

INSTITUTIONAL QUALITY AND TRADE IN SELECTED COUNTRIES: THE DYNAMIC PANEL DATA APPROACH

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ABSTRACT

The purpose of this article was to investigate the effectiveness of institutional quality on the volume of trade in middle-income and high-income groups in selected countries using panel data. The Results of the estimation using Generalized Method of Moments (GMM) in selected countries for the period 2002-2010 shows that the institutional quality has positive and significant effect on the openness in high-income selected countries. As well, the results confirm that institutional quality has negative and significant effect on the openness in selected middle-income countries.

JEL CLASSIFICATION & KEYWORDS

■ E02 ■ M21 ■ INSTITUTIONAL QUALITY ■ TRADE
■ OPENNESS ■ GENERALIZED METHOD OF MOMENTS

INTRODUCTION

The frontier of the literature in this field is, therefore, shifting toward providing answers to the question of why some countries are more financially developed than others. Three influential hypotheses have emerged in recent literature, namely the endowment hypothesis, the law and finance hypothesis and the political economy hypothesis. In this paper the focus is on first. The endowment hypothesis, which acknowledges the importance of strong institutions for financial development, argues that institutional quality varies across countries because of varying initial endowments. Specifically, it suggests that the disease environment encountered by colonising powers in past centuries – peroxide in empirical studies by settler mortality - was a major retarding factor for the establishment of institutions that would promote long run prosperity (Acemoglu, Johnson, & Robinson, 2001).

The law and finance hypothesis puts forward the idea that common law based systems, originating from English law, are better suited than civil law based systems for the development of capital markets. This is because English law evolved to protect private property from the crown while French law was developed with the aim of addressing corruption of the judiciary and enhancing the powers of the state (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997). The third hypothesis, as formulated by Rajan and Zingales (2003), postulates that interest groups, specifically industrial and financial incumbents, frequently stand to lose from financial development, because it usually breeds competition, which erodes their rents. They argue that incumbents' opposition will be weaker when an economy is open to both trade and capital flows, hence the simultaneous opening of both the trade and capital accounts holds the key to successful financial development. This is not only because trade and financial openness limit the ability of incumbents to block the development of financial markets

but also because the new opportunities created by openness may generate sufficient new profits for them that outweigh the negative effects of increased competition. Trade has been recognized as an important vehicle for economic development. The degree of effect of trade on economic development depends importantly on the extent to which goods and services are allowed to flow. In particular, international trade literature established the fact that free trade is welfare improving while restrictive trade is welfare reducing (Markusen, Melvin, Kaempfer, & Maskus, 1995). As a result, reduction in tariffs, declining costs of transportation and technological advances in ICT have considerably increased international trade but not to the expected level (De Groot, Linders, & Rietveld, 2003).

One of the factors militating against satisfactory trade performance has been identified as lack of quality governance institutions. Governance institution refers to humanly devised constraints that structure political, economic and social interactions. They exist to reduce uncertainties that arise from incomplete information concerning the behaviour of other individuals in the process of interaction (North, 1990). According to WTO (2004) if a country lowers its trade barriers, outsiders may be reluctant to trade with her if, for instance, they do not believe contracts can be enforced or are not sure whether payments will be made. Therefore the quality of domestic institutions matters for international trade. In particular, a country or region may experience low trade if the situation of governance is not encouraging, even though there exists strong free trade policies. According to Wei (2000), if a country is naturally open (that is there is naturally low cost of transaction and less market distortion), it will be optimal for such country to devote more resources to building good governance institutions so as to attract more international traders.

In terms of institutional economists, institutions may lead to the front with shaping incentive structure productive activities in the community or be obstacle for it. It seems that there are large differences in the nature of the institution's performance across countries which the differences are one of the main causes of the differences in the level of developed countries. Institutions to cope with the rate of development, impact factor accumulation and productivity of factors of production, national production and finally trade. Hence, cognition how organizations and institutions can help create the enabling environment to improve performance much faster and better development of the developing countries. In this regard, the main objective of this paper is to investigate the theoretical relationship between institutional quality and trade as well as the level of effectiveness in selected countries (average income, high income). In order to testing the following hypothesizes, Dynamic Panel Date (DPD) model have been used:

There is positive and significant relationship between institutional quality and the degree of openness as an indicator of the volume of trade in high-income countries.

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There is positive and significant relationship between institutional quality and the degree of openness as an indicator of the volume of trade in middle-income countries.

The World Bank (WB) is used for data in the address of www.worldbank.org/wbi/governance. In this paper, the meaning of the selected middle-income countries are Argentina, Armenia, Azerbaijan, Bolivia, Brazil, Cameroon, Colombia, Chile, Ecuador, Egypt, India, Indonesia, Iran, Kazakhstan, Lebanon, Malaysia, Morocco, Paraguay, Peru, Russia, South Africa, Thailand, Turkey, Tunisia, Ukraine, Uruguay, Uzbekistan, Vietnam, Venezuela and Mexico. Also, the selected high-income countries are Australia, Austria, Belgium, Canada, Czech, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Spain, Slovenia, Sweden, Switzerland, United Kingdom and America. In the following, after a review of the theoretical and research background, the model will be introduced and it is estimated; and then, finally, the political conclusions and recommendations will be presented.

Theoretical basis

Economists tend to identify the causes of development on the grounds of resource endowment and technology. In essence, modern growth theory responds to this notion. Unlike this vision, a new perspective, not necessarily incompatible, has emerged in last decades. This perspective insists on the relevancy that normative framework and institutions have on fostering development. The institutional structure defines incentives and penalties, shapes social behaviour and articulates collective action, thus conditioning development. In last year, a myriad of empirical studies has supported this relationship between institutional quality and development; and, though less conclusively, the one between institutional quality and growth (Aron, 2000). The positive impact of institutional quality on development has been pointed out by crossed section analyses) Hall & Jones, 1999; Acemoglu, Johnson, & Robinson, 2002; Rodrik, Subramanian, & Trebbi, 2002 (as well as case studies (for example, Rodrik, 2003).

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In last two decades, a myriad of studies have explored the role of institutions in development. To make this possible, a considerable number of institutional quality indicators have been elaborated by multilateral organisations, risk-rating agencies, academic institutions and non-governmental

organizations. Given the extent of the available repertoire, it is not surprising that their characteristics and quality levels greatly differ among indicators. Nevertheless, most of them lack a theoretical framework linking the indicator to previously defined institutional quality criteria. What does it define the quality of an institution? To respond to this question, we must consider the functions an institution fulfils.

As Greif (2006) argued, institutions might be defined as a set of social factors, rules, beliefs, values and organizations that jointly motivate regularity in individual and social behavior. Thus, institutions can be seen as an interim contract that shapes behaviors; or seeking out another simile (Aoki, 2001) as a system of shared beliefs about the equilibrium of a game played repeatedly. Therefore, good institutions will be those that stimulate agents' activities with a high social return. Thus, they will draw together private and social returns, assuring a more efficient collective effort allocation. On the other hand, deficient institutions are those that stimulate socially useless or unproductive behaviors.

In a view point of North (1991), institutions are the rules of play in society or to be more precise, they are adverbial been enacted by humankind, which together form the mutual relations of humans. As a result, the institutional structure of the motives underlying cause human exchange, what are the political exchanges, economic and social. According to North, Institutions are composed of "informal constraints (e.g. fines, sanctions, customs, traditions and rules of conduct) and formal rules (such as the constitution, laws and property rights)". In his view, "the institutions historically have been enacted to regulate and reduce uncertainty in exchange and the introduction of the stimulus, the economy will lead them to the economic changes in the growth or stagnation".

Institutions respond to problems that social interaction rises up in an uncertain world. In this context, institutions constitute a mechanism to reduce discretionary behaviors and to limit opportunism. In addition, since they shape social behaviors, institutions foster social interaction and collective action, reducing coordination costs. Yet, it would be mistaken to suppose that institutions always endure a rational response to social transaction costs. They are also a mechanism through which social actors express their strategies. Hence, a society does not have necessarily all institutions it needs nor are the existing ones necessarily optimal. According to this approach, institutions have two economic basic functions: on the one hand, reducing transaction costs, granting certainty and predictability to social interaction; on the other hand, easing economic agents' coordination.

Many organizations have offered various indicators for the institutions and their quality. One of them is The World Bank that defines six features. These features are as follows:

1. VA – capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
2. PV – capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
3. GE – capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation of them, and the credibility of the government's commitment in such policies.

³ For comprehensive review on factors affecting trade in Africa, see Oyejide (2001, 2008), Bankole (2004), Bankole et al. (2004), and Adewuyi (2004).

4. RQ – capturing ability perceptions of government to formulate and implement sound policies and regulations which permit and promote private sector development.
5. RL – capturing perceptions of the extent in which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
6. CC – capturing perceptions of the extent to which public power is exercised for private interest, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.

The range of calculated indices is between 2.5 and -2.5 for most countries, and the more calculated index is close to 2.5, the more situation of that country is appropriate and vice versa (Kaufmann, Kraay, & Mastruzzi, 2002, 2004, 2005, 2006a, 2006b, 2007a, 2007b, and 2007c).

These criteria can inspire analytical exploration and empirical work seeking out variables that determine institutional quality. In the following sections, a model will be constructed and estimated by incorporating variables related to the four criteria previously defined (Alonso, 2009).

There is little evidence in the related field among the studies reviewed in this paper. Mainstream economics in the form of neo classical economics is not generic. It cannot uniformly be applied to any given situation or environment produce viable results. Social interactions or any other interactions in an economic system do not happen in vacuum, even though they may be mostly studied in such a way, neatly exogenizing other factors, which nevertheless, govern or have an effect on interactions of economic agents (be it individuals, organizations or firms or even countries). The study of this factors is the core idea of New Institutional Economics (NIE), which amongst others, is built on the contributions of Coase (1937, 1960), North (1981, 1990, 2005), Ostrom (1990, 2005), and Williamson (1975, 2000).

If the importance of institutions to day is well acknowledged and extensively used in growth and cross country income levels studies (Hall & Jones, 1999; Acemoglu et al., 2001; Easterly & Levine, 2003; Rodrik, Subramanian, & Trebbi, 2004) as well as assiduously within the general research program of New Institutional Economics, there still lacks a common sense of what institutions are and how can they can be classified. This is not so much a consequence of different definitions, but a consequence of different frameworks used to study institutions, which have not yet been, to our knowledge, evaluated and discussed in relation to one another.

International openness is the one of the most important factor that can encourage institutional quality. It is related to the dynamic efficiency of institutions. Firstly, it creates a more dynamic, sophisticated and demanding environment, which fuels a larger demand for good institutions. Secondly, international openness encourages a more competitive environment, therefore it can hinder rent-seeking activities, corruption and nepotism. Finally, openness can facilitate learning processes and good practices imitation from other countries experience. References to this variable are abundant, though with not totally coincidental results. For example, Rodrik et al. (2002) confirm that openness has a positive impact on institutional quality, but their estimates do not control for development level. Rigobon & Rodrik (2004) find a positive relationship, though weak, between trade openness and the rule of law, but the relationship becomes negative in case of democracy. The authors interpret this paradoxical result in terms of distributive

tensions generated by economic openness. Also Islam and Montenegro (2002) state that, when controlling for development level, openness affects some institutional quality variables but not others. Finally, the work of Knack & Azfar (2000), referred to corruption, shows that the results are very sensitive to the country sample used.

Entrepreneurs choose between rent-seeking and productive activities. The relative profitability of productive activities depends on institutions such as the rule of law and bureaucratic efficiency. High institutional quality leads to equilibrium where all entrepreneurs are producers, low institutional quality leads to one where a portion of entrepreneurs are rent-seekers. More natural resources in turn lower national income only in the latter state. Therefore resources are a curse only where institutional quality is poor (Kolstad, 2007).

A country's legal system origin is another element that has been identified as a potential determinant of institutional quality. It is argued that the British origin system and to a lesser extent German or Scandinavian systems, is based on a greater recognition of economic freedom, which limits the state intervention in the economy. On the contrary, the French origin legal system and even more the Soviet system were designed to determine the state's ability to organize economic and social life, leading to a weaker recognition of property rights and individual freedom. Accordingly, British and Nordic legal traditions are expected to be associated with higher institutional quality. Authors such as La Porta, López de Silanes, Shleifer & Vishny (1999), Chong & Zanforlin (2000) or Easterly & Levine (2003) find empirical support for this hypothesis. In the latter case, however, they do not control for development level.

Institutional quality can also be influenced by geographical conditions. It is considered that a country location in the tropics, lack of access to the sea, or soil fertility may have influenced the development of strong quality institutions. This argument is supported by Gallup, Sachs & Mellinger (1998) or Easterly & Levine (2003), among others. Finally, valuable natural resources can also affect institutional quality. They can negatively affect institutions by fostering rent seeking activities and replacing tax revenues by other revenue sources less transparent and less subject to accountability. Sachs & Warner (1997) and Easterly and Levine (2003) confirmed this relationship, although in the latter case they did not control for development level.

Empirically, Wei (2000) offers a new interpretation of the connection between openness and good governance. According to him, if bad governance crowds out international trade and investment, then, naturally more open economy would devote resources to building good institutions and would display lower corruption in equilibrium. Using bureaucratic corruption (output indicators of public governance) and relative wage (wage of public workers to private workers) (input indicator of public governance), they develop a minimalist model in which bad governance was demonstrated to reduce trade. Also, their model shows that countries tend to invest on building good governance in order to attract foreign trade. With the aid of gravity equation, the study find evidence supporting the fact that after controlling for the level of development and other possible determinants of corruption, a naturally more open economy tend to display a lower level of corruption. The paper concludes that trade liberalization increases level of natural openness which in turn enhances a country's capacity to build good governance.

One of the studies our work is very similar to it is Gani & Duncan (2004). In this study, we used a non-weighted mean

of four main factors: the Rule of Law, Government Effectiveness, Regulatory Quality, Development and Social Progress for the measurement criteria of good governance. Each of these indicators composed of different components. Time series for each of the three dimensions of governance, as well as for the overall governance index, are presented in a range from zero (poorest achievement) to 1.0 (best achievement). The various formulas for calculating the indices of the respective components are presented and the governance quality is calculated as a simple mean of four indicators.

De Groot et al. (2003) adopted gravity model of trade to examine the effect of institutions on trade flows. They claim to extend the gravity equation by including proxies for institutional quality and institutional homogeneity between trade partners. Using governance indicators developed by Kaufmann et al. (2002), they find that having a similar law or regulatory framework (that is country with similar governance—be it rule-based or relation-based) promotes bilateral trade by 12% to 18%. They also find that rule-based governance economies report higher trade among themselves. An increase in regulatory quality of one standard deviation from the mean leads to an estimated increase of 20 to 24% in bilateral trade. Also lower corruption accounts for 17 to 27% extra trade.

Further analysis of the impact of governance on trade by scholars including Li & Samsell (2009) and Wu, Li, & Samsell (2012) led to the conclusion that the direction of effect of governance on trade depends on the effectiveness of governance systems, be it rule-based, relation-based or family-based. Trade among rule-base economies is easy and high because they share the same features, while in the case of relation-based economies trade is less easy and low because they tend to have diverse commonalities. However, trade between rule-based and relations-based economies may be strong or weak. Therefore, the literature is unclear as to how diverse governance institutions among countries and regions tend to impact trade. Li & Samsell (2009) focuses on how governance affects world trade. They selected 44 countries for which data on bilateral trade and governance indicators are available. They adopted governance environment index (GEI) which are, political rights, rule of laws, quality of accounting standards, free flow of information and public trust. The methodology chosen was gravity equation, but splinted into OLS with fixed effect and OLS country-specific fixed effect. They find that the governance environment matters in bilateral trade flows. Countries with more highly rule based governance systems tend to trade more than countries with more highly relation-based governance systems. Thus, increases in the degree of rule-based governance can increase trade flow. They also find that countries with a large difference in governance environments tend to trade less with each other, but this does not necessarily lead to the conclusion that countries similar in the governance environment trade more, as previous studies have thought. Wu et al. (2012) investigated the reason why some countries trade more, some trade less

⁴ Rule-based governance exists where sound checks and balances operate among the legislature, judiciary and the executive, a well-developed information infrastructure, a completely independent and transparent judicial system, a reliance on public rules to settle dispute. On the other hand, relation-based system of governance lacks checks and balances among the arms of government, unfair and un-transparent public rules, political influence of judiciary, porous public information infrastructure and lack of confidence in public rules (Li & Samsell, 2009; Wu et al., 2012).

⁵ The commonalities that are similar among them are corruption and lack of transparency.

and some trade almost nothing. To do this, they employed and extended, and perhaps an updated classification of governance framework for 44 countries that accounted for 89 percent of world trade. The authors included family-based mode of governance apart from the well-known rule-based and relation-based mode of governance. Their argument was that some countries' mode of governance may lack both public rule and private network. Their results suggested that rule based countries trader more than relation-based or family-based countries. Further, a favourable and large trade flows among highly rule-based economies was observed likewise among relation-based economies. Trade flows with and among family-based countries was negligible, an indication that the absence of well-defined governance institution is detrimental to trade among the affected countries.

Materials and Methods

In this article, due to various factors influencing on volume of trade, to evaluate the effect of institutional quality on the volume of trade in selected countries Eq. (1) have been achieved with adjustments. Eq. (1) is estimated to be medium to high income groups, selected countries separately.

$$LT_{it} = \alpha_0 + \alpha_1 FF + \alpha_2 ICT_{it} + \alpha_3 POP_{it} + \alpha_4 HCAP_{it} + U_{it} \quad (1)$$

Where LT is the logarithm of openness as an index for the volume of trade; FF is non-weighted average of the four indicators of the effectiveness of government, regulatory quality, political stability, voice and accountability and control of corruption as index for institutional quality; ICT is the number of internet users for each hundreds of people as an indicator of information and communication technology; POP is population as an index for market size; HCAP is human capital; the symbols U, i and t show respectively error term, countries and periods.

In order to study the statics/stagnation or lack of stagnation of the variables, Im, Pesaran, and Shin (IPS) has been used. Results obtained from this test for all used variables are shown in in Tables 1 and 2.

Table 2: The results of panel unit root test in selected high-income countries during 2002-2010 period

Results	The P-Value of IPS Test by One Difference	The P-Value of IPS Test	Variables
I_1	0	0	LT
I_0	0	0.0001	FF
I_0	0	0.001	ICT
I_0	0	0	HCAP
I_1	0.0216	0	POP

Source: Authors (calculated by EVEIWS.7 software)

Table 1: The results of panel unit root test in selected middle income countries during 2002-2010 period

Results	The P-Value of IPS Test by One Difference	The P-Value of IPS Test	Variables
I_1	0	0	LT
I_0	0	0.011	FF
I_1	0.002	0	ICT
I_1	0	0	HCAP
I_0	0	0	POP

Source: Authors (calculated by EVEIWS.7 software)

Results for selected countries in the middle-income group based on IPS test show that the variables ICT, LT and HCAP are static by one difference as well as POP and FF are static in level. Results for selected countries in the high-income group based on IPS test show that the variables POP and LT are static by one difference and the variables ICT, FF and HCAP are static in level. Therefore, the null hypothesis of a unit root is rejected. As a result, the stability of the data used in this study is the estimation of the model to be approved. Also to assess the long-run relationship between the variables were used Kao co-integration. Kao co-integration test results for two groups of countries (Table 3) confirms the long run relationship between the variables in the two groups of countries.

Table 3: The results of Kao test in selected high-income and middle-income countries during 2002-2010 period		
Type of countries	t-Statistic	Prob.
Middle-Income	(-2.030441)	0.0212
High-Income	(-1.741599)	0.0408
Source: Authors (calculated by EVEIWS.7 software)		

Equation (1) is estimated using GMM estimator. GMM estimator in recent empirical studies, especially studies of macroeconomic and financial widely have been used. Using this method to estimate the model has many advantages. For example, Beck, Levine, & Loayza (2000) recognize that is very convenient using this estimator in order to eliminate the variance of time series data. GMM estimator to estimate the unobserved individual specific delays in model (Which is done by inserting the lag of the dependent variable as an explanatory variable in the model), this estimator gives a better control of the endogenous explanatory variables of the model. The results of estimating the models by using estimator (GMM) is presented in Table 4.

Table 4: The results of estimating the impact of institutional quality on the volume of trade using GMM in selected countries				
Dependent Variable: Log of Openness				
Independent Variable	Middle-Income Countries		High-Income Countries	
	Coefficients	T-Statistic	Coefficients	T-Statistic
LT(-1)	0.064294	7.346697	0.575342	71.50974
ICT	0.001999	2.587049	0.001557	36.42126
FF	(-0.417707)	(-7.816033)	0.010764	1.896355
POP	5.00E-04	34.88358	5.00E-04	0.558955
EN	27.72171		25.89893	
J-Statistic				
J-statistic means the Sarjen statistics used to test the correlation between the residuals and instrumental variables.				
Source: Authors (calculated by EVEIWS.7 software)				

CONCLUSION

Results obtained from the estimation of Equation (1) in the middle-income and high-income selected countries during 2002-2010 show that:

The interval variable (LT (-1)) has a significant and positive effect on the log of openness as an indicator of trade in selected high- income and middle- income countries. Institutional quality has a significant and positive effect on the log of openness as an indicator of trade in selected high-income countries; whereas, this variable has a significant and negative effect on the log of openness as an indicator of trade in selected middle- income countries.

The number of internet users for each 100 people (ICT) technology and communication index has a significant and

positive effect on the log of openness as an indicator of trade in selected high- income and middle- income countries. Infrastructure investments are not typically only a physical form such as roads, ports, etc. Investors prefer economies that have developed network of roads, airports, telephone and Internet. Poor infrastructure, increases the cost of economic activity as well as reduces the rate of return on invest; thus leads to a reduction in investment, production and trade.

Also, based on results population (POP) has a significant and positive effect on the log of openness as an indicator of trade in selected middle- income countries; whereas, don't have any significant effect on the log of openness as an indicator of trade in selected high- income countries. More population means more market based on the theoretical foundations of a country, which greater the market increases the demand for goods and services.

The Sargan's test statistic, which has distribution with degrees of freedom equal to the number of over-identifying restrictions; rejects the null hypothesis based on correlation between the Residuals Interdependence and Instrumental variables. Based the results of this testing instrumental variables used in the estimation models are valid enough. Then, the validity of the results are confirmed for interpretation.

The results of this study suggest the following policy recommendations:

Improve the regulatory quality in order to stabilize the economy and business rules and reduction of tariff barriers.

Attempt to clarify provisions relating to property rights and civil rights in order to reduce risk.

Due to confirm the positive impact of ICT, government investment in this sector can be improved the countries by the benefits of increased trade.

REFERENCES

- Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, 91, 1369 – 1401.
- Acemoglu, D., S. Johnson, S., & Robinson, J. A. (2002). Reversal of fortunes: Geography and institutions in the making of the modern world income distribution. *Quarterly Journal of Economic*, 117(4), 1231-94.
- Alonso, J. A. (2009). The Determinants of Institutional Quality; More on the Debate, Instituto Complutense de Estudios Internacionales, Universidad Complutense de Madrid. Campus de Somosaguas, Finca Mas Ferre. 28223, Pozuelo de Alarcón, Madrid, Spain, available at: http://eprints.ucm.es/9665/1/WP_03-09.pdf.
- Aoki, M. (2001). *Towards a Comparative Institutional Analysis*. Cambridge: MIT Press.
- Aron, J. (2000). Growth and Institutions: A Review of the Evidence. *The World Bank Research observer*, 15(1). 1203-1228.
- Beck, T., Levin, R., & Loayza, N. (2000). Finance and the source of growth. *Journal of Financial Econometrics*, 58, 26-310.
- Chong, A., & Zanforlin, L. (2000). Law tradition and institutional quality: some empirical evidence. *Journal of International Development*, 12(8), 1057-1068.
- Coase, R. H. (1960). The problem of social cost. *Journal of Law and Economics*, 3(1), 1–44.
- Coase, R. H. (1937). The nature of the firm. *Economica*, New Series, 4(16), 386–405.
- De Groot, H. L. F., Linders, G. J., & Rietveld, P. (2003). Why do OECD countries trade more? Tinbergen Institute Discussion Paper, T1 03-092/3.

- Easterly, W., & Levine, R. (2003). Tropics, germs, and crops: how endowments influence economic development. *Journal of Monetary Economics*, 50(1), 3–39.
- Gani, A., & Duncan, R. (2004). Fiji's governance index, paper presented to the Fiji Update, organized by the Australian National University and the University of the South Pacific, University of the South Pacific, Suva. Available online at: http://www.usp.ac.fj/index.php?id=piasdg_downloads_gov.
- Greif, A. (2006). *Institutions and the Path to Modern Economy. Lessons from Medieval Trade*, Cambridge, Cambridge University Press.
- Gallup, J. L., J. Sachs., & Mellinger, A. (1998). *Geography and Economic Development*. NBER Working Paper, No. 6849, Cambridge, Massachusetts, National Bureau of Economic Research.
- Hall, R. E., & Jones, C. I. (1999). Why do some countries produce so much more output per worker than others? *The Quarterly Journal of Economics*, 114(1), 83–116.
- Islam, R., & Montenegro, C. (2002). *What Determines the Quality of Institutions? Documento elaborado para el World Development Report: Building Institutions for Markets*, Washington.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2002). *Governance matters II: Updated indicators for 2000/01*. World Bank Policy Research Working Paper. Washington, D.C., No.2772.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2004). *Governance matters III: Governance indicators for 1996, 1998, 2000, and, 2002*. World Bank Economic Review, 18: 253-287.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2005). *Governance matters IV: Governance indicators for 1996-2000*. World Bank Policy Research Working Paper, Washington, D.C., 3-30.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2006a). *Measuring governance using perceptions data*. In S. R. Ackrman (Ed.). *Handbook of economic corruption*. New York: Edward Elgar.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2006b). *Governance matters V: Aggregate and individual governance indicators for 1996-2005*. World Bank Policy Research Working Paper, Washington, D.C., No. 4012.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007a). *The worldwide governance indicators project: Answering the critics*. World Bank Policy Research Working Paper, Washington, D.C, No.4149.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007b). *Growth and governance: A reply/rejoinder*. *Journal of Politics*, 69(2): 555-562.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007c). *Governance matters VI: Aggregate and individual governance indicators for 1996-2006*. World Bank Policy Research Working Paper, Washington, D.C. No.4280.
- Knack, S., & Azfar, O. (2003). *Trade Intensity, Country Size and Corruption*. *Economic Governance*, 4(1), 1–18.
- Kolstad, I. (2007). *The resource curse: Which institutions matter?* Michelson Institute, 1-7.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A and Vishny, R. W. (1997) *Legal Determinants of External Finance*. *Journal of Finance*, 52, 1131 – 1150.
- La Porta, R., López de Silanes, F., Shleifer, A., & Vishny, R. W. (1999). *The Quality of Government*. *Journal of Law, Economics and Organization*, 15, 222-79.
- Li, S., & Samsell, D. P. (2009). *Why Some Countries Trade More Than Others: The Effect of the Governance Environment on Trade Flows*. *Corporate Governance: An International Review*, 17(1).
- Markusen, J., Melvin, J., Kaempfer, W., & Maskus, K. (1995). *International Trade Theory and Evidence*. Singapore: McGraw-Hill.
- North, D. (1981). *Structure and Change in Economic History*. New York: Norton.
- North, D C. (1990). *Institutions, Institutional Change, and Economic Performance*. Cambridge, U.K.: Cambridge University Press.
- North, D. (1991). *Institutions*. *Journal of Economic Perspectives*, 5(1): 97-112.
- North, D. C. (2005). *Institutions and the performance of economies over time*. In M. S. C. Mard (Ed.), *the Handbook of New Institutional Economics* (pp. 21–30). Springer.
- North, D. C. (2005). *Understanding the process of economic change*. Princeton, N.J.: Princeton University Press.
- Ostrom, E. (1990). *Governing the commons: the evolution of institutions for collective action*. Cambridge, New York: Cambridge University Press.
- Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton University Press.
- Rajan, R. G., & Zingales, L. (2003). *The Great Reversals: The Politics of Financial Development in the Twentieth Century*. *Journal of Financial Economics*, 69, 5 – 50.
- Rigobon, R., & Rodrik, D. (2004). *Rule of Law, Democracy, Openness, and Income: Estimating the Interrelationships*. NBER Working Paper, n.10750.
- Rodrik, D., Subramanian, A., & Trebbi, F. (2002). *Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development*. IMF Working Paper, 2(189). Washington.
- Rodrik, D. (2003). *What do We Learn from Country Narratives?* In D. Rodrik (Ed.), *In search of prosperity. Analytic narratives on economic growth*. Princeton: Princeton University Press.
- Rodrik, D., Subramanian, A., & Trebbi, F. (2004). *Institutions rule: The primacy of institutions over geography and integration in economic development*. *Journal of Economic Growth*, 9(2), 131–165.
- Sachs, J., & Warner, A. (1997). *Sources of Slow Growth in African Economies*. *Journal of African Economies*, 6, 335-76.
- Wei, S. (2000). *Natural Openness and Good Government*. NBER Working Paper 7765. Cambridge, Massachusetts: National Bureau of Economic Research.
- Wei, S. (2000). *Why is Corruption So Much More Taxing than Tax? Arbitrariness Kills*. The National Bureau of Economic Research, Working Paper. November.
- Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*. Free Press.
- Williamson, O. E. (2000). *The new institutional economics: Taking stock, looking ahead*. *Journal of Economic Literature*, 38(3), 595–613.
- Wu, J., Li, S., & Samsell, D. (2012). *Why some countries trade more, some trade less, some trade almost nothing: The Effect of governance environment on trade flows*. *International Business Review*, 21, 225-238.