

**FINANCIAL STRUCTURE,
CREDITWORTHINESS AND STOCK
MARKET DEVELOPMENT:
A CROSS-COUNTRY ANALYSIS**

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Abstract.

This paper examines the empirical relationship between financial structure, creditworthiness and stock market development in a cross-section of countries. This paper fills a necessary gap by testing the extent to which stock market development might affect creditworthiness on the one hand. On the other hand, creditworthiness and legal institutions are tested as plausible explanatory factors of stock market development. The stock market contributes to economic growth in various ways. An efficient stock market may play a key role in economic growth.

I. Introduction

The purpose of this paper is to examine the empirical relationship between financial structure, creditworthiness and stock market development in a cross-section of countries. Stock market development will be measured by the extent of a country's stock market development. Creditworthiness will be measured by the country's credit ratings. Financial structure refers to institutional arrangements such as whether the country has a legal structure which favors financial development. This measure will include prevailing laws, the quality of law enforcement, and the extent to which investors (creditors, and shareholders) are protected by legal rules.

This research will employ a simultaneous-equations econometric approach to investigate the link between financial structure, creditworthiness and stock market development. Previous works test in a single model empirically for the factors that determine creditworthiness (Mathieson *et al.* 1996) or those that influence stock market development (La Porta *et al.* 1997). This paper, however, claims that there is codetermination between stock market development and creditworthiness. More specifically, this paper improves upon the three existing theoretical models (La Porta *et al.* 1997, Mathieson *et al.* 1996, and Savvides, 1991 and 1992) to allow for the simultaneous estimation of the relationship between financial market development, creditworthiness, and institutional arrangements.

This research will shed light on the importance of creditworthiness and institutional arrangements on the growth of the stock market in a pooled sample of developed and developing countries. In their study, La Porta *et al.* (1997) test the extent to which legal institutions affect stock market development in a combined sample of developing and industrialized countries. La Porta *et al.* (1997), however, did not test for differences of stock market development between the two groups of countries. There might be significant difference between the two groups and therefore one should emphasize on developing countries' stock markets. Furthermore, as Bonseal-Neal (forthcoming) points out, the role of the stock market as a source of external finance for firms may be relatively more important in developing countries than their counterparts in industrialized economies. Therefore, the role and the factors that govern stock market development might differ across developing and industrialized economies. Moreover, Bonseal-Neal (forthcoming) argues that the development of the stock market greatly differs in developing countries, although, they have attained remarkable growth during the last decade. For instance, market capitalization increased by 20 times while value traded stocks rose by 48 times between 1982 and 1993. Some stock markets are small, almost illiquid and very volatile while others are highly liquid, relatively developed. It is therefore, reasonable to examine separately the development of stock markets in developing countries.

A great number of studies (Mathieson *et al.*, 1997 and 1996, Feder and Uy, 1984, Savvides, 1991 and 1992, Gottlieb, 1989 and Kharas, 1982) have shown on theoretical and empirical grounds that economic and non-economic factors determine a country's creditworthiness. Reserves, rate of inflation, rate growth of GDP, real exchange rate, current account and exports have been widely recognized as explanatory factors of a country's creditworthiness. Other economic factors affecting creditworthiness include international interest rates, terms of trade, and rates of growth of GDP in industrialized countries. In addition to economic factors, some studies (Brewer, 1990) have emphasized the effects on creditworthiness of non-economic variables such as political instability. This study intends to determine whether the existence and size of a country's stock market is another argument of creditworthiness.

It is also argued that institutional arrangements that include the prevailing laws, the quality of law enforcement and the extent to which investors (creditors, and shareholders) are protected by legal rules greatly determine firms' ability to raise external funds (La Porta *et al.* 1997, Demirguc-Kunt and Levine, 1993). For instance, La Porta *et al.* (1997) have shown that countries that have adopted a common law process have broader capital markets than those that have a civil law process because investors are better protected. In addition, they have evidenced that the quality of law enforcement or investors' assessment of the law and order environment in which they conduct business is important in determining the development of capital market. Richer countries have stronger law enforcement and bigger equity markets while poor countries have weaker law enforcement and smaller equity markets. In this research, dummy variables will be used to capture the extent to which the prevailing laws, the quality of law enforcement, and the extent to which investors are protected by legal rules account for capital market development in the pooled sample of developing countries of interest.

II. Simultaneity of Creditworthiness and Stock Market Development

There are four theories regarding economic growth and financial structure. The Bank Based theory states that a bank-based system is more conducive to economic growth and development, especially for countries in the early stages of economic development. This theory attacks the market-based theory on several points. First, insiders probably have better information about the corporation than outsiders do, which results in actions by insiders to prevent outsiders from being able to affordably buy enough ownership in the company to replace existing management. This obviously is less efficient and fosters poor performance. Second, liquid markets may facilitate takeovers that profit the raiders, but actually harm society as a whole. Third, easy entrance and exit to the stock market makes stock owners less concerned with the actions of management. If the stock is not performing well, one can easily sell the stock and buy another company. Fourth, there is a problem with free riders in the market system. Free

riders mimic the stock purchases of those market participants that expend large resources to obtain information about a particular stock. The result is that the stock price is bid up and the original participant that performed the research pays a higher price for the stock, which results in inefficiencies. Fifth, existing managers often take action – poison pills- which deter takeovers and thereby weaken the market as an effective disciplining device. Sixth, close relationships that develop between the board of directors and top management lead to golden parachutes and/or poison pills that reduce the attractiveness of takeover. Again these actions interfere with and are detrimental to efficient economic growth.

The Market-Based theory states that a market-based system is better at promoting economic growth, especially in the long run. This theory attacks its main opponent, the Bank-Based theory, on several points as well. Bank Based systems may result in an intermediary with a huge influence over the firms that require financing and this influence may manifest itself in negative ways. For example, if the bank sees that the company has a higher profit potential, it could charge higher interest rates. This could reduce the effort by firms to undertake innovative profitable ventures. In general banks have an inherent bias toward prudence, so that a bank-based system may stymie corporate innovation and growth. Banks may not be the most effective gatherers and processors of information in new, uncertain situations involving innovative products and processes, due in part to the conservative nature of banks. Finally, bankers act in their own best interests. Influential banks may prevent outsiders from removing inefficient managers if these managers are particularly generous to the bankers.

According to the Financial Services View theory, the issue is not banks or markets, but rather that of creating an environment in which both banks and markets can provide sound financial services, which in turn promotes economic growth. This view asserts that the two systems complement one another by satisfying the different needs of society.

The Legal-Base View is actually an extension of the Financial Services View. This view argues that creating strong legal codes that support the rights of outside investors, both equity and debt investors, and then efficiently enforcing those codes is crucial for providing growth-enhancing financial services. The legal view predicts that the level of financial development defined by the legal environment will be a much better predictor of economic performance than any measure of financial structure per se.

Demirgüç-Kunt and Levine (1999) point out a major flaw in the age-old debate over which financial structure system, bank-based or market-based, leads to or better promotes economic growth. They indicate that studies in the past have concentrated on large industrialized countries whose economies have already achieved sustained growth. Further they point out that a comparison of already developed countries only further blurs the debate. For example, Germany and

Japan are developed countries with sustained economic growth and are mainly bank-based systems. The U.S. and Great Britain, on the other hand, are developed countries with sustained economic growth and are mainly market-based systems. Thus, if one accepts that despite the different systems, both these sets of countries have sustained economic growth, this would imply that the financial structure really does not matter much. To that end, the authors suggest that the study of the economic importance and determination of financial structure should be expanded to include a wider array of countries both small and large. Paramount to this study is a cross-section comparison involving up to 150 countries with regard to three specific issues: a. Economic development and bank, non-bank, and stock market development, b. Economic development and bank-based versus market-based systems, c. The legal, regulatory, tax, and macroeconomic determinants of financial structure.

We examine the interaction of stock market development and country risk within the context of a bank-based and market-based system in a simultaneous equation framework. We use composite risk data developed by the International Country Risk Guide (ICRG) to proxy for the creditworthiness variable, which is a composite number constructed from political, economic and financial risk. The political risk variable is constructed on the basis of government stability, socioeconomic condition, investment profile, external conflict, internal conflict, corruption, law and order, military in politics, religious tension, ethnic tension, democratic accountability, and bureaucracy quality. Financial risk is constructed on the basis of foreign debt as a percentage of GDP, foreign debt service as a percentage of exports of goods and services, current account as a percentage of exports of goods and services, net international liquidity as months of import cover and exchange rate stability. Economic risk is constructed on the basis of GDP per capita, real GDP growth, annual inflation rate, budget balance as a percentage of GDP, and current account as a percentage of GDP.

We argue that a stock market cannot develop without a stable political, economic and financial condition of a country. At the same time, stock market development is a prerequisite for political, economic and financial stability of a country. Therefore, creditworthiness as measured by composite country risk (combination of economic, political and economic risk) may be codetermined by the level of stock market development.

III. Empirical Methodology and Data

3.1. Empirical Model:

A simultaneous-equation model is used to test for the relationship between financial market development, creditworthiness and institutional arrangements. The basic model was developed by Savvides (1991,1992) and is made up of two separate models (La Porta *et al.* 1997 and Mathieson *et al.* 1996). The first model has been widely used by numerous studies including Feder and Just (1977), Clina

(1984), Kharas (1984), Nunnman-Kamp and Picht (1989), Brewer and Rivoli (1990), Savvides (1991, 1992) and recently Mathieson (1996) to estimate the determinants of creditworthiness. This research will modify this existing model to incorporate stock market development as a plausible explanatory variable of creditworthiness.

The second model has already been estimated by La Porta *et al.* (1997) without including creditworthiness. In their research paper that includes 49 developed and developing countries, La Porta *et al.* (1997) analyzed how legal determinants affect a country's external finance. The author will slightly modify La Porta *et al.*'s model to include creditworthiness as another explanatory variable of a country's ability to raise external funds.

The simultaneous-equation model of stock market development and creditworthiness can be estimated using the Two-Stage Least Squares method (2SLS). The choice of this method of estimation is justified because it is hypothesized that creditworthiness and stock market development are jointly determined. To perform the estimation, the reduced form equations of the model will be first estimated by Ordinary Least Square (OLS). Secondly, the estimated value of the endogenous variables (creditworthiness and stock market development) will be incorporated on the Right-Hand-Side (RHS) of the equations that form the structural model and the latter model will be estimated by using OLS.

The following simultaneous econometric model is estimated by two-staged least squares.

$$CR_{it} = \alpha_0 + \alpha_1 SMD_{it} + \alpha_2 DEB_{it} + \alpha_3 RES_{it} + \alpha_4 EXP_{it} + \alpha_5 INF_{it} + \alpha_6 GR_{it} + \alpha_7 VGDP_{it} + \alpha_8 TBL_{it} + \alpha_9 CW_{it-1} + \alpha_{10} GRIAC_{it} + \alpha_{11} REX_{it} + U_{i1} \quad (1)$$

$$SMD_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 SAV_{it} + \beta_3 ORG_{it} + \beta_4 RUL_{it} + \beta_5 SHAR_{it} + \beta_6 CRED_{it} + \beta_7 GNP_{it} + \beta_8 GR_{it} + U_{i2} \quad (2)$$

Definition of variables: CR: Creditworthiness; SMD: Stock market development; DEB: Debt over GDP; RES: International reserves over imports; EXP: Growth rate of exports; INF: Rate of inflation; GR: Growth rate of GDP; VGDP: Variance in growth rate of GDP; TBL: The three month U.S. Treasury bill rates; CW_{t-1} : Lagged value of creditworthiness; GRIAC: Growth rate in industrialized countries; REX: Real exchange rate; ORG: Origin of laws in the country; RUL: The quality of law enforcement or rule of law; SHAR: Shareholder rights index; CRED: Creditors rights Index; GNP: Gross National Product; U_{i1} : Error term; U_{i2} : Error term; I: Country I; T: Time t.

3.2. Data Sources:

The Creditworthiness (CR) variables will be collected from Institutional Investors, Euromoney and Economic Intelligent Unit. They are indexes that are

used to rank countries on a scale from 0 to 100 where 100 represent the lowest likelihood of default. Stock market development index (SMD) data is taken from the World Bank. Debt-service ratio (DEB) data are from the World Debt Table (WDT) and data related to GDP, EXP, INF, TBL, REX are from IFS. International reserve/imports (RES) data is from the IFS.

The Origin of laws (ORG). It reflects the legal origin of the Company Law or Commercial Code of each country. ORG equals 1 if the origin is English Common Law; 2 if the origin is the French Commercial Code; and 3 if the origin is the German Commercial Code. The data related to this variable will be the same as those in La Porta *et al.* (1997) and will be updated to cover the countries and period of interest. Source: Reynolds and Flores (1989) and La Porta *et al.* (1996,1997).

Rule of law (RUL). Three measures will be used as in Laporta et al. (1998) to assess the law and order tradition in each country. Data will be collected from *Business International Corporation*, and *Center for International Financial Analysis Research*.

Shareholder rights (SHAR). This variable, which ranges from 1 to 5, shows shareholder rights and will be collected from *Company Law or Commercial Code* and La Porta *et al.* (1996, 1997).

Creditor rights (CRED). Creditor rights are an index aggregating creditor rights that range from 0 to 4. It is constructed by adding 1 when: (1) the country imposes restrictions including creditors' consent or minimum dividends, to file for reorganization; (2) secured creditors who are able to enter in possession of their security once the reorganization petition has been approved; (3) the debtor does not retain the administration of its proceeds that results in the disposition of the assets of a bankrupt firm. Data related to CRED will come from La Porta *et al.* (1997). They will be updated to cover the countries and period of interest. Source: *Company Law or Bankruptcy laws* and La Porta *et al.* (1996, 1997).

IV. Analysis of Empirical Results

We present our results in three ways. First, we report the relationship of stock market development and country risk (creditworthiness) in Table 1 and 2. We use two proxies for stock market development: stock market capitalization over GDP and stock market turnover ratio. A lower composite risk rating implies higher risk and vice versa. We find that the stock market develops within low political, economic and financial risk environment, as it is evidenced by the negative coefficient on the creditworthiness variable. On the other hand, creditworthiness variable is also negatively related with stock market development. The higher the stock market development, the lower the composite country risk is.

Table 3 and 4 present the relationship between financial structure and country risk in the developed countries. The question that we intend to answer whether

there is any relationship between bank-based and market based system and the country risk. Within developed countries, market-based system is expected to reduce country risk more than a bank-based system. Table 5 and 6 present the relationship between financial structure and country risk in underdeveloped countries. We do not find any significant difference between bank versus market systems and country risk variables in underdeveloped countries. We, however, find that the financial structure variables such as origin of laws, rule of law, creditor and shareholder rights are important in defining the country's economic development and risk.

Table 7 and 8 present the relationships of economic development, financial structure and country risk in a market based system. In market-based countries, the development question does not play any role. However, the financial structure variables such as creditor and shareholder rights, and country risk variables, play a significant role. Finally, Table 9 and 10 present the relationships of economic development, financial structure and country risk in a bank-based system. In a bank-based system, the level of development plays a significant role. Development countries have lower country risk, and hence more creditworthiness in the international capital markets. Moreover, the financial structure variables are also significant.

We summarize our findings in the following way. We conclude the following results regarding the existence of financial sector development. In developed countries, stock markets tend to be larger, more active, and more efficient. Second, the higher income countries, the overall financial system becomes larger, more active, and more efficient.

In an attempt to determine which countries displayed attributes conducive to either bank-based or market-based financial structure, we use ratios of banking sector development relative to market sector development in terms of developed versus underdeveloped, bank-based versus market-based, and the whole countries taken together. The results would be interpreted such that, those countries with larger ratio values would indicate a bank-based system, whereas those countries with lower ratio values would indicate a market-based system. We arrive at the following conclusions from the tests performed to classify each country's financial structure. First, in higher income countries, banks do not become larger or smaller relative to the size of the domestic stock market. Second, in higher income countries, domestic stock markets tend to become more active relative to domestic banks. Third, in higher income countries, domestic stock markets tend to become more efficient relative to domestic banks.

Using Levine (2000) definition of financial structure we arrive at the following conclusions. Using this measure, the larger the value of "Structure" for a country, the more market-based and the smaller the value of "Structure" for a country, the more bank-based the country's financial structure was determined to be. The

following conclusions were derived from the new measure of "Structure": a. the higher income countries, financial systems tend to be more market-based. b. Measures of financial structure produce intuitively plausible classifications of countries as either bank-based or market-based for both financially developed and underdeveloped economies.

We also find that Common Law countries are more likely to have market-based financial systems than countries with other legal origins. Underdeveloped financial systems are more likely to have French Civil Law systems than other legal origins. Countries with legal codes that rigorously protect the rights of minority shareholders tend to have market-based financial systems. Countries with legal code that stress the rights of creditors and shareholders are much less likely to have underdeveloped financial systems.

Poor contract enforcement goes hand-in-hand with underdeveloped financial systems, contract enforcement is not strongly linked with whether a country's financial system is bank-based or market-based. There is a strong positive link between country risk and financial underdevelopment. Countries with lower levels of corruption tend to have more market-based financial systems. High inflation economies are much more likely to have underdeveloped financial systems, but inflation is not strongly linked to whether a country's financial system is bank-based or market-based.

V. Summary Conclusions and Policy Implications:

Our objective has been not only to examine whether or not financial structure - whether the country has a bank-based system or a market-based system - exerts a causal influence on composite country risk, but also to develop a set of specific stylized facts concerning the relationship between financial structure, country risk and economic development and the link between financial structure and legal, regulatory, and other policies, across 51 developed and underdeveloped countries.

This paper extends the current literature by empirically testing in a large sample of developed and developing countries including MENA countries the assumed relationship between financial market development, creditworthiness and legal institutions. Developing countries need economic resources to develop their economies. Thus, establishing creditworthiness is a key to attracting foreign capital. To our knowledge, the development of a stock market has not yet been tested as a plausible argument of a country's creditworthiness and vice-versa. This paper fills a necessary gap by testing on the one hand the extent to which stock market development might affect creditworthiness. On the other hand, creditworthiness and legal institutions are tested as plausible explanatory factors of stock market development.

The Stock market contributes to economic growth in various ways. First, without efficient capital markets, investors have limited means to diversify their portfolios and may avoid equity stakes because of risk. Hence, corporations may find it difficult to raise equity capital. Creation of stock markets allows individuals to diversify firm-specific risks, thus making investment in firms more attractive. In order to attract investment capital in countries with poorly functioning capital markets, corporations may choose lower value — low risk projects to inefficiently diversify. These projects may not even be within the realm of the corporation's special expertise. They serve the purpose of diversifying because the capital markets have not provided the means for investors within that country to efficiently diversify. Hence, the stock market may play a key role in economic growth.

Second, the stock market plays a subtle but important role in mitigating the moral hazard problem. Moral hazard often arises because managers gain from decisions affecting firm value only to the extent of the shares they hold. This manager has an incentive to take actions that maximize his compensation in ways that might have little or nothing to do with maximizing the firm's value (and equity value). Debt holdings decrease moral hazard problem (incentives for imprudent actions) in two ways: a. they decrease the fraction of equity ownership held by managers, and b. they increase the probability of bankruptcy after imprudent actions. Another possibility for mitigating the moral hazard problem is compensating managers with binding contracts that are contingent on long-term performance. Such contracts require a good measure of the long-term value of the firm. The stock price in an efficient market is a good measure of the firm's performance and its long-term value. Tying the manager's compensation to stock prices reduces the incentives for imprudent actions. Without an efficient market, the manager and the shareholders can still agree on the value of the firm, but it would be difficult to establish a contract because the value is not verifiable. An efficient stock market can enhance growth by mitigating moral hazard and consequently increasing productivity. The significance of this effect depends on the magnitude of the moral hazard problem and on the proportion of the economy that is represented in the stock market. Thus, one may expect a positive correlation between stock market coverage (total market value as a fraction of gross domestic product) and growth from this effect. Also, the gains from efficient stock markets may be greater if disciplining managers through other means is ineffective.

Third, the stock market disciplines managers indirectly through change of ownership. If the managers are not doing a good job, the stock price declines below the potential asset value and the firm becomes a takeover target for investors, who will increase the value of the shares by replacing current managers. Clearly, managers should refrain from productivity-decreasing actions when faced with the threat of takeovers. Fourth, a growth contribution of an

efficient stock market is its effect on entrepreneurs who consider both the profits generated in a new venture and the possibility of selling the venture to the public. In inefficient stock markets the public offering is less feasible due to high transaction costs or the uncertainty of getting a fair price. Thus, inefficient stock markets may reduce the incentive to enter new ventures, reducing overall long-term productivity of the economy. An efficient stock market reduces the transaction costs of trading and thereby opens the way for an optimal ownership structure. Certain individuals possess the entrepreneurial spirit for "new start" ventures and should be involved in the innovation phase of a firm's development. As the firm matures, they often transfer ownership to investors that specialize in running mature firms. The entrepreneurs can then move on to another fledgling company. This is the idea of optimal ownership. Clearly, transferring the ownership of such assets would be very difficult without stock markets.

Liquidity is necessary for the effective generation and dissemination of firm-specific information. That is, the stock prices are likely to reveal important information about changes in the firm value in liquid markets. A market is liquid if transactions of large size can be made instantaneously and continuously without moving the price significantly. Illiquidity and increased transaction costs are the most important symptoms of inefficient stock markets. Such inefficiencies may be caused by: a. the market power of brokers or other individuals, which increases transaction costs; b. the dominance of the market by a small number of firms or individuals. This may result in the manipulation of stock prices. However, the net result is the eradication of the gains to be obtained from the stock market. Such inefficiencies can also result in the loss of public confidence in capital markets, leading to reduced participation of the public and thereby making the situation worse. Underdeveloped or poorly functioning capital markets deter foreign investors because the markets are illiquid and trading is expensive. Direct investment is adversely affected if raising local capital is difficult and costly. Illiquidity and high transaction costs also hinder the capital-raising efforts of large domestic corporations and may push them to foreign markets.

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Table 1: Stock Market Development and Country Risk: Cross-Country Evidence (51 Countries)

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	5.75E-02	0.189	-		
CR	1.60E-03	0.003	0.041	0.598	0.550
ORG	-2.31E-03	0.023	-0.005	-0.099	0.921
RUL	2.77E-02	0.012	0.189	2.217	0.027
SHAR	4.00E-02	0.023	0.132	1.759	0.080
GRED	-1.94E-02	0.021	-0.059	-0.935	0.351
GDP	-3.85E-13	0.000	-0.054	-1.016	0.310
GR	1.44E-03	0.002	0.033	0.578	0.564
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	26.727	2.717		9.836	0.000
DEB	-1.63E-02	0.013	-0.033	-1.285	0.200
RES	0.106	0.156	0.018	0.682	0.496
EXP	5.28E-02	0.029	0.048	1.813	0.071
INF	-5.46E-04	0.001	-0.020	-0.577	0.564
GR	-4.62E-02	0.031	-0.042	-1.483	0.139
VGDP	-2.84E-03	0.001	-0.069	-1.998	0.047
TBL	-4.69E-02	0.336	-0.005	-0.14	0.889
LGCR	0.619	0.033	0.620	18.574	0.000
GRIAC	-0.85	0.152	-0.198	-5.606	0.000
REX	-5.49E-05	0.000	-0.055	-2.154	0.032
SMC/GDP ³	19.355	2.691	0.217	7.191	0.000

Notes: 1. Dependent variable: Stock Market Capitalization / GDP. 2. Dependent Variable: Composite Risk; 3. Refer to Unstandraized Predicted Value of Stock Market Capitalization / GDP

Table 2: Stock Market Development and Country Risk: Cross-Country Evidence (51 Countries)

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	0.858	0.248	-	3.457	0.001
CR	-8.13E-03	0.004	-0.161	-2.320	0.021
ORG	3.68E-02	0.031	0.065	1.201	0.231
RUL	4.16E-02	0.016	0.222	2.546	0.011
SHAR	-1.91E-02	0.030	-0.049	-0.640	0.522
GRED	-4.79E-02	0.027	-0.114	-1.766	0.078
GDP	-7.65E-13	0.000	-0.083	-1.538	0.125
GR	-1.05E-03	0.003	-0.019	-0.322	0.748
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	31.266	3.261	-	9.587	0.000
DEB	-2.59E-02	0.014	-0.053	-1.897	0.059
RES	0.284	0.167	0.047	1.695	0.091
EXP	6.14E-02	0.031	0.056	1.989	0.047
INF	2.68E-04	0.001	0.010	0.266	0.791
GR	-8.94E-02	0.034	-0.082	-2.618	0.009
VGDP	-2.55E-03	0.002	-0.062	-1.694	0.091
TBL	-8.37E-02	0.356	-0.009	-0.235	0.814
LGCR	0.719	0.032	0.719	22.803	0.000
GRIAC	-0.747	0.164	-0.174	-4.553	0.000
REX	-5.01E-05	0.000	-0.051	-1.85	0.065
SMC/GDP ³	-9.216	3.137	-0.089	-2.938	0.004

Notes: 1. Dependent variable: Stock Market Turnover Ratio. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Turnover Ratio

Table 3: Financial Structure and Country Risk: Cross-Countries Evidence (28 Developed Countries)

Panel A. Stock Market Development¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	0.252	0.416	-	0.606	0.546
CR	1.38E-03	0.005	0.022	0.252	0.801
ORG	-1.99E-02	0.047	-0.036	-0.425	0.672
RUL	-6.95E-03	0.022	-0.038	-0.314	0.754
SHAR	0.102	0.045	0.288	2.284	0.024
GRED	-1.78E-02	0.043	-0.040	-0.416	0.678
GDP	-2.94E-08	0.000	-0.078	-0.954	0.341
GR	1.55E-03	0.008	0.015	0.190	0.850

Panel B. Creditworthiness²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	26.752	4.455	-	6.005	0.000
DEB	-2.16E-02	0.016	-0.064	-1.376	0.170
D	-0.987	1.017	-0.051	-0.971	0.333
RES	0.332	0.153	0.097	2.170	0.031
EXP	7.45E-02	0.047	0.080	1.577	0.117
INF	-0.54	0.151	-0.198	-3.566	0.000
GR	-0.124	0.099	-0.076	-1.251	0.213
VGDP	0.119	0.072	0.090	1.654	0.100
TBL	0.472	0.466	0.062	1.011	0.313
LGCR	0.624	0.054	0.625	11.562	0.000
GRIAC	-0.729	0.232	-0.193	-3.141	0.002
REX	1.97E-03	0.002	0.050	1.107	0.270

Notes: 1. Dependent variable: Stock Market Capitalization / GDP. 2. Dependent Variable: Composite Risk. 3 Refer to Unstandraized Predicted Value of Stock Market Capitalization / GDP

Table 4: Financial Structure and Country Risk: Cross-Countries Evidence (28 Developed Countries)

Panel A. Stock Market Development¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	-0.154	0.209	-	-0.735	0.463
CR	5.96E-03	0.003	0.183	2.161	0.032
ORG	6.90E-02	0.024	0.235	2.927	0.004
RUL	-2.94E-02	0.011	-0.301	-2.635	0.009
SHAR	5.08E-02	0.023	0.271	2.251	0.026
GRED	-3.01E-02	0.022	-0.128	-1.394	0.165
GDP	3.14E-08	0.000	0.157	2.020	0.045
GR	2.09E-03	0.004	0.039	0.507	0.613

Panel B. Creditworthiness²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	25.129	4.463	-	5.630	0.000
DEB	-4.01E-02	0.017	-0.118	-2.416	0.017
D	3.103	1.012	0.161	3.066	0.003
RES	-6.75E-03	0.154	-0.002	-0.044	0.965
EXP	7.67E-02	0.047	0.082	1.635	0.104
INF	-0.285	0.145	-0.105	-1.969	0.051
GR	-8.61E-02	0.098	-0.053	-0.878	0.381
VGDP	8.16E-02	0.071	0.062	1.148	0.253
TBL	0.217	0.462	0.029	0.469	0.640
LGCR	0.607	0.055	0.607	11.115	0.000
GRIAC	-0.512	0.233	-0.136	-2.195	0.029
REX	8.06E-04	0.002	0.020	0.468	0.640

Notes: 1. Dependent variable: Stock Market Turnover Ratio. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Turnover Ratio

Table 5: Financial Structure and Country Risk: Cross-Country Evidence (23 Underdeveloped Country).

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	0.317	0.159	-	1.999	0.047
CR	-5.35E-03	0.002	-0.176	-2.165	0.032
ORG	7.43E-02	0.022	0.272	3.431	0.001
RUL	5.84E-02	0.012	0.499	4.882	0.000
SHAR	-2.87E-02	0.021	-0.136	-1.360	0.176
GRED	-3.87E-02	0.017	-0.202	-2.263	0.025
GDP	-3.46E-13	0.000	-0.106	-1.441	0.152
GR	2.94E-03	0.002	0.122	1.665	0.098
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	35.634	4.201	-	8.481	0.000
DEB	-2.99E-03	0.023	-0.006	-0.130	0.897
D	1.315	1.185	0.058	1.110	0.269
RES	-2.09	1.007	-0.113	-2.075	0.040
EXP	4.99E-02	0.039	0.058	1.271	0.206
INF	-1.81E-04	0.001	-0.011	-0.185	0.854
GR	-2.15E-02	0.038	-0.027	-0.566	0.572
VGDP	-2.44E-03	0.002	-0.097	-1.572	0.118
TBL	-0.434	0.487	-0.054	-0.892	0.374
LGCR	0.596	0.053	0.597	11.331	0.000
GRIAC	-1.014	0.205	-0.310	-4.939	0.000
REX	-2.23E-05	0.000	-0.038	-0.743	0.458

Notes: 1. Dependent variable: Stock Market Capitalization / GDP. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Capitalization / GDP

Table 6: Financial Structure and Country Risk: Cross-Country Evidence (23 Underdeveloped Country).

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	1.254	0.429	-	2.922	0.004
CR	-1.50E-02	0.007	-0.187	-2.236	0.027
ORG	4.32E-02	0.059	0.060	0.737	0.462
RUL	0.161	0.032	0.523	4.959	0.000
SHAR	-0.126	0.057	-0.228	-2.205	0.029
GRED	-7.56E-02	0.046	-0.151	-1.636	0.104
GDP	-1.06E-12	0.000	-0.123	-1.626	0.106
GR	-6.06E-03	0.005	-0.096	-1.267	0.207
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	35.24	4.205	-	8.381	0.000
DEB	-3.43E-03	0.023	-0.007	-0.148	0.882
D	1.403	1.191	0.061	1.178	0.241
RES	-2.153	1.022	-0.117	-2.106	0.037
EXP	4.84E-02	0.039	0.056	1.230	0.220
INF	-1.61E-04	0.001	-0.010	-0.164	0.870
GR	-2.00E-04	0.038	0.000	-0.005	0.996
VGDP	-2.32E-03	0.002	-0.092	-1.492	0.138
TBL	-0.429	0.489	-0.053	-0.877	0.382
LGCR	0.603	0.052	0.605	11.540	0.000
GRIAC	-1.002	0.206	-0.306	-4.860	0.000
REX	-2.15E-05	0.000	-0.037	-0.713	0.477

Notes: 1. Dependent variable: Stock Market Turnover Ratio. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Turnover Ratio

Table 7: Economic Development, Financial Structure, and Country Risk: Cross-Country Evidence (21 Market-Based Country).

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	0.326	0.417	-	0.782	0.436
CR	-7.45E-04	0.006	-0.015	-0.122	0.903
ORG	-5.95E-02	0.071	-0.090	-0.843	0.401
RUL	5.17E-02	0.039	0.230	1.321	0.189
SHAR	1.02E-02	0.053	0.024	0.193	0.847
GRED	2.59E-02	0.044	0.054	0.585	0.560
GDP	-4.53E-13	0.000	-0.074	-0.865	0.388
GR	-3.84E-04	0.005	-0.007	-0.072	0.943

Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	24.817	4.360	-	5.692	0.000
DEB	-1.08E-02	0.022	-0.019	-0.483	0.630
D	0.515	1.512	0.019	0.341	0.734
RES	0.206	0.159	0.050	1.296	0.197
EXP	5.81E-02	0.053	0.045	1.099	0.274
INF	-5.03E-04	0.001	-0.027	-0.513	0.608
GR	4.22E-02	0.051	0.038	0.829	0.408
VGDP	-2.09E-03	0.002	-0.070	-1.289	0.199
TBL	0.242	0.508	0.025	0.475	0.635
LGCR	0.64	0.053	0.636	12.100	0.000
GRIAC	-1.08	0.238	-0.238	-4.536	0.000
REX	-5.68E-05	0.000	-0.085	-2.185	0.031

Notes: 1. Dependent variable: Stock Market Capitalization / GDP. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Capitalization / GDP

Table 8: Economic Development, Financial Structure, and Country Risk: Cross-Country Evidence (21 Market-Based Country).

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	2.435	0.505	-	4.826	0.000
CR	-2.77E-02	0.007	-0.436	-3.750	0.000
ORG	7.19E-03	0.085	0.009	0.084	0.933
RUL	8.77E-02	0.047	0.311	1.852	0.066
SHAR	-0.137	0.064	-0.260	-2.136	0.034
GRED	3.34E-02	0.054	0.056	0.622	0.535
GDP	-8.44E-13	0.000	-0.110	-1.332	0.185
GR	-6.76E-03	0.006	-0.097	-1.044	0.298

Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	46.213	4.574	-	10.104	0.000
DEB	2.38E-02	0.020	0.042	1.188	0.237
D	2.136	1.112	0.081	1.921	0.057
RES	0.261	0.140	0.064	1.868	0.064
EXP	9.07E-02	0.046	0.071	1.958	0.052
INF	6.07E-04	0.001	0.033	0.706	0.482
GR	-0.145	0.046	-0.132	-3.175	0.002
VGDP	-2.86E-03	0.001	-0.096	-1.996	0.048
TBL	3.08E-02	0.450	0.003	0.068	0.946
LGCR	0.548	0.048	0.545	11.358	0.000
GRIAC	-0.736	0.217	-0.162	-3.399	0.001
REX	-2.10E-05	0.000	-0.032	-0.907	0.366

Notes: 1. Dependent variable: Stock Market Turnover Ratio. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Turnover Ratio

**Table 9: Economic Development, Financial Structure, and Country Risk:
Cross-Country Evidence (30 Bank-Based Economies)**

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	7.75E-02	0.129	-	0.599	0.550
CR	-1.33E-03	0.002	-0.061	-0.711	0.478
ORG	9.91E-02	0.015	0.442	6.403	0.000
RUL	1.40E-02	0.008	0.180	1.844	0.067
SHAR	4.14E-03	0.018	0.025	0.236	0.813
GRED	-5.56E-02	0.014	-0.338	-3.943	0.000
GDP	-3.03E-08	0.000	-0.111	-1.614	0.108
GR	5.61E-03	0.002	0.238	3.386	0.001
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	27.92	3.950	-	7.069	0.000
DEB	-1.60E-02	0.017	-0.036	-0.919	0.359
D	3.372	1.281	0.136	2.632	0.009
RES	1.489	1.842	0.030	0.808	0.420
EXP	6.28E-02	0.036	0.064	1.722	0.087
INF	-1.02E-02	0.004	-0.135	-2.483	0.014
GR	-2.34E-02	0.055	-0.022	-0.424	0.672
VGDP	3.28E-03	0.004	0.047	0.860	0.391
TBL	-0.395	0.458	-0.042	-0.862	0.390
LGCR	0.663	0.049	0.666	13.603	0.000
GRIAC	-0.709	0.203	-0.176	-3.494	0.001
REX	-4.33E-05	0.001	-0.002	-0.060	0.952

Notes: 1. Dependent variable: Stock Market Capitalization / GDP. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Capitalization / GDP

**Table 10: Economic Development, Financial Structure, and Country Risk:
Cross-Country Evidence (30 Bank-Based Economies)**

Panel A. Stock Market Development ¹					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	-0.273	0.230	-	-1.186	0.237
CR	6.74E-03	0.003	0.188	2.025	0.044
ORG	2.42E-02	0.028	0.066	0.879	0.381
RUL	-6.82E-03	0.014	-0.054	-0.505	0.614
SHAR	6.43E-02	0.031	0.233	2.063	0.040
GRED	-7.83E-02	0.025	-0.292	-3.118	0.002
GDP	1.09E-08	0.000	0.025	0.327	0.744
GR	7.85E-03	0.003	0.204	2.661	0.008
Panel B. Creditworthiness ²					
Variables	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t-statistics	
(Constant)	33.723	3.389	-	9.952	0.000
DEB	-5.77E-02	0.015	-0.130	-3.821	0.000
D	1.862	1.063	0.075	1.751	0.082
RES	1.089	1.531	0.022	0.711	0.478
EXP	3.44E-02	0.031	0.035	1.118	0.265
INF	-5.94E-03	0.003	-0.079	-1.698	0.091
GR	-0.237	0.049	-0.222	-4.801	0.000
VGDP	-3.13E-03	0.003	-0.045	-0.951	0.343
TBL	-0.219	0.386	-0.023	-0.568	0.571
LGCR	0.453	0.048	0.455	9.521	0.000
GRIAC	-0.533	0.170	-0.133	-3.136	0.002
REX	1.87E-03	0.001	0.102	2.917	0.004

Notes: 1. Dependent variable: Stock Market Turnover Ratio. 2. Dependent Variable: Composite Risk. 3. Refer to Unstandraized Predicted Value of Stock Market Turnover Ratio