely "political rights" and "civil liberties" are introduced. This can be explained by the fact that a healthy political environment attracts foreign investors as it contributes to the profitability of their projects, because the conditions inside the host country may appear predetermining both in the ability to attracting FDI with a chance to transform the specialization of the host country and the implementation mechanisms of overflow in the local production (Mouhoud, 1998).

Indeed, with, among others, inadequate basic infrastructure, a poorly qualified workforce, industries disarticulated, FDI only amplify the dependence of these countries to strangers.

- The effect of human capital is not statistically significant, despite the positive signs of the coefficients of this variable.

- Inflation has a negative effect on economic growth in these countries, the expected result that these countries suffer from several problems in their economic policies in general, and especially monetary policies, which results in rates inflation rates in these countries, which adversely affect economic growth.

-The investment still has a significant effect on economic growth in these countries.

- Political institutions do not seem to be correlated with economic growth of developing countries. This is expected since the institutions of these countries are vulnerable. Hence, the impossibility that they can influence economic performance.

- These bad political institutions will generate economic institutions will fragile, unable to influence economic activity. Indeed, with property rights and contractual rights poorly protected and a legal structure unhealthy, it is impossible to stimulate economic activity, and so make good economic performance.

CONCLUSION

As part of this research, we focused on a very important and very controversial question. It is the nature of the effect exercised by the institutions of a country on its economic growth. To answer this question, at least partially, we proceeded in this work to the following methodology: select variables, set the estimation methodology and finally test the validation of an empirical relationship, using a static panel data model.

The key findings generated by this empirical test stipulate a dominant effect exerted by economic institutions on economic growth of the total sample of countries and of the developed countries. The "civil liberties" and "political rights" do not seem to be correlated with economic growth in these countries. Result, which can find an explanation which states that on the one hand, the political institutions will have an indirect effect on economic growth, an effect that passes through investment and human capital in particular.

On the other hand, political institutions are important "that" as determinants of the efficiency of economic institutions. Once these are positively correlated to economic growth, the mission of political institutions is accomplished. As for developing countries, the political and economic institutions do not seem to be related to economic growth. This is expected since the institutions of these countries are vulnerable. Hence, the impossibility that they can influence economic performance.

These bad political institutions will generate weak economic institutions, unable to influence economic activity. Indeed, with property rights and contractual rights poorly protected and a legal structure unhealthy, it is impossible to stimulate economic activity, and so make good economic performance.

In general, the heterogeneity of the results of these countries in terms of link between institutional factors and economic growth strengthens the conclusion arrived at by the empirical studies in this area, since a clear relationship between institutional sphere and economic sphere is far to be found.

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Appendices

Table-1. Estimation results of institutions and growth: dependent variable real per capita GDP growth

(GLS panel data estimator)

Total Sample

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	0.026 (1.25)	0.0058 (0.18)	0.0097 (0.32)	-0.05** (-1.96)	-0.05 (-1.46)	-0.03 (-1.34)	-0.048 (-1.45)
YI	-0.0094 (-3.42)	-0.008* (-2.32)	-0.008* (-2.64)	-0.005** (-1.74)	-0.005 (-1.48)	-0.006* (-2.39)	-0.005 (-1.84)
GY	3.91 ^E -05 (1.23)	3.61 ^E -05 (1.06)	4.08 ^E -05 (1.29)	6.39 ^E -06 (0.19)	6.61 ^E -06 (0.2)	1.02 ^E -05 (0.33)	1.19 ^E -05 (0.38)
Open	7.13 ^E -03 (1.27)	5.82 ^E -03 (0.97)	6.64 ^E -03 (1.09)	-4.36 ^E -03 (-0.87)	-4.45 ^E -03 (-0.80)	-2.90 ^E -05 (-0.60)	3.16 ^E -03 (-0.61)
INFLAT	-3.78 ^E -03 (-3.95)	-3.77 ^E -03 (-3.57)	-3.83 ^E -03 (-3.99)	-3.12 ^E -03 (-4.93)	-3.14 ^E -03 (-4.95)	-3.17 ^E -03 (-5.40)	-3.22 ^E -03 (-5.39)
FDI	0.037** (1.67)	0.039** (1.70)	0.036 (1.46)	0.025 (1.59)	0.025 (1.55)	0.025 (1.57)	0.023 (1.37)
I	0.23 (5.15)	0.22 (4.88)	0.23 (5.09)	0.19 (4.72)	0.19 (4.73)	0.19 (4.75)	0.19 (4.68)
HK	0.0025 (1.21)	0.0032 (1.53)	0.0029 (1.42)	-0.0014 (-0.60)	-0.0013 (-0.56)	-0.0015 (-0.68)	-0.0011 (-0.49)
PR	-0.0029** (-1.76)	-	-0.0062* (-1.39)	-	-	-0.0015 (-0.83)	-0.004 (-0.97)
CL	-	-0.00057 (-0.27)	0.005 (0.95)	-	0.0005 (0.21)	-	0.004 (0.80)
EF	-	-	-	0.013 (3.84)	0.013 (3.71)	0.012 (3.49)	0.012 (3.41)

** : Significant at 10%. * : Significant at 5%. t-student in parentheses.

Table-2. Estimation results of institutions and growth: dependent variable real per capita GDP growth

(GLS panel data estimator)

Developed Countries

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	0.49 (11.4)	0.48 (10.20)	0.47 (9.72)	0.40 (10.05)	0.41 (8.98)	0.40 (9.58)	0.41 (8.63)
YI	-0.06 (-9.36)	-0.059 (-9.22)	-0.059 (-9.74)	-0.053 (-9.94)	-0.055 (-8.46)	-0.054 (-9.03)	-0.054 (-8.95)
GY	1.26 ^E -04 (5.1)	1.25 ^E -04 (5.08)	1.25 ^E -04 (5.20)	1.09 ^E -04 (5.76)	1.09 ^E -04 (5.5)	1.10 ^E -04 (5.73)	1.10 ^E -04 (5.67)
Open	0.038 (5.38)	0.038 (5.38)	0.039 (4.95)	0.03 (5.42)	0.032 (5.08)	0.033 (5.34)	0.032 (5.06)
INFLAT	-0.11 (-4.02)	-0.11 (-6.87)	-0.11 (-3.83)	-0.095 (-8.26)	-0.092 (-5.98)	-0.088 (-3.51)	-0.089 (-3.45)
FDI	-0.011 (-1.80)	-0.012 (-1.5)	-0.013 (-1.38)	-0.014 (-1.62)	-0.012 (-1.29)	-0.014 (-1.59)	-0.013 (-1.27)
I	0.19* (2.43)	0.18* (2.6)	0.19* (2.45)	0.18 (3.03)	0.19* (2.86)	0.19 (2.78)	0.19 (2.7)
HK	0.0037* (2.63)	0.0038* (2.48)	0.0038* (2.57)	0.0013 (0.93)	0.0010 (0.76)	0.0011 (0.83)	0.0010 (0.73)
PR	-0.0012 (-0.25)	-	-0.002 (-0.30)	-	-	-0.002 (-0.44)	-0.0017 (-0.27)
CL	-	0.00037 (0.11)	0.0014 (0.29)	-	-0.0017 (-0.53)	-	-0.0008 (-0.20)
EF	-	-	-	0.0066** (1.96)	0.0071* (2.02)	0.0069** (1.86)	0.0071* (2.02)

**: Significant at 10%. *: Significant at 5%. t-student in parentheses.

Table-3: Estimation results of institutions and growth: dependent variable real per capita GDP growth

(GLS panel data estimator)

Developing Countries

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	0.0066 (0.20)	-0.016 (-0.40)	-0.015 (-0.39)	-0.033 (-0.88)	-0.033 (-0.89)	-0.059 (-1.29)	-0.051 (-1.33)
YI	-0.01* (-2.01)	-0.01 (-1.85)	-0.01* (-2.02)	-0.0079 (-1.58)	-0.008 (-1.65)	-0.007 (-1.47)	-0.008** (-1.78)
GY	3.5 ^E -04 (1.18)	4.17 ^E -04 (1.52)	4.61 ^E -04 (1.65)	2.86 ^E -04 (0.85)	2.98 ^E -04 (0.91)	3.61 ^E -04 (1.25)	4.04 ^E -04 (1.45)
Open	-0.012 (-1.29)	-0.017 (-1.62)	-0.017** (-1.79)	-0.015** (-1.73)	-0.015** (-1.72)	-0.020* (-1.99)	-0.020* (-2.21)
INFLAT	-3.38E-03** (-4.32)	-3.27E-03** (-4.07)	-3.34E-03** (-4.32)	-3.04E-03** (-5.35)	-3.07E-03** (-5.44)	-2.91E-03 (-5.39)	-3.01E-03** (-5.46)
FDI	0.32 (1.43)	0.39** (1.76)	0.42* (2.00)	0.24 (0.93)	0.23 (0.89)	0.3 (1.20)	0.34 (1.39)
I	0.32 (7.29)	0.33 (6.55)	0.34 (7.15)	0.28 (5.07)	0.27 (4.92)	0.28 (4.84)	0.29 (4.98)
HK	0.0026 (0.9)	0.0035 (1.23)	0.0029 (1.04)	0.00030 (0.095)	0.00025 (0.08)	0.0009 (0.29)	0.0007 (0.26)
PR	-0.00079 (-0.42)	-	-0.006 (-1.25)	-	-2.59 ^E -05 (-0.012)	-	-0.005 (-1.04)
CL	-	0.0027 (1.00)	0.0094 (1.32)	-	-	0.0035 (1.15)	0.009** (1.25)
EF	-	-	-	0.0083 (1.45)	0.0084 (1.36)	0.009 (1.50)	0.007 (1.31)

**: Significant at 10%. *: Significant at 5%. t-student in parentheses.