

Institutional Determinants of Financing Decisions of Firms: The Case of Transition Economies

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Abstract

This paper goes beyond the scope of analysis of financial theories that weakly incorporate the impact of the institutional environment. In particular, we seek to demonstrate the empirical relevance of institutional factors (legal, economic and governmental) in order to study the financial behaviour of firms. Furthermore, capital structure studies had mainly focused on firms in developed countries and little attention is given on how firms in developing and emerging market decide on its capital structure decisions. Based on a sample of 41 developing countries, the empirical results show that the development of financial system, the regulation of the bank sector, the openness of trade policy, the political stability and the level of corruption determine the financing choices of the firms. Our results confirm that institutional factors specific to countries in transition prevent generalization of Anglo-Saxon results

Keywords: capital structure, governance system, transition economies, level of corruption

INTRODUCTION

The question of the determinants of financial structure focuses on firm-specific variables such as size, asset structure, profitability and growth opportunities (John and Litov 2010 and Frank and Goyal 2009). Although the financial literature suggests that financial funding decisions are influenced by the extent of agency conflicts and the level of information asymmetry, it ignores the possible mediation of the quality of the institutional framework (law efficiency, economic openness, economic transparency, corruption level...)!

Recently, the integration of the institutional dimension such as the country's financial system (Levine 1998, 1999 and 2000) and the legal system (LaPorta et al 1997, 1998 and Fan, Titman and Twite 2011) seems to generate a new approach of the issue of financial behaviour of the firm. However, several shortcomings remain to be raised. First, the work that has attempted to conduct a synthetic survey that includes a wide range of institutional variables is rare. Second, the increase in international databases (Heritage Foundation, International Transparency, Kaufmann, Kraay, Mastruzzi/World Bank and Doing Business)¹ seems to expand the vector of institutional variables. The publication of the indices that seek to quantify the factors often referred to as qualitative (such as the government integrity and the countries' corruption level) is a factor that motivates the empirical investigations to test the impact of institutions on firms' financing decisions. Third, most studies dealing with the same topic have focused on developed countries and often dismissed the transition economies (Fan, Wei and Xu 2011). However, The world is dominated by emerging

economies in terms of population and geographic size. More and more institutional and behavioral differences between firms in emerging markets and those in developed markets are discovered (see for example the report of the Center of International Private Enterprise 2008).

By adopting the hypothesis that argues that the environmental context determines the boundaries of firms' financing (North 2003), we seek to assess the impact of the "quality" of the legal, economic and political environment on the financing behaviour of companies. Our attention will be focused on countries in transition. Indeed, these countries have conducted a series of legal and economic reforms, and at the level of organizations aiming at achieving a change of funding ways to channel the transition from indirect finance (financial intermediary) to direct finance (market financing). To reveal some answers to our research problem, this paper is organized as follows: the first section includes a review of the work that has highlighted the impact of institutional quality on firms' financing decisions. The second section presents our methodological approach, the characteristics of our sample as well as the hypotheses to be tested will be also discussed. The third section interprets the findings. The fourth section concludes.

LITERATURE REVIEW

Rajan and Zingales (1995) are the pioneers who concluded that the explanation of capital structure requires taking into account the specific environmental framework of firms. However, these authors suggest that much remains to understand the influence of different institutional arrangements on

financing choices. Later, several empirical studies have attempted to examine the impact of environmental considerations such as the tax system, legal framework, development of the financial system (bank vs. market), etc., on the choice of financing companies.

La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998, 1999 and 2000)² have enriched the debate on international comparisons of governance systems through the integration of variables stemming from the legal and regulatory frameworks. The results of this work show that the extent of the protection of investors' rights and legal origin (Common Law / Civil Law) determine the level of development of financial markets. The interpretation of the results shows that the LLSV legal system is not without effect on the structure of corporate finance. Indeed, the protection of investors against a diversion of the capital flows stimulates the financing by the recourse to the market. Conversely, when the legal system does not guarantee sufficient protection to minority shareholders, the only way to finance companies would be the recourse to concentrated ownership or to banks. Financial intermediary is therefore a substitute for the lack of an efficient legal and institutional environment (Levine 1998 and 1999).

Following the example of LLSV, various authors have sought to reveal other items for further study of the relationship between the regulatory framework and the system of countries' finance (Roe 2000, Modigliani and Perotti 2000 and Pagano and Volpin 2001). This work is based on fundamental factors namely: political and sociological factors (Roe 2001 and Stulz and Williamson 2003) and factors related to the application of law (Beck, Demirgüç-Kunt and Levine 2004).

Modigliani and Perotti (2000) and Roe (2001) argue that political pressures are originally the main factor that determines the system of financial firms. Beck et al (2004) focus on the effectiveness and integrity of the application of rules of law as variables determining the differences in capital structure across countries. The results led to the fact that the integrity of the country has a positive impact on the level of indebtedness of firms. Indeed, the state of law where the integrity of the legal system is certain represents a secure environment for investors and donors. Fan, Titman and Twite (2011) find that firms belonging to countries with good creditor protection have a high

level of debt. In contrast, firms that are part of a regulatory framework that promotes the protection of minority shareholders to the benefit of creditors employ more external equity financing.

Stulz and Williamson (2003) argue that religion (Protestant / Catholic) and culture influence the financial sphere and explain the diversity of the financing decisions of firms across countries.

Recently, several studies have directed their attention to the importance of other institutional factors other than the legal framework "Extra-legal institutions" such as governmental variables (Cheng and Shiu 2007, Li, Yue and Zhao, 2009 and Fan, Titman and Twite 2011).

Empirically, Li, Yue and Zhao (2009) show that the specification of an econometric model that combines explanatory factors describing the ownership structure of firms (share of the state, share of the private investors and share held by foreigners) and the economic and institutional factors (GDP, level of creditor protection and economic openness index) has a significant explanatory power in explaining the variation in the debt ratio ($R^2 = 35\%$). However, the specification of a model that takes into account only the variables specific to the firm explains only 13% of the variation in debt ratio.

Xiaoyan Niu (2008) conducts a cross-country comparison of capital structure and its determinants between UK and Germany to test alternative theories of capital structure within different institution traditions. These findings also indicate that institutional differences contribute to the variation in capital structure choice and the effects of determinants.

In conclusion, the review of the main results testing the impact of macroeconomic and institutional environment on firms' financing decisions can be summarized in the following table 1: In addition, institutional variables influence indirectly the financial structure of firms through the specific factors. Jong, Kabir, and Nguyen (2008) estimate two types of effects: the direct effect on the aggregate leverage of countries and the indirect effect through the influence on the estimated coefficients of firm-specific determinants. Results show that there is an indirect impact because country-specific factors also influence the roles of firm-specific determinants of leverage.

Table I: Review of results by testing the impact of institutional environment on capital structure.

authors	context	Institutional variables			
		Legal framework	financial system	Taxation	Growth level
Gleason et al (2000)	14 member countries of the European Community	significant	significant	significant	significant
Booth et al (2001) ³	10 developed countries	significant	Significant	Not significant	significant
Giannetti (2003)	9 European countries	significant	significant	not done	significant
Bancel and Mittoo (2004)	16 European countries	significant	significant	significant	significant
Jong et al (2008)	42 countries including 21 developing countries	significant	Not significant	not done	significant
Cheng et Shiu (2007)	45 countries in Asia, Europe, North America, South America, Africa and Australia	significant	Not significant	significant	significant
Fan, Titman et Twite (2011)	39 developed and developing countries	significant	significant	significant	Not significant

METHODOLOGY

Variables and Model Specification

Our methodological approach is to present the size of our sample as well as the measure of the explained and the explanatory variables. We will then deal with the presentation of hypotheses to be tested and models to be estimated.

Sample

Our empirical study is based on a sample of 41 countries. As classified by the World Bank, only 7 countries are considered developed, namely: (Germany, Greece, Ireland, Korea, Portugal, Spain and China). The remaining countries in our sample are classified as emerging markets and with economies in transition. Endogenous variables (different types of financing: self financing, bank debt, commercial debt) as well as the vector of exogenous variables (indices describing the institutional framework, indices measuring economic openness and evidence indicating the effectiveness of the governance system) are about the year 2005. Appendix N°1 presents the retained lists of the countries in our study.

Measure of Endogenous Variables

The World Bank and IMF (International Monetary Fund) conduct an economic and financial overview that determines the business life to describe the investment climate assessment (ICA) in 77 countries. The "Enterprise Surveys" is based on a sample of 41,000 firms and publishes, among other things, the recourse to various sources for financing new investments (Capital Structure). The data provided are: the share of debt financing in the total funding "Banks finance for investment," the share of funding for self financing in investment financing "Internal finance of investment", the contribution of informal finance in the total funding (family, friends ...)

"Informal finance of investment" and the share of supplier credit financing "Supplier credit financing." We have presented descriptive statistics and graphs representing these different sources in Annex II. In this paper, we limited ourselves to the explanation of two endogenous variables namely bank debt (Bank) and self financing (Internal).

Hypothesis and Measure of Exogenous Variables

Our study focuses on explaining the financial behaviour of firms through the institutional framework according to its three facets: the legal framework, economic environment and the governance system. We give more importance to the debt variable which formed the basis of endogenous tests and the literature on capital structure.

The Impact of the Legal Framework/System on the Behaviour of Firms' Financing

Following the example of LaPorta et al (1998), several studies have focused on the relationship between the legal framework and the financing structure of firms: Levine (1998, 1999a, 1999b), Demirguc-Kunt and Maksimovic (1999) and Cheng and Shiu (2007). Indeed, the level of shareholder protection decreases the practices of expropriation of minority investors (La Porta et al 1999c). This protection encourages investors to acquire securities. Similarly, the best shareholder protection involves the costs of financing by issuing lower shares (Pagano et al 2001). In addition, the flexibility of the legal framework (bankruptcy law, required guarantees) facilitates bank debt financing.

In addition, empirical studies confirm that the legal origin of countries determines the level of development of financial systems (bank-oriented or market-oriented) as well as the financing structure of firms. Indeed, the economies that have English

common laws tend to have a market-oriented financial system and that firms belonging to this context draw on external equity capital. In contrast, those that have original civil laws (Civil Law) have a bank-oriented financial system and that firms tend to finance themselves rather than by bank debt (Fan, Titman and Twite 2011). Therefore, we affirm:

H1: A negative relationship between the level of shareholder protection and debt financing.

H2: A positive relationship between the flexibility of the legal framework and debt financing.

H3: The legal origin of a significant effect on the choice of financing.

However, the agency theory assumes an alternative relationship between the level of protection of shareholders and debt financing. Indeed, Jensen and Meckling (1976) affirm that debt reduces the agency costs between shareholders and managers, by imposing periodic repayments. In addition, taking into account the inclusion of tax benefits related to debt means that the leaders of firms belonging to contexts characterized by a good shareholder protection, otherwise, prefer debt financing rather than those in countries with a weaker protection. Leaders resort to debt to avoid the risk of being replaced. This reasoning suggests the existence of a positive relationship between the degree of protection of shareholders and debt levels.

To measure the level of shareholder protection, the flexibility of the legal framework and the legal origin of each country, we have referred to the database "Doing Business"⁴. The retained indices are respectively: "Share", "Legal Rights Index" and the variable "Dummy Civil / Common". The definitions, the measures and the significance of these indices are presented in detail in Annex III.

The Impact of Economic Variables on the Behaviour of Firms' Financing

Economic freedom is defined as "the absence of governmental constraints placed on the production, the distribution or the consumption of goods and services" to allow citizens to work, produce, consume and invest the way it seems the most productive.

As part of our study, we assume that the freedom and flexibility of the economic framework of a country explain the structure of firm financing. Indeed, a country characterized by a economic rigidity is burdened by constraints that impede the well being of the firms. In particular, economic instability leads the companies to establish a hierarchical order of financing. The latter mainly prefer their internal equity capital as it is not risky.

In particular, our assumptions are as follows:

- The high level of inflation reflects a macroeconomic and microeconomic uncertainty that increases the risk of distress of the firm (Nelson, 1976 and Kandel, Sarig and Ofek 1961). The latter being a powerful factor that negatively affects the debt policy of firms (Trade-off theory). Therefore, we set:

H4: A negative relationship between the level of inflation and the recourse to bank debt.

- Although the financial literature argues that the degree of informational asymmetry affects the cost and the maturity of granting credit, it ignores the impact of policy decisions and the degree of control of the banking sector on the financial behaviour of firms (González 2003). Some works consider that there is a positive relationship between a repressive policy of regulation of the banking system "Prudential Banking Regulation" and the recourse to debt. The arguments contend that the degree of regulation of the banking sector can be a stimulus to encourage bank financing. Indeed, Suarez (1993) developed a model that shows that a strict and repressive regulation creates barriers at the beginning and protects the presence of monopolies. Petersen and Rajan (1995) claimed that firms belonging to contexts where the credit sector is controlled by the state are more likely to obtain bank loans. Furthermore, a repressive policy is justified as a protection of the interests of investors who do not have access to information (Dewatripont and Tirole 1994 Freixas and Rochet 1997). However, in this study, we pursue the predominant idea which affirms that in a country characterized by a restrictive and rigid banking system, the firms make less recourse to bank financing to free themselves. We suggest that there is:

H5: A negative relationship between the rigidity of the banking sector and the recourse to debt.

- The release of trade policy (improving access to foreign markets for exports, export goods, export promotion, increase the commercial exchange with major trading partners and find new markets) is a macroeconomic factor that affects the recourse to debt. Indeed, the commercial freedom of a country simultaneously reveals on the one hand, the weakening of government control and monitoring of domestic firms, and severe competition with foreign firms, on the other. Therefore, this openness increases the level of economic risk of local firms that negatively affects the recourse to bank debt (Trade-off Theory). Debt levels should be, then, negatively related to the openness of trade policy.

H6: A protectionist trade policy (closed) positively influences the recourse to debt.

- To examine empirically the theoretical suggestions arguing that in countries where the financial system is bank-oriented, the firms rely more on bank debt to finance their investments given the direct involvement of the latter in the control of firms (Prowse 1994, Berglof 1997, Demirgüç-Kunt and Maksimovic 1996 and Cheng and Shiu 2007), we have retained a variable that measures the level of development of the banking system. The latter relates the bank loans granted by banks to GDP (Domestic credit). This suggestion is reflected in:

H7: A positive correlation between the ratio (bank loans / GDP) and the percentage of debt.

- Finally, and drawing on the work that examined the role of state ownership in the business capital (Dewenter and Malatesta 2001) and the banks (Sapienza 2004 and Dinç 2005) in determining their financial decisions, we try to introduce the level of state participation as an explanatory variable of firms' financing behaviour. Indeed, Gordon and Li (2003), Allen and Qian (2005) and García-Herrero et al (2005) argue that the presence of the state in the company via its participation puts pressure on the creditors (banks) to facilitate the granting of credits to state enterprises without taking into account the objective considerations (level of risk, profitability ...). Therefore, we expect:

H8: A positive relationship between the state participation in the capital of the firm and debt.

The *Heritage Foundation*, a leading U.S. think tank American, established an annual index of economic freedom for more than 100 countries (Economic Freedom Index). This index has the advantage of having the widest range of economic factors determining the economic freedom. To test our hypotheses previously defined, we retain the following indices: "Monetary Policy" (measuring the level of inflation), "Banking and Finance" (the rigidity of the banking sector), "Trade Policy" (protectionism in trade policy), "Domestic Credit" (development Banks) and "Owner State" (the State participation in capital firms). For more details, see Annex III.

The Impact of Institutional Variables on the Political Behaviour of Firms' Financing

At the macroeconomic level, the governance is defined as "the traditions and institutions through which authority is exercised in a country" (Kaufmann, Kraay and Lobaton, 1999 a and b). It includes (i) the process by which leaders are selected, monitored and replaced, (ii) the ability of leaders to effectively manage resources, formulate and implement sound policies, and (iii) the respect of citizens and the state for the institutions that govern

economic and social interactions. The analysis of governance thus refers to the relationship between state, market and civil society. Depending on the nature of the joint or the mode of coordination between different stakeholders, governance is described as "good" or "poor". "Good governance" is characterized by transparency based on the availability and reliability of information, accountability of government and finally participation in decision making, especially for the most disadvantaged social groups. Conversely, poor governance manifests itself in violation of law, arbitrariness of administration, the existence of corruption, etc..

The fight against corruption and political stability are two key aspects of good governance (Knack and Keefer 1995). In contrast, the insecurity of the institutional environment is embodied in a situation where there are several defaults of payments having significantly increased the proportion of delinquent loans in the portfolio of banks and a subsequent distrust between savers. According to Knack and Keefer (1995), this instability means that contract terms are not always respected and therefore increases the level of risk aversion of banks. In this context, the firms resort, therefore, less to bank indebtedness whose cost of financing becomes less attractive. Jong et al (2008) show that the level of corruption in a country increases the instability of the economy and therefore increases the level of economic risk of the firms operating in that country. Considering the risky nature of debt financing, they establish a negative relationship between corruption and debt. However, Fan, Titman and Twite (2011) adopt a different view. The authors consider that when the level of "corruption" in the public sector is very high, firms are financed primarily by bank debt. For example, numerous studies report that firm owners and managers may bribe or build connections with bureaucrats who can influence state banks to give loans and other business privileges to these firms (e.g., Sapienza, 2004; Dinc, 2005; Khawaja and Mian, 2005; Charumilind et al 2006; Claessens et al 2008; Fan et al. 2011).

This source is an alternative to external equity capital that becomes a less preferred choice given the wrong high levels of corruption. Likewise, LaPorta et al 2002 and Sapienza 2004 affirm that only within countries characterized by high levels of corruption, the banking sector is more efficient than the stock market. Based on the Index "CPI" (Corruption Perception level) provided by the "International Transparency⁵," we affirm:

H9: A positive relationship between the level of control of corruption and debt financing bank.

Specification of the Econometric Models

Following the example of the works that seek to introduce the role of institutional quality in explaining the development process, we try in the empirical part to test if the quality of institutional factors (legal, economic and governmental) influences the financing behaviour of firms.

Assuming that the effect of explanatory variables on the endogenous variable is linear, we can write: $Y_i = F(L_i, E_i, G_i)$, where Y_i expresses the percentage share of funding sources used by the company ($i = 1$ if the funding source is the bank debt "Bank", $i=2$ if the funding source is self-financing "Internal");

L: is the vector of explanatory variables from the legal framework of a country. In particular, this framework includes the level of protection of shareholders (Share), the index measuring the compliance of the rule of law (Legal Right) and the variables "Dummy" indicating the legal origin of each country (Civil Law / Common Law);

E: is the vector of explanatory variables from the economic framework of a country. Referring to the database "Doing Business", we retained the indices that we consider closely related to the behaviour of financial firms including: inflation levels "Monetary" control of the banking sector "Banking" trade policy "trade", the level of development of the banking sector "Domestic Credit" and the structure of the state ownership "Owner";

G: includes the Corruption Perception Index (CPI) which measures the quality of government of a country.

To explain the determinants of different funding sources, we introduce in all regressions a control

variable. The latter measures the age of the firm "Age." The estimation of theoretical models will be made on cross-sectional data. By assuming that the effect of explanatory variables on the endogenous variable is linear, we can write the econometric and theoretical equations as follows:

Regression (1):

$$Y_i = \beta_0 + \beta_1 AGE_i + \beta_2 Share_i + \beta_3 LegalRight_i + \mu_{1i}$$

(1a)

$$Y_i = \beta_1 AGE_i + \beta'_2 Share_i + \beta'_3 LegalRight_i + \beta'_4 Commun_i + \beta'_5 Civil_i + \mu'_{1i} \quad (1b)$$

Regression (2):

$$Y_i = \alpha_0 + \beta_1 AGE_i + \alpha_2 DomesticCredit_i + \alpha_3 Trade_i + \alpha_4 Banking_i + \alpha_5 Monetary_i + \alpha_6 Owner_i + \mu_{2i} \quad (2)$$

$$Regression (3) : Y_i = \delta_0 + \beta_1 AGE_i + \delta_2 CPI_i + \mu_{3i} \quad (3)$$

INTERPRETATION OF EMPIRICAL RESULTS

In all regressions, the interpretation of different results will focus on the Y1 and Y2 regressions seeking to explain the determinants of the recourse to debt and self financing.

The Impact of Legal and Regulatory Framework of the Financing Structure of Firms

Following the example of Demircug-Kunt and Maksimovic (1999) and Carlin and Mayer (2003), we will seek through regression (1) to test the impact of legal and regulatory framework on the behaviour of financing firms. Findings and tests are summarized in Table N°II. It presents respectively, the regression results (1a) and the regression results (1b) which replaces the constant by dummy variables describing the legal origin of each country.

Table 2 : Main findings of the regression (M1)

Types of financing	Regression (1a)		Regression (1b)	
	Bank debts (Y1)	Self financing (Y2)	Bank debts (Y1)	Self financing (Y2)
AGE	0.769*** (3.258)	-1.209*** (-3.003)	0.733*** (2.949)	-1.205*** (-2.831)
Share	-0.682 (-1.333)	1.275 (1.469)	-0.601 (-1.110)	1.266 (1.364)
Legal Right	1.025* (1.826)	-1.775* (-1.853)	1.129* (1.871)	-1.787* (-1.729)
Common	–	–	1.229 (0.197)	87.514*** (8.225)
Civil	–	–	2.656 (0.433)	87.344*** (8.323)
R ²	0.268	0.263	0.285	0.263
Fischer Prob	4.799 (0.006)	4.420 (0.009)	3.589 (0.014)	3.226 (0.023)
White Prob	9.789 (0.367)	13.776 (0.130)	14.283 (0.354)	18.614 (0.135)

White statistics 1980, seeking to examine the presence of a problem of heteroscedasticity of residuals, lead us to accept the nulle hypothesis and say that our models are not heteroscedastic. Indeed, the obtained LM statistics are all below the critical

values observed in the table at the threshold of 5% and after a Chi2 law to $(K(K+1)/2) - 1$ degrees of freedom (K is the number parameters to be estimated in the original equation).

Similarly, global signification tests of estimated models are on the whole significant on the verge of 5 % even on the verge of 1 %. These results allow us to conclude that all the explanatory variables introduced into our models are significant⁶.

The obtained values of R^2 are between 0.12 and 0.20. Considering the erratic nature of the endogenous variables, the explanatory power of our models seems satisfactory. Besides, in comparison with the R^2 of the models retained by Fan, Titman and Twite (2011) and Booth and al (2001) which are respectively 0.24 and 0.17, our results are likely to be comfortable. However, the R^2 must be interpreted with caution because the models do not contain a constant

In the light of the findings, it appears the following conclusions:

According to the model (Y1) which aims to explain the determinants of the bank financing, the coefficient of the "Share" variable which measures the protection level of the shareholders' rights is endowed with a negative sign, the latter confirms the hypothesis of the legal approach of governance (Laporta and al 1998) as well as the empirical works of (Cheng and Shiu 2007) who affirm that the firms belonging to a regulatory framework which favors the protection of the minority shareholders to the detriment of the creditors, use more external equity capital than the bank debt for their financing. However, the coefficient of the SHARE variable is significant only on the threshold of 19 %. Consequently, our study cannot assert the relevance of the legal framework in the determination of the behavior of financing of firms in countries in transition. The "Legal Right" variable which measures the degree to which the legal framework (bankruptcy law, required guarantees...) facilitates the financing by bank debts has a positive and significant sign at the threshold of 10%. Considering the obtained coefficient, when the index increases by 1 point, the recourse to the bank financing increases by 1.025%. This result proves that the scope of regulations on the bank sector encourages and facilitates firms' access to credit. This result is in compliance with suggestions according to which the effectiveness of the legal framework influences the decisions of firm financing (Laporta et al 1999 and Fan, Titman and Twite 2011).

The control variable "AGE" has a positive and significant sign. This relationship consolidates the approach according to which the age of the firm increases the bargaining power of the firm and presents a guarantee for its creditors. This result is consistent with that found by Li, Yue and Zhao (2009). According to the model (Y2), which aims to explain the determinants of internal funding, a

negative and significant relation emerges between the quality of the bank sector regulation of and self-financing. If we assume that the self-financing and bank financing are two sources of substitutable funding, our results support our earlier findings on the positive relationship between the bank debt and the index "Legal Rights". The control variable "AGE" has a negative and significant sign. This result argues that the importance of the firm age opens external funding opportunities, therefore, the firm relies less on internal financing.

In a second step, we introduced in the regression of variables "dummy" describing the legal origin of each country (1b). These variables take the value 1 if the legal system comes from the Common Law (English, Socialist), 0 if the legal system comes from Civil (Civil Law: German, Scandinavian). LaPorta et al (1998) suggest that systems based on Common Law offer to external investors (debt and share issues) better protection than the system of civil origin. Taking into account this suggestion, we expect a significant and positive relationship between the legal framework of the Common Law origin and external funding. The coefficients of Civil and Common variables are positively significant in the estimation (Y2). However, our empirical results show that the coefficients of Common and Civil variables are not significant in the estimation of the model Y1. Therefore, our study cannot support the hypothesis that argues that legal origin affects the debt financing (Laporta et al 1998 and Cheng and Shiu 2007). Our findings are similar to those of Rajin and Zingales (2003).

The Impact of the Institutional Economic Structure of Firms' Financing

As part of regression (2), we retained a vector of explanatory variables which relates to the institutional economic framework of a country (Domestic Credit, Trade, Monetary, Banking and owner). This regression seeks to determine in which measure the choices of firm financing are guided by the differential of the economic framework. The table below summarizes the main results of the findings.

In comparison with the findings in regression (1), we notice an improvement of the explanatory power of the estimated models. Indeed, the R^2 values are between 0.3 and 0.4. Fischer tests are all significant at the threshold of 5% and show that the retained exogenous variables are globally significant. Similarly, the statistics of White are all non-significant at the threshold of 5% and allow us to accept the null hypothesis that argues the absence of a heteroscedasticity problem of random terms. From Table N°III, the following results:

- For the estimation of the model (Y1) concerning the explanation of the determinants of the bank debt

Table 3: Summary table of the main findings

regression (2) : $Y_i = \alpha_0 + \beta_1 AGE_i + \alpha_2 Domestic\ credit_i + \alpha_3 Trade_i + \alpha_4 Banking_i + \alpha_5 Monetary_i + \alpha_6 Owner_i + \mu_{2i}$		
Types of financing	Bank debts (Y1)	Self financing (Y2)
AGE	0.507* (1.934)	-0.747* (-1.762)
Domesticcredit	0.065* (1.863)	-0.145** (-2.570)
Trade	2.792** (2.121)	-3.495 (-1.644)
Banking	-2.372* (-1.673)	5.589** (2.441)
Monetary	1.060 (0.974)	-2.453 (-1.396)
Owner	-0.098 (-0.393)	-0.686* (-1.703)
C	0.921 (0.122)	89.801*** (7.422)
R ²	0.346	0.401
Fischer	2.998	3.796
Prob	(0.018)	(0.005)
White	37.020	34.878
Prob	(0.094)	(0.141)

The coefficient of the "Domesticcredit" variable which measures the importance of credit granted by banks to the private sector and focuses on the development level of the bank sector of a country, is positive and significant at the threshold of 10%. This implies that the level of the development of the financial system influences the behavior of financial firms. In particular, in countries where the financial system is bank-oriented, firms rely more on bank debt to finance their investments given the direct involvement of those in the control of firms (Prowse 1994, Berglof 1997, Demirgüç-Kunt and Maksimovic 1996 and Cheng and Shiu 2007). However, the obtained coefficient (0,065) shows that the impact of the financial system on the financing structure of firms is low. Our results are similar to those found by Li, Yue and Zhao (2009) in the Chinese context. These authors retain the index of the development of the bank sector established by Fan and Wang (2004): Banking Development Index.

The "Banking" variable has a negative and significant sign at threshold of 10%. The obtained negative sign shows that in the framework of "controlled" economies where banks face restrictions, the bank financing becomes the least preferred alternative and firms rely on other alternative sources of funding. Therefore, we can infer that firms belonging to "free" economy are the most favored for intermediary funding. Similarly, the importance of the value of the estimated coefficient assigned to the variable "Banking" (2,37), allows us to conclude that the financing by bank debts is very sensitive to the quality of the financial system. This result highlights the power of determining the efficiency of the banking system in order to explain the financing choices of firms. The "Monetary" variable which measures the inflation level of a country is accompanied by a positive and insignificant sign. The findings show

that the inflation level does not determine the financing structure of firms. This finding is contradictory to previous results of Fan, Titman and Twite (2006) who find a negative relationship between inflation and debt and to those of Frank and Goyal (2005) and de Jong et al (2008) that result in a positive relationship between inflation rate and the recourse to debt. However, our results confirm the findings of Booth et al (2001).

The "Owner" variable has a negative and insignificant sign. This result is contradictory to our theoretical prediction that argues that the state participation in the capital of firms positively affects the recourse to debt (Li, Yue and Zhao 2009).

The variable "Trade" has a positive sign and significant at the threshold of 5%. In accordance with our hypothesis (H5), the findings show that autarky trade encourages domestic firms and reduce their level of economic risk. These facts positively affect the recourse to debt to firms. Conversely, in countries with open trade (Trade index is low), increasing the level of economic risk of domestic firms is an obstacle to debt. The estimated coefficient of the variable Trade which reaches (2.792) shows that trade policy of a country has a very powerful impact on financing decisions of firms. Our results are consistent with the work of Jong et al (2008). In contrast, they contradict the findings of Li, Yue and Zhao (2009) and Démurger et al (2002) who find that the openness of trade policy (deregulation index) positively influence the debt ratio.

- To estimate the model (Y2) for the explanation of the determinants of self-financing, the variable OWNER becomes negative and significant. This can be explained by the fact that the presences of the state capital in the firms present a stimulus and a guarantee for outside investors. Finally, it should be noted that the variable "Age" keeps its positive sign and significant in the regression (2).

The Impact of the Institutional Policy on the Financing Structure of Firms

The regression (3) aims to test the impact of the governance system, mainly political regression on the financing structure of firms belonging to countries in transition.

Table 4: Summary of main results

Regression (3) : $Y_i = \delta_0 + \beta_1 AGE_i + \delta_2 CPI + \mu_{3i}$		
Variable	Bank debts	Self financing
Age	0.581 (2.197)**	-0.707 (-1.638)
CPI	1.045 (1.382)	-3.017 (-2.443)***
C	2.363 (0.536)	89.058 (12.378)***
R ²	0.229	0.278
Fischer	5.660	7.319
Prob	(0.007)	(0.002)
White	7.565	2.725
Prob	(0.181)	(0.742)

Without ignoring the previous results, Fischer tests show that the exogenous variables retained are globally significant and White statistics confirm the absence of a problem heteroscedasticity of random terms.

Our results show that when the level of corruption is low (CPI increases), the firms are financed increasingly by bank debt. This result allows us to conclude that control of corruption has a guarantee that reassures suppliers (banks) and those seeking intermediary funding (firms). This result confirms the hypothesis of Jong et al (2008). However, Fan, Titman and Twite (2011) argue that the relationship between the ICC and debt must be negative. In addition, the negative sign accompanying the CPI index in the regression that seeks to explain the determinants of internal financing strengthens our conclusion that argues that the integrity of a country represents a trusted environment for investors and donors. Conversely, in a corrupt country, the risk of expropriation is an obstacle to external financing. In particular, the cost of debt is becoming increasingly important because of the "additional fees in case of dispute.

DISCUSSION AND CONCLUSION

Our paper was intended to test the relevance of institutional factors in order to explain the behaviour of firms' financing in 41 countries through three axes:

- The first axis focused on the relevance of legal and regulatory framework. Our empirical findings are mixed and a bit inconclusive. Indeed, these results do not confirm the negative relationship between the level of protection of shareholders' rights and the recourse to debt (Cheng and Shui 2007). However, legislation in the bank sector is a relevant variable in order to explain the recourse to debt. This

relationship makes sense because the intermediary is the main source of external financing in developing countries.

- The second axis focused on the relevance of the economic framework. We have found that the recourse to different funding sources is very sensitive at the level of development of financing system, openness of trade policy and regulation of the banking sector.

- The third axis examined the explanatory power of the quality of the governance system in determining the financing structure of firms. Our results show that the level of control of corruption is a contributory variable to the explanation of the financing decisions of firms. In particular, the political stability encourages firms to opt for external financing, including bank loans. Overall, our results are consistent with work done in the context of developed countries (Booth et al 2001).

Our empirical work is not without limitations. Certainly, our conclusions will be more robust if we take into account certain factors:

- First, the study of capital structure through the differential institutional factors must take into consideration the mediation of the firm size. Indeed, several studies prove that the influence of environmental variables on the financing structure of firms differs according to the firm size whether they are small or large. In particular, Li, Yue and Zhao (2009) find that small firms are the least favored institutional changes.

- Second, our estimated theoretical models have introduced only a single firm-specific variable, namely age. The introduction of other firm-specific variables (profitability, growth opportunity and size) will improve the findings.

- Thirdly, the various regressions are estimated cross-sectional (static setting). Taking into account the temporal dimension (time series) will allow us to conduct a dynamic study that tests the impact of the evolution of governance systems on the financing behaviour. Ignoring this dynamic aspect is mainly explained by two reasons. The first is the lack of necessary information. The second relates to the different indices used. Indeed, the retained indices do not allow a comparison over time. The evolution of these indicators does not always indicate that the quality of governance or the level of corruption has changed. This variation may be the result of methodological changes in the establishment of these indicators such as the addition or removal of a source or change of measures given to each source of the aggregation procedure.

Finally, this paper will be more attractive if we used a parallel model that measures the indirect influence of institutional factors on microeconomic factors identified as key determinants of capital structure such as profitability, growth opportunities and size of the firm (Deesomsak et al 2004).

Despite these limitations which are actually extensions, the merit of our work is mainly manifested at two levels:

- The first level is specific to countries in transition. Our results confirm that the characteristics (institutional, regulatory, financial, and political ...) of these countries forbid any attempt to "tracing" appropriate interpretations to developed countries. Literature review dedicated to account for differences between these countries is still limited, while the mutations by which countries in transition go through seem to bring new elements of answers about the behaviour of financial firms.

- The second level is specific to the debate based on the evolution of governance systems. The literature shows that the study of these systems involves many aspects and attempts to quantify reveal a variety of indices. Our results confirm this disparity and the convergence hypothesis of governance systems seem to be ignored. Clinical trials studying the behaviour of firms' financing in each country are therefore recommended.

Notes:

1. Although the geographic and temporal coverage varies from one source to another, the principle is the same and consists in a rating to each country which can be classified according to their level of performance for the considered variable.

2. Désormais LLSV

3. Booth et al, (2001 p 118) : "In general, debt ratios in developing countries seem to be affected in the same way and by the same types of variables that are significant in developed countries. However, there are systematic differences in the way these ratios are affected by country factors, such as GDP growth rates, inflation rates, and development of capital markets."

4. To overcome the limitations addressed to the index constructed by LaPorta et al (Pistor 2000 and Glaeser 2001), the main advantage of the base "Downing Business" is that it describes an average of three different dimensions of investor protection namely: transparency and disclosure of transactions (Disclosure Index), conflicts of interest between shareholders and managers through a Director liability Index and the skill of shareholders to pursue

judicially administrators and directors for professional misconduct (shareholder Suits Index).

5. To test a "quality" of a system of governance, Kaufmann, Kraay and Mastruzzi (2005) set a variable vector containing six indices: Voice and Accountability "VOICE" Political Stability "POLITICAL" Government Effectiveness "Gover" Rule of Law "RULE," Regulatory Quality "CONTROL" Control of corruption and "CONTROL". We have not included these indicators due to the presence of a severe problem of multicollinearity between the regressors.

6. Note that the coefficients should not be interpreted as a marginal impact as the explanatory variables are expressed in log. The estimated coefficients (α) can be compared to an impact in terms of a semi elasticity. In particular, if the exogenous variable increases by 1 point, the endogenous variable increases (decreases) in $\alpha\%$.

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APPENDIX

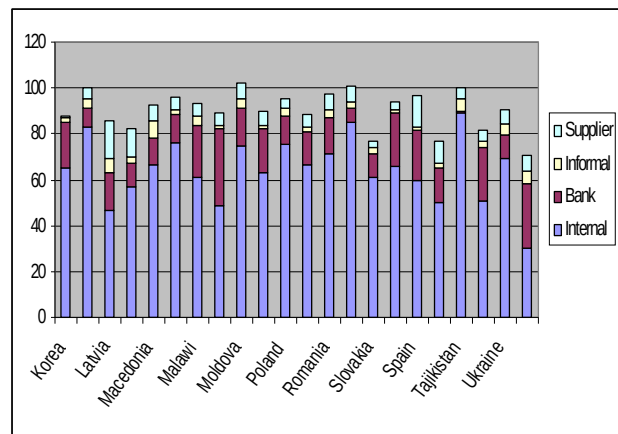
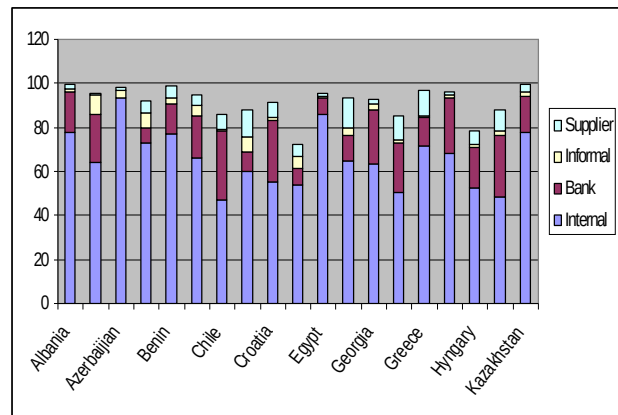
Annexe I : List of countries retained in our sample

	Countries		Countries
1	Albanie	22	Latvia
2	Armenia	23	Lithuania
3	Azerbaijjan	24	Macedonia
4	Belarus	25	Madagascar
5	Benin	26	Malawi
6	Bulgaria	27	Mauritius
7	Chile	28	Moldova

8	Costa Rica	29	Maroc
9	Croatia	30	Poland
10	CzechRepu	31	Portugal
11	Egypt	32	Romania
12	Estonia	33	Russia
13	Georgia	34	Slovakia
14	Germany	35	Slovenia
15	Greece	36	Spain
16	Guyana	37	Sri lanka
17	Hyngary	38	Tajikistan
18	Irland	39	Turkey
19	Kazakhstan	40	Ukraine
20	Korea	41	Vietnam
21	Kyrgyz		

Annexe II : the descriptive statistics of the endogenous variables (study year 2005)

	« Internal » Self financing	« Bank » bank debts	commercial debts	Informal debts
Average	65.07878	16.47415	6.364634	3.135854
Medium	64.96000	16.03000	5.900000	2.640000
Maximum	93.08000	33.63000	16.73000	9.170000
Minimum	30.12000	0.360000	0.360000	0.410000
Std. Dev.	13.33289	7.903700	3.804852	2.109122



Annexe N°III : Definitions of variables and data Sources (study year 2005)

Variables	data base	Mesures and significations
Endogenous Variables		
Banks finance	« Entreprise Surveys » ¹	The part of debt financing by investments in Internal financing of investment
Internal finance of investment	« Entreprise Surveys »	The part of self financing in investment financing
exogenous Variables		
The index « Share » : the protection of the shareholders'rights	Doing Business ²	The index ranges from 0 et 10, with 10 shows more the power of the shareholders.
The index « Legal Rights » : the rigidity of the bank reglementary framework.	Doing Business	The high index shows the extension of reglementations and the administrative intervention on the markets mainly of credits.
Dummy : Common Law/Civil law	Doing Business	Variable dummy equals 1 if the legal system is at the origin of Common Law (English, Socialist), 0 if the legal system is at the origin of civil (Civil Law : French, German, scandinav). Domesticcredit
The index « Monetary Policy » : level of inflation.	Heritage Foundation	The average rate of inflation over a period of 10 years
The index « Banking » : the rigidity of the bank sector	Heritage Foundation	A high index, close to 5, signifies that the bank system is under the strict restrictions that make the latter stable system, inefficient and costly. In contrast, a weak index refers to a bank system in the framework of a free and lenient one.
The index « Trade policy » : protection of the commercial policy	Heritage Foundation	A country that has a high index (close to 5) is characterised by a commercial autarky.
The mesure « Domestic Credit » : developement of the bank system	World Bank	the Credit banks granted to private sector / PIB.
The index « Owner State » : participation of the state in the firm capital.	Heritage Foundation	The percentage of participation of the state in the social capital of the firms.
The index « CPI » : Perception of the level of Corruption.	International Transparency	The index ranges from zero to ten, zero shows a degree of perception of the high corruption and ten shows the degree of weak corruption.

1 The database "Enterprise Surveys" provided three sets of measures are the cost of financing (Costs of Finance), the burden of the conditions imposed on a bank loan financing (Value of Collateral Needed of a Loan) and ratios designed to compare the use of various sources to finance new investments (Capital Structure). As part of our study, we limit ourselves to financing choices of firms.

2 Indicators "Doing Business" are comparable for 175 countries. Among other things, this database adopts the methodology of Djankov, La Porta, Lopez-de-Silanes and Shleifer (2005) and provided evidence to measure the level of investor protection (Protecting Investor). The main advantage of this index is that it describes an average of three different dimensions of investor protection: transparency and disclosure of transactions (Disclosure Index), conflicts of interest between shareholders and managers through an accountability index Director (Director Liability Index) and the ability of shareholders to pursue judicial officers and directors for misconduct (shareholder Suits Index).