FORMALITY OF FINANCIAL SOURCES AND FIRM GROWTH: EMPIRICAL EVIDENCE FROM BRAZILIAN SMES 1999-2005

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Abstract

This article investigates the impact of financial sources on firm growth in Brazil. In particular underlying objectives of this paper is to answer the questions, does external or internal and formal or informal financial sources affects differently on firm performance?, and does financial institutional development support firm performance? Empirical results reveal that internal finance maintains positive relation with firm growth. Growth positively relates to the formal financial institutions while it is found insignificant to informal institutions. Furthermore, analysis strengthens the view that developed financial system is a very imperative factor for firm's growth in less developed countries.

Keywords*: Formal finance,Informal finance,Firm growth, Financial reforms.*

1. INTRODUCTION

Firm growth has been linked to various internal and external factors, ranging from firm size to business environment. Firm's financial resource endowment is also a vital determinant of firm growth. Inability to meet financial demands is mainly caused by market imperfection that triggers due to information asymmetry between corporate insiders and external investing entities. The magnitude of these market imperfections amplify with weak legal and financial systems. Demirguc-Kunt and Maksimovic (1998) show that firms experience constraints from financial and legal institutions grow at slower rate than firms operating in well developed legal and financial system with an active stock market. They estimate a standard growth rate if firm entirely relay on internal resources or short term borrowing and observe exceeding growth rate than estimated rate in firms associated with higher quality of legal and financial systems. The argument

essentially is that the financial and legal development reduces the cost of external finance to firms by minimizing the moral hazards, adverse selection, transactions costs and increasing the enforcement quality.

Since 1931, Gibrat's law has been a useful theoretical benchmark in research literature on the determinants of firm growth that defines the firm growth as a random walk. Formally, it can be defined as "the probability of a given proportional change in size during a specified period is the same for all firms in a given industry - regardless of their size at the beginning of the period" (Esteves Luiz, 2007, page1). Several studies provided the empirical evidence that Gibrat's Law does not hold, for instance, study of Piergiovanni et al (2002) observe a different growth rate and show smaller and new born firms grow faster than larger and older firms. Dunne and Hughes (1994) provide evidence that firms size and age negatively related to firms growth. On the other hand, Wagner Joachim (1991) does not find that small firms grew systematically faster or slower than larger firms. Aslan Alper (2008) test the Gibrat's law in Turkish firms and obtains the rejection rate for seven industries (cement, plastic and pipe, textile, medicine and chemical, steel iron, automobile) and for remaining four industries (food, electrical machinery, electronics and transportation) firm size and growth are independent to each other.

Small and medium size enterprises (SME) are more financially constrained therefore they use less formal finance than larger firms. Reasons not only includes lack of collateral, credit history, credit rating, tax policies, high growth vulnerability, other formal requirement of lending institutes but also business environment[1] . Along that Beck et al (2004) carried out survey of over 10,000 firms from 80 countries to determine the financing obstacles of firms. They find that SME face higher financing constraints than larger and older firms. According to World Bank Environment Survey (WBES) the second leading general constraint for the development and growth of firms is the access to finance. Surveyed firms elaborated the causes as high interest rates, collateral requirement, bank paper work, inadequate credit information to clients, and credit rationing (Schiffer and Weder, 2001).

The co-existence of a formal financial sector and an informal financial sector in many financial markets, commonly known as financial dualism[2], is not a new concept in the research literature. The magnitude of informal finance varies by country, depending on the development of financial sector. Alternatively, it depends how effectively formal financial system meets the credit needs of small firms. Generally, government starts subsidized credit program in response to informal credit. However, problem exists with same potential because small borrower could not provide required information and collateral against offered credit. Therefore, in fact, in many less developed countries informal finance is

[1] Beck et al (2004) observed that financial development effects disproportionately respecting firms size and noticed higher financial constraints on small firms in less developed financial market.

[2] It is termed in Jun and Sourafel (2007).

larger than the formal finance. According to Madestam Andreas (2005) credit from informal sources like traders, moneylenders, relatives, family contributes three quarter of total credit in Asia and 70 % of Indian market relies on both formal and informal finance. The theoretical literature could not come to conclusive understanding for role of informal finance – whether informal financing sources are supportive to firm growth. Few researchers like Stiglitz Joseph (1990) and Arnott and Stigltz (1990) concentrate on less information asymmetry problems for informal lenders make more beneficiary for borrowers and lenders. On the other hand, Ayyagari et al, (2008) argue that informal sources serve only to the low end of the market so it can never be a surrogate for the formal system because of their inadequate monitoring and enforcement capability. For instance, Rotating Savings and Credit Associations (ROSCAs) use social ties as a selection and monitoring measure to select group membership, trade creditor and landlords only lend to their customers and tenants to avoid enforcement authorities in case of default, while savings collectors tend to lend to regular clients. In sum, this apparent argument dispute regarding the effect of informal financing sources is still not conclusive.

This paper aspires to fill in this gap by providing an empirical analysis of the relationship between financing sources and firm growth in Brazil using the most comprehensive firm-level dataset available. Specifically, paper empirically assesses the impact of Brazilian formal and informal financing channels on small firm performance. In some ways, our analysis takes a broader perspective than does the previous research. Survey instrument includes all the major categories of finance including internal finance (retained earning), formal finance and informal finance. Formal finance constitute of commercial and local banks, foreign banks, security brokerage companies, micro credit institutions and leasing firms. Informal institutes include money lenders and family/friends. Besides that, analysis testifies the view that financial liberalization supports and financial constraints limit small firm growth. As sale growth represents the firm's ability to market products and increase in product demand. Consequently, firms would increase their workforce to enhance the production if it adds to profitability of operation. Although sale growth and employment growth indicators are not highly correlated to each but in order to measure the affects of financial sources on firm's performance in broader perspective this paper utilizes these two proxies to measure firm growth. Results show that the formal financing inserts positive impact on small firm sale growth and on employment growth but there is no significant positive relation between informal finance and firm growth. Results indicate that the growth of most small firms is not constrained by the internal finance. Consistent with financial development view, results provides evidence of the importance of developed institutions for small finance.

The remainder of this paper proceeds as follows. In section 2 Brazilian financial systems is presented. The data and methodology are summarized in section 3, and in section 4 presents main results. Section 5 concludes.

2. BRAZILIAN FINANCIAL INFRASTRUCTURE

Contemporary Brazilian economy can be characterized by exceptional growing financial market with liberalized, well developed banking sector. Impressive progress has been made in recent years to reduce important sources of financial instability that helped economy to sustain higher growth and make less vulnerable to external crises. Last year (2007) country is estimated to be the largest national economy in Latin America and the world's ninth largest economy, estimated at $1.8 trillion, nominal GDP is $ 1 664.7 and GDP grew 5.1%[3].

In the early 1980's, volatile world economy significantly affects the countries of Latin America including Brazil. Considerable high US interest rates in international capital market led to acceleration of inflation, decline in foreign investment and negative growth rate. Later for overcoming slow growth, high inflation rate and to restore the public sector's capacity to invest Brazilian economy gone through with major reform plans: the Cruzado Plan (1986), the Bresser Plan (1987), and the Summer Plan (1989). According to Werner Baer, (2001) the Cruzado plan was implemented with intention to eliminate inflation drastically. Its main measures were to general price freeze, a salary readjustment and freeze, readjustment and freeze on rents and mortgage payments, a ban on indexation (all short term financial transactions were freeze), a freeze on the exchange rate and cutting budgetary investments. Besides its immediate successful result of decline of inflation rate in first half of 1986, plan failed to restrain inflation rate to climb a new level of around 600 per cent, which led to introduce Bresser and Summer Plan. The objective of Bresser and Summer plans was to control hyperinflation and reduce public debts.

To drag out the economy from financial recession phase, in 1994, Brazil implemented the Real Plan. The Real Plan was founded on three key elements: fiscal strategy, monetary reforms, and market reforms. It encompassed market liberalization, deregulation, privatization, and enhance the quality of legal system, and reduction in tariffs were steps taken to promote local firms and foreign investment. Measures that have been taken to stimulate competition among financial market, included eliminating the interest ceilings and credit floor to priority sector. Privatization of state-owned financial institutions has assigned at priority, therefore the thirty-five state-banks reduced to twelve banks.

The Brazilian financial system is recognized as one of the largest among emerging market countries with strong banking system. The Real plan has embarked on intensification of banking system by promoting competition and increasing the participation of foreign banks, concurrently reducing the presence of public sector. Three programs were introduced to execute The Real plan: Program of Incentives for Restructuring and Strengthening the National Financial System (PROER), Program of Incentives for the Reduction of the State Role in the

[3] Source: IMF, World Economic Outlook Database, Brazilian economy is ranked at ninth position on the purchasing power parity basis

Banking Activity (PROES) and Program for the Strengthening of the Federal Financial Institutions (PROEF).

In the current arrangement of the Brazilian financial system the banking system remains mainly with two federal banks- Caixa Economica Federal, Banco do Brasil and two development banks Banco do Nordeste and Banco da Amazonia. To enhance the competition and lending services to the private sector National Monetary Council (Conselho Monetário Nacional) approve number of new domestic and foreign banks. Now (2008), there are 185 commercial, saving, multiple and development banks with hundreds of their branch offices. Table 1 shows that now 2122 formal financial institutes are operating in market.

Financial institute	
Multiple bank	138
Commercial and Foreign banks	22
Development banks	4
Saving banks	1
Investment banks	20
Consumer finance companies	50
Security brokerage companies	133
Exchange brokerage companies	45
Security distribution companies	134
Leasing companies	45
Real state credit and saving companies	18
Mortgage companies	6
Development agencies	12
Credit unions	1439
Micro-financing institutions	55
Total	2122

***Table 1**: Quantity of Brazilian financial institutions (Central bank of Brazil, 2008)*

Empirical evidence of Carvalho Antonio (2008) supports the view of developed financial system that it augments the accessibility of external finance for corporate needs. Study shows a clear picture from 13 federal states of Brazil that financial development improves the access to bank credit and other formal sources (including leasing and trade credit), irrespective of firm size. Macroeconomic stabilization and reformed financial system has also shifted firms towards profitable activities. In his study he provides the evidence that availability of finance insert positive impact on firm growth, unbiased to firm size. However, larger firms benefit the most and grow at higher rate than small firms.

In 2006, Brazilian market comprised of nearly 99% of small and medium sized enterprises[4], counts over 5.09 million and growing each year between 445,000 and 533,000. Providing employment opportunities to 15.5 million people, comprising 56.1% of employment in the formal sector and total earning paid grew to over BRL 58.3 in real terms. There is a growing concern in emerging economies that SMES face financing-gap. According to OECD (2006) survey report financing is most hurdling constraint to the growth of SMEs. This importantly relates to access to debt, not particularly well as access to equity financing Although Brazilian financial system possesses a sophisticated banking system equipped with latest information technology and exhibit asymmetric performance but even though its credit supply is concentrated to larger firms. SMEs regarded cost of credit as most important constraint to credit access. Cost of credit is not only influenced by the macroeconomic instability, but also by the adverse selection problem, banking relationship, institutional environment and tax burden. Banks are taxed explicitly and implicitly by taxes and by imposing reserve requirements on bank assets or marginal reserve requirement on expansion of bank assets for credit expansion, making it more costly for SMEs to borrow.

Brazilian financial system also possesses financial dualism like other emerging markets. It is estimated that nearly 40 percent of economic activity in Brazil is informal (2008). Higher compliance costs, taxation rate and the bureaucracy induce part of the business community to stay to the informal sector. Predominant informal finance mechanisms in Brazil are ROSCAs, tontines, and money lenders. Besides significant role of informal finance for providing financial services to considerable segment of economy, certain shortcomings are also associated with it, for instance high interest rate, limited credit to offer and no legal way to deal with defaulter.

In the last few years a strong development in credit market has been taking place to satisfy the high demand market segments SMEs and to restrain the informal financial sources activities. The value of total bank credit from private sources is raised annually almost 20% each year. To manage the adverse selection hazard, government introduced a central credit risk center in 1997, "Credit Risk System" originally called "Central de Risco de Crédito" (SRC). This system is monitored with compliance of laws and regulations by financial institution and provides access to banks and clients. It helps to reduce the cost of credit and improve the condition for investment. The new bankruptcy law in Brazil came into effect in June 2005 with aimed to provide protection to investors. According to Padmaja Kadiyala (2009) old bankruptcy code in Brazil took 10 years to resolve bankruptcies that period is almost three times longer than USA (3 years) and in Latin America (3.6 years). The new law offers greater protection to creditors' claims and allows firms a period of 180 days to present a restructured plan to payback the credit. Empirical evidence of Padmaja Kadiyala (2009) shows a positive impact on growth of Brazilian listed firms with the new bankruptcy rules. The government has also provided tax breaks to reduce the tax burden on SMEs by

[4] Firms generating revenues less than $20 million are considered as small and medium sized firms.

reduction in property taxes, exemption of business from certain taxes, and simplifying the taxation procedures.

Besides financial reforms, government has also introduced many development programs for SMEs. According to Jose Morais (2007) government has strengthened the main three channels of public funds supply to SMEs: National Economic and Social Development Bank (BNDES), the Constitutional Financing Funds of the Northern, North Eastern and Center West Region (FNO, FNE, and FCO) and the Employment and Income Generation Program (PROGER). Since 1996, BNDES has engaged in micro-credit sector and in 2004 formally started a national micro credit program especially designed for small entrepreneurs. BDNES allocate public resources to accredited micro credit distributing financial institutes and recommends SMEs to these formal creditors.

3. DATA AND METHODOLOGY

This analysis is based on firm level data from the World Bank's Enterprise Survey (WBES) with unique firm- level information on the relationships of firm's financial sources and growth, complemented with additional data source Kaminsky and Schmukler (2003) for acquiring the country's financial liberalization index. Bank's Enterprise Surveys is conducted in 105 countries covering 76, 000 firms with a common questionnaire and sampling methodology. This survey asks detailed questions about various dimensions of business and access to finance quantitatively. WBES encapsulates 1539 Brazilian firms from period 2000 to 2005. Micro firms (less than 19 employees) and small firms (between 20 and 99 employees) are 90% of Brazilian sample. The volume of each sector (manufacturing, services, agriculture, construction and others) in the sample depends on the contribution of each sector to total GDP. To avoid potential accounting errors, firms are excluded with low response rate to the surveyed questions. With this limitation, analysis remains to 1115 observations.

The dependent variable, growth, is measured in terms of sale growth and employment growth. Sale growth is based on the firms' response to the following survey question: "sale growth in last three years". Responses to this question were required in percent. Employment growth is the percentage change in full time employment in last three years. Among explanatory variables, informal finance and formal finance are two mandatory variables that are utilized. In this sample informal finance mainly comprised of moneylenders, loans from family and friends and ROCS, while formal finance consists of collection of all financial sources that operate and make transactions (borrow and deposit) inside government policies that apply for formalizing the contract, that includes all sorts of banks (local, commercial, state-owned and foreign), trade credit, security firms, leasing companies and micro-credit institutes. Generally small firms go out for external sources after exhausting internal funds therefore it is necessary to know at what extent internal funds are being utilized by firm. So, next independent variable is

internal funds (retained earning). To measure the financial reforms, variables financial constraints and financial development index is used. Data for financial constraints is recorded against the following question: please judge financial constraints severity as an obstacle on a four-point scale where, response of firms was recorded on a 0-4 scale: no obstacle (0), a minor obstacle (1), a moderate obstacle (2), major obstacle (3) and very severe obstacles (4). Financial development index is taken from Kaminsky and Schmukler (2003) that was observed between periods 1973-2002.

Table 2 shows that the mean value of variable internal funds is 45.683, formal finance 53.355, informal finance is 2.414. Maximum reported financial constraints are 4 and minimum 0.

	Definition	**Mean**	**Min**	**Max**
Internal finance	Internal resources mainly retained earning.	45.683	0	100
Formal finance	Raised capital through public equity.	53.355	0	100
Informal finance	Borrowing from private, local, and commercial banks.	2.414	0	50
Financial constraints	Financial constraints severity as an obstacle.	2.589	0	4
Financial liberalization Index	Following Kaminsky and Schmukler [13] index 3 is used for the entire period.	_	_	_

Table 2: *Model variables description 1999-2005*

Table 3 shows the correlation across the indexes. One can see that correlation between variables is considerably low.

	Financial const	Internal finance	Formal finance	Informal finance
Financial const	1			
Internal finance	-0.159	1		
Formal finance	0.118	-0.385	1	
Informal finance	0.113	-0.121	-0.042	1

Table 3*: Correlation matrix*

To measure the impact of financing sources on firm growth, the following reduced form regression equation is specified:

$$Growth_{it} = \alpha + \beta_1\ internal\ finance_{it} + \beta_2\ formal\ finance_{it} + \beta_3\ informal\ finance_{it} + \beta_4\ financial\ constraint_{it} + \beta_5\ financial\ liberalization\ index_{it} + \varepsilon_{it} \quad (1)$$

The equation for the growth in terms of sale and employment is a function of 1) financial sources, including: internal funds, formal finance, informal finance, and 2) measures of institutional development: financial liberalization index, and

financial constraints. Where's, Growth refers to the growth of firm *i* in year *t* in terms of sale and employment, ε, is a random disturbance assumed to be normal, independent and identically distributed.

In this analysis it is suspected that ownership structure might influence the access to formal finance and ultimately on firm growth, most likely from commercial and development banks and especially financial institutions that have government share. By observing this influential effect of ownership, it is predicted that endogeneity problem might occur in this analysis due to formal finance. So, formal finance is treated as endogenous variable. For that purpose a valid instrumental variable is required that are relevant and exogenous to firm growth. So, a potential instrumental variable is the firm-ownership that affects the lending of formal institutions but does not influence directly the firm growth. Firm-ownership is a dummy variable measured as 1 or 0. Firms having state ownership in any percent are represented as 1 otherwise 0.

To mitigate the problem of endogeneity, Durbin–Wu–Hausman test is utilized. Test directly compares the OLS and 2SLS estimates and determines whether the differences are statistically significant. 2SLS test uses the same model equation but add the residual value to regression. First estimate the residual value from formal finance by regressing it on instrumental variable firm-ownership and all exogenous variables. Explanatory variables of the second stage are the same as those of the first stage, except with the addition of the variables res-val.

First stage equation:

$$Formal\ finance_{it} = f(firm\text{-}ownership_{it}, internal\ finance_{it}, informal\ finance_{it}, financial\ constraints_{it}, financial\ liberalization\ index_{it})$$

Second stage equation:

$$Growth_{it} = f(res\text{-}val, internal\ finance_{it}, informal\ finance_{it}, financial\ constraint_{it}, financial\ liberalization\ index_{it})$$

Where, the subscripts *i* and *t* in all cases denotes the firm and period, respectively. Firm-ownership is instrumental variable and represents firms having state ownership in any portion. *Res_val* is achieved by regressing formal finance by exogenious variables in first stage.

Durbin-Wu-Hausman test could not find the statistical significance of the *t-statistics* of formal finance. This implies that formal finance is not correlated with the error terms of the growth equation (exogenous). Due to no indication of endogeneity, OLS is preferred to be used to regress the base equation of analysis.

4. ESTIMATED RESULTS

Table 4 presents the estimated results of regression of growth on a set of explanatory variables. It can be seen in results that internal finance is positive and supports the hypothesis that internal finance exerts positive impact on firm sale and employment growth. Statistical significance is achieved only for sale growth. When we turn to external finance, formal finance maintains positive while informal finance holds negative relation with both sorts of firm growth. As expected, financial and institutional development boosts firms to grow.

Variables	Parameter estimates and t-statistics	
	Growth (sale)	Growth (employment)
Internal finance	0.025*	0.275
	(0.020)	(0.142)
Formal finance	-0,010*	-0.180*
	(0.017)	(0.097)
Informal finance	-0.171***	-0.091**
	(0.085)	(0.115)
Financial constraints	0.385	0.264*
	(0.483)	(0.241)
Financial liberalization index	3.413 ***	2.316 *
	(0.718)	(0.721)
No of observations	1115	1115
R square	0.067	0.098

*** denotes 1% level of significance.
** denotes 5% level of significance,
* denotes 10% level of significance,

Table 4: *OLS Regression*

Relation between internal funds and firm's growth is interpreted as evidence that firm ought to utilize internal financial sources first to meet their capital demands and treat external source as last resort. This result partially supports the Pecking order theory – firms should prefer internal financing. This finding is consistent with Brown et al, (2004) utilization of retained earning for meeting investment needs inserts positive impact on firm growth. Results provide the evidence of firm's financial health that firm is enough financially stable so not to relaying on external financial sources to meet the financial demands. Therefore stable financial health leads to sale growth and employment growth as well. Thus, Firms having access to finance irrespective of internal or external, grow faster.

Results show that formal finance supports firm growth and informal finance constrains firm growth in terms of sale volume and employment level. This fact may simply indicate that faster growing firms relay more on formal financing channels like commercial, foreign and state-owned banks, credit cooperatives, security firms and leasing firms. As it has been mentioned earlier, Brazilian market

evolved immensely with its volume of formal financial institutions, consisting 185 banks, 1439 credit unions, 55 micro financing institutes offer affordable credit to small firms. With implementation of Real Plan the local microfinance industry reached to 121 institutions operating all over the country, especially in rural areas where formal credit was almost absent in the past. Besides these formal financial institutions minimized guarantee requirement for getting credit, rapid funds, simplified documentation, and a convenient location made it more cost effective for small entrepreneurs to utilise formal finance. However, utilization of informal finance is still in use by small firm but excessive cost burdens or limited amount of credit and unreliability of lenders do not support firm's growth. Results are consistent with Ayyagari et al, (2008) firms experience the benefits of financial development in terms of utilization of formal finance growth faster.

For measuring the financial environment for individual firms, two indicators are utilized in the model: financial constraints and financial liberalization index. Financial constraints mainly measure the perception of obstacles in accessing external financing. It is found that constraints while accessing finance yield low growth rate for small firms Financial liberalization index is a commonly used measure to gauge the liberalization processes, like removal of entry barrier, deregulation of interest rate, strengthening the state-owned banks, and reforms in capital market. For this index expected results are obtained, higher financial liberalization index supports firm's growth, it significantly and positively associated with growth. Results from these two measures can also be interpreted that in less developed financial market firms accessing external finance are more likely to face obstacles, alternatively, firms relay on internal funds do not face same obstacles because simply they not even trying to access the external market resources. This result complements Antonio Carvalho's (2008) finding that improvement in financial institutions is irrefutable for firm growth.

5. CONCLUSION

This paper examines the impact of financial sources on small firm growth. Categorically, formal and informal financial sources are being analyzed in Brazilian economy. Firm growth is also examined through internal funds availability and financial environment characteristics. The data set provides an excellent prospect for investigating the effects of these financial sources on small firm growth.

The results suggest that formal financing inserts positive impact on firm growth while informal finance abates firm growth. These results support the view that better developed financial system containing well functioning banks, credit companies and security firms improve resource allocation and accelerate firm growth. The results provide evidence that firm growth foster by utilizing of internal finance, irrespective of firm's ability to obtain external finance. Analysis shows that financial constraints while accessing the external capital have a negative

impact on firm growth rates and a significantly positive impact of financial development on small firm growth has also observed. Although Brazilian small firms experiencing the positive growth due to formal financial institutes but still there are existence and reliance on informal finance causing a significant reduction in firm growth and ultimately in economic growth. Thus, measures will have to be taken ensuring a more widespread access to formal finance in whole country.

6. REFERENCES

Antonio, C. (2008). The effect of institutions on the external financing of Brazilian firms. *Working Paper Series 2694*.

Arnott, R. and Stiglitz, J. (1990). Moral hazard and nonmarket institutions: dysfunctional crowing out or peer monitoring. *American Economic Review, 81*(1).

Aslan, A. (2008). Testing Gibrat's law: Empirical evidence from panel unit root tests of Turkish firms. *International Research Journal of Finance and Economics 16* (2).

Ayyagari, M., Demirgüç-Kunt, A., Maksimovic, V. (2008). Formal versus informal finance: Evidence from China. *World Bank Working Papers Series 4465*.

Beck, T., Luc L. and Maksimovic, V. (2004). The determinants of financing obstacles. *The World Bank Working Papers Series 3204*.

Brown, D., Earle, J. and Lup, D. (2004). What makes small firms grow? Finance, human capital, technical assistance, and the business environment in Romania. *Upjohn Institute Staff Working Paper No. 03-94*.

Central bank of Brazil. http://www.bcb.gov.br.

Demirgüç-Kunt, A. and Maksimovic, V. (1998). Law, finance, and firm growth, *Journal of Finance 53* (6).

Dunne, P., and Hughes, A. (1994). Age, size, growth and survival: UK companies in the 1980's. *Journal of Industrial Economics 42* (2).

Esteves, L. (2007). A note on Gibrat's law, Gibrat's legacy and firm growth: Evidence from Brazilian companies. *Economics Bulletin*, *Vol. 12* (19).

Jun, D. and Sourafel, G. (2007). *Financing source and firm growth in a hybrid financial system: evidence from China*. SSRN-ID 1032942.

Jose, M. (2007). Access to micro and small enterprises to credit in Brazil, *OECD global conference on better financing for Entrepreneurship and SME Growth*, pages: 80-91, ISBN: 9789264029453.

Kaminsky, G. and Schmukler, S. (2003). Short-run pain, long-run gain: The effects of financial liberalization. *NBER Working Paper No. 9787*.

Madestam, A. (2005). Informal finance: A theory of moneylenders. *IGIER Working Papers Series 347*.

OECD. (2006). *The SME financing gap (VOL I) theory and evidence*. ISBN: 9789264029408, OECD Publishing.

Padmaja, K. (2009). Impact of bankruptcy law reform on capital markets in Brazil. *World Bank Working Paper Series*, SSRN-ID 1345101.

Piergiovanni, R., Santarelli, E., Klomp, L., and Thurik, A. (2002). Gibrat's law and the firm size/ Firm growth relationship in italian services. *Tinbergen Institute Discussion Paper*, TI 2002-080/3.

Schiffer, M. and Weder, B. (2001). Firm size and the business environment: Worldwide survey results. *IFC Working Paper Series 43*.

Stiglitz, J. (1990). Peer monitoring and credit markets, *World Bank Economic Review, 4*(3).

Wagner, J. (1991). Firm size, firm growth, and persistence of chance: Testing Gibrat's law with establishment data from Lower Saxony 1978–1989. *Journal of Small Business Economics 4* (2).

Werner, Baer. (2001). *The Brazilian economy: growth and development*, 5th edition, ISBN-10: 0275966798, Praeger Paperback Publishers.