Capital Structure in Brazil: Review of Studies during the period of 1988-2003

Alexandre Kazuma Matsuo e William Eid Junior

Summary

A systematic review was made of studies regarding the capital structure in Brazil during the period of 1988-2003. The recurring themes relate to the *static tradeoff and pecking order* in various moments of the economy, the fiscal benefits of indebtedness and interest on privately-owned capital, and the inefficacies of the stock market. The Brazilian companies enjoy little leverage as compared to other emerging markets. BNDES is responsible for 5% of the gross formation of fixed capital. The funding of resources occurs at opportune moments, and the financing decision may precede that of investment. Efficacy of the judiciary system and company transparency positively affect access to credit.

1. Introduction

This article reviews the contributions to the study of capital structure in Brazil, in order to determine the current state of the research, which may serve as future reference for new studies. The capital market is rather restricted, reducing the financing options on the part of the companies, apart from being a highly restrictive factor to the economy growth. The study of the theme has gone through various distinct phases:

- Empirical tests which prove adherence of the decisions to one of the dominating models: *Pecking order* and *Static trade off hypothesis.*
- Determinants of capital structure , adapting the models applied in the developed countries.
- Effects of inflation, of capital restriction and other exogenous factors on capital structure decisions.
- Comparative analyses between emerging economies.
- BNDES importance on long term financing.

Upon analyzing the capital structure of Brazilian companies, it is necessary to consider the environmental characteristics thereof. The capital market is incipient, with the Stock Exchange business concentrated in a small number of shares. There is no secondary market for private debt securities, which causes the guarantee and repricing clauses to be risky for the investor. Compared to other countries, the Brazilian companies are not indebted enough, limiting the growth speed thereof. The attempts to reproduce tests carried out in larger and more liquid markets collide in the lack of more representative and consistent sampling, when applied to Brazil.

Consequently, the researches directed to the matter shall be grouped in the sub-items mentioned. It is worthwhile to point out that the capital structure is contiguous with other areas of Corporate Finances, such as market inefficacy and primary emissions, and aspects relative to the tax legislation and dividends.

The survey of articles was taken from the following reviews: Revista de Administração de Empresas (RAE), (Company Administration Review) Revista de Administração da USP (RAUSP), (USP Administration Review) Revista de Administração Contemporânea (RAC), (Contemporary Administration Review) Caderno de Pesquisas em Administração (CPA) (Administration Research Copybook) and Revista do BNDES, (BNDES Review) apart from the annual meetings of Anpad (ENANPAD), Encontro Brasileiro de Finanças e Seminários em Administração da FEA/USP (SEMEAD). (Brazilian Meeting of Finance and Seminars in Administration of FEA/USP). Furthermore, research was made on thesis regarding the matter at EAESP/FGV and FEA/USP. Finally, scientific articles in English on the matter were researched with regard to Brazil. The period analyzed was from 1988 to 2003, although not all periodicals cover the whole period.

The article is structured as follows: section 2 presents the relevant theoretical contributions; section 3 discusses the capital structure determinants; section 4 presents the recent contributions regarding the capital market; section 5 submits a chronological retrospect of debentures and section 6 concludes it.

Table 1. Articles Survey Source

		PUBLICATIONS											
YEAR	*World Bank*	*BNDES*	*CPA*	*CVM*	*IPEA*	*RAUSP*	*RAE*	*RAC*	*EBFIN*	*ENANPAD*	*SEMEAD*	*OTHERS*	*TOTAL*
1988													0
1989													
1990													
1991						1	1						2
1992												1	1
1993													0
1994						1				1			2
1995	1												1
1996							1			1			2
1997	1		1			2				1			5
1998	2										1		3
1999	2			1	1					1			5
2000				1						2			3
2001	1	2											3
2002	1					1			2	4			8
2003							1				2		3
TOTAL	8	2	1	2	1	5	3	0	2	10	3	1	38

2. Relevant Theoretical Contributions

The works submitted as follows were classified according to theories which offer similarities, in order to improve the structure of the authors contributions. Four predominant theoretical models were considered. The first one is based on bankruptcy costs and fiscal benefits, known as *static tradeoff* . The second one is based on asymmetric information, whose main model is known as *pecking order*. We then analyzed the model based on agency costs. Finally, we analyzed the models derived from inefficient capital markets.

2.1. Models based on Bankruptcy Costs and Fiscal Benefits

The modern theory of capital structure had, as turning point, the classic article of Modigliani and Miller (MM – 1958), regarding the perfect market conditions wherein the financing decision has no bearing on the company value. From some of its negligent proposals, allowing for taxes and bankruptcy costs, a new approach emerged under which the company enjoys a fiscal benefit in contracting for an indebtedness, increasing its value. This theory known as *Static Tradeoff model* has arisen.

This theory suggests that the companies have an optimum indebtedness level which maximizes company value, when weighing the fiscal benefits of indebtedness against the costs of financial difficulties and bankruptcy risks (MYERS, 1984). Recent history shows that the tax legislation was modified many times in the last decades, either to stimulate capital opening, or to stimulate the stock market. For this reason, advantageous positions in favor of retention and obtainment of capital gain and dividends were completely inverted from one year to another, (PAIVA, 2001). With this background, important contributions were reached as to the effect of the Brazilian taxation and its particularities on the decision of company financing.

Differently from the North-American tax legislation, it is possible to deduct interest payment on privately-owned capital (JSCP) from the income tax calculation basis, according to law 9249/95. Therefore, the JSCP reduces in part the fiscal indebtedness benefit, making the financing with third parties' capital less interesting than the use of own capital. This fact is justified since the increase in the company value as of a certain level may not compensate the great financial risk assumed (ABREU, 2002).

However, in spite of creating a preference for financing investment by shares, and being able to alter the leverage degree, there was no evidence of reduction of indebtedness after said law entered in force . In practice, it is considered that remuneration of own capital, previously made by monetary correction, is now made via JCSP (SIRIHAL e MELO, 1999). Although these benefits aggregate value, they are still less than those provided by indebtedness. (ZANI and NESS, 2000). According to Paiva and Lima (2001), the companies did not increase the payout index after tax elimination on dividends. Payment of interest on privately-owned capital increased during the period of 1996-1998, but the fiscal benefit was not integrally passed on to the shareholders.

With regard to the maximum levels of indebtedness, Krämer and Procianoy (1996) verified that, since the bankruptcy costs limit the companies' indebtedness capacity, the companies adopt a common strategy to limit their indebtedness. Therefore, there must be a way to signal when this limit is reached. From the various indicators tested, the

PC/(ELP+PL) is the one which best signalizes the indebtedness financing costs, indicating the necessity to issue shares.. This index is a maturity indicator of debts. Sanvicente (1991) verified - with data of 1988 - that the bankruptcy costs burden the capital cost by 1% in real terms.

Silva and Brito (2003) tested the previsions of the *tradeoff* and *pecking order* regarding dividends and indebtedness in Brazil. They verified that the more profitable and less indebted companies pay more dividends, proving that profitability is decisive for payment of dividends, and that these do not vary in function of short term changes in investments (absorbed by debts). Furthermore, the goal for dividends in Brazil is inferior to that in the U.S., and the Brazilian companies adjust more rapidly to dividends than the Americans. Additionally, companies which invest more are the ones most indebted.

Pereira (2000) also obtained positive relationship between value and leverage but, generally, the Brazilian companies are still lacking in leverage. According to Soares and Procianoy (2000), with inflation control after the Real plan, there was an increase in short term as well as long term indebtedness. However, the effect upon the extension of the indebtedness period was small.

Table 2. Empirical evidence of *static tradeoff*

2.2. Models Based on Asymmetric Information

According to Harris and Raviv (1991), the theories based on asymmetric information suggest that the company managers, *insiders*, detain information on the resources and investment flow which is more pertinent than the information detained by investors (*outsiders)* . Consequently, the selection of capital structure is a form to signal company opportunities to the market, thus reducing the information asymmetry between *insiders* and *outsiders*. The theory known as *pecking order*, is based on this principle, and affirms that in contracting for a debt, the administrator informs the market about good investment opportunities. Since share issuance has a cost for the current shareholders, the administrator first uses the profits retained, then contracts for indebtedness, and at last issues shares.

The first attempts to test the hypotheses described by Myers (1984) regarding the funding hierarchy of the p*ecking order model* were made with small samples of a specific economy sector. Ferreira and Brasil (1997) made a preliminary study, comparing indebtedness indexes of 11 companies of the textile sector, between 1987 and 1995. Observing an indebtedness volume superior to that of the shares, they suggested that there was evidence in favor of the pecking order.

Afterwards, various authors duplicated the tests made by Shyan-Sunder and Myers (1999) with American companies, trying to find evidence of one of the dominant theories regarding capital structure selection: *static tradeoff model* and *pecking order*. As a general result, most tests signaled evidence in favor of the *pecking order*. However, it is necessary to make some reserves regarding this conclusion. The principal evidence in favor of the hierarchy of sources is the negative relation between indebtedness and profitability observed in most works. However access to credit in Brazil is limited, due to the incipient capital market and inefficiency of the judiciary system (CARVALHO e BARCELOS, 2002).

These characteristics of the Brazilian market are approached by Martelanc (1998). The author suggests that the restrictions to the financing sources are provoked by market inefficiencies, credit restrictions and disputes for control. Consequently, they lead to hierarchization of the funding sources. This differs from the *pecking order* because the hierarchization motive is caused by the difficulty of finding sources at competitive costs and not by the possibility of selection. The author uses dynamic models and introduces two new variables, the life cycle of the companies and the behavior aspects, since businessmen maximize the realization and control more than wealth. Finally, he concludes that the financing decision may precede that of investment, and proposes a *pecking order* based on capital restrictions and control concentration, where the first resource origin shall be profit retained, following by entailed loans.

Some studies also verified the inflation impact on the company capital structure. This fact merits emphasis, due to the inflationary period that the economy, as a whole, has undergone. Carrete (2003) investigated behavior of the models *tradeoff* and *pecking order* on 65 companies of public capital, during the period of 1991 to 1999. Generally, the evidence has pointed to the second theory, and during the stabilization period (1995-1999), the results were more significant.

However, many researches were inconclusive in determining whether the companies follow a financing decision pattern. Turolla and Santana (2002) tested the models Shyam-Sunder and Myers (1999) in the petrochemical sector between 1991 and 2000, because it presented an indebtedness superior to the national average, according to the Income Federal Revenue Bureau. This fact is justified by being a capital-intensive industry, where the scale earnings is primordial in competition maintenance. The result of regressions by Ordinary Least Squares (OLS) indicated statistical significance for both theoretical models and, although the *static tradeoff* model showed better results (R2 adjusted to 55%, against R2 of 44% for the *pecking order*), there was no evidence of adoption of one of the strategies mentioned.

A new justification for preferring indebtedness to share issue may be due to the excessive confidence of the administrator. Heaton (2002) suggests that there may be an excess of managerial optimism, in such a way that the administrators avoid issuing shares, because they believe that they are sub-evaluated, or they invest in inadequate projects because they super-estimate their returns, even being loyal to their shareholders. This situation leads the administrator to systematically prefer indebtedness without, however, this occurring due to informational asymmetry or agency costs. Evidence of this behavior has been observed in Brazil by Ferreira and Yu (2003). Tests applied in finance professionals evidenced an excess of confidence, principally in more experienced professionals of the male sex.

Table 3. Empirical evidences in favor of pecking order

2.3. Models based on Agency Costs

The models based on agency costs affirm that there is an indebtedness level that maximizes the company value, by reducing the conflict of interests between shareholders and administrators, and between shareholders and creditors (HARRIS and RAVIV, 1991). In the Brazilian case, the majority of companies is family controlled, wherein the controller and the administrator are often one and the same person. The focus of agency conflicts in this case is in the relationship between majorities and minorities and between shareholders and creditors.

A negative relationship has generally been observed between indebtedness and control concentration. The evidence points to the risk aversion of the manager, who is generally the major shareholder and works with sub-optimum indebtedness, issuing shares to reduce liabilities (PROCIANOY and CASELANI, 1997). Siqueira (2000) analyzed data of 278 companies and verified that control is more concentrated in companies with less leverage, suggesting that specific investments in large scale plants are accompanied by shareholder concentration. Statistically significant results indicate that companies with more dispersed shareholder control tend to be more profitable. More recently, Schnorrenberger and Procianoy (2002) also obtained similar results with a specimen of 306 public capital companies. A positive correlation was verified between dispersion of shareholding control and indebtedness level. Better conditions were also observed in re-purchase of shares. After instruction CVM No. 299, the abnormal return of shares of companies who effected re-purchase also became positive (GABRIELLI e SAITO, 2003).

Kayo and Famá (1997) observed that indebtedness served to reduce agency costs, and may vary in function of the company's maturity level. During the period of 1992 to 1996, the companies grew up by using their own capital, and indebtedness was greater in the companies with stable income, who attained their maturity phase. Apart from a positive relationship between value and leverage, it was noted that indebtedness is negatively related to growth opportunities, confirming the suppositions of the model based on agency costs.

In view of the growing importance of debentures as long term financing source, many studies have been made in order to verify the characteristics of the debentures issued in the Brazilian market. According to Saito et al. (2002), the volume of funding with this instrument almost doubled during the period of 1993 to 2001, from US$ 3,936 billions to US$ 6,160 billions. Part of the growth is attributed to improvement of guarantees to the creditors, with liberation of the debentures indexer and creation of extremely sophisticated contractual clauses, giving the creditor a series of financial options, with advance redemption, repricing, selection of the indexer, and conversion in shares. Such clauses aim at mitigating the risks to the creditor, in the absence of a secondary debentures market (KIMURA, 2003). Just to have an idea, in the beginning of the nineties, only 20.5% of debentures had a real or floating guarantee. The majority of issues (78,7%) had a subordinated guarantee, a credit position much inferior to the issues with guarantee, since in case of bankruptcy, the creditors would have priority on the company partners (BORGES e LOPES, 2001). In 2001, the debentures percentage with real or floating guarantee rose to 43% of the total volume (SAITO et al., 2002).

Table 4. Empirical evidence on agency costs

2.4. Models based on Inefficient Capital Markets

There recently a new trend surged which analyzed the impact of inefficient markets on the capital structure. Graham and Harvey (2002) and Baker and Wurgler (2000) presented evidence that administrators are opportunists on their decisions in financing, issuing shares or contract for indebtedness according to the opportunities. Through an anonymous research in 161 companies, Eid (1996) verified that in 47% thereof, the administrators declared to be opportunists when they looked for the funding sources economically most advantageous at the time, and 40% declared that they followed a pre-defined resources hierarchy. Mellone (2003) affirmed that the capital structure is derived from the opportunities of resources obtainment by the company.

Table 5. Empirical evidence on inefficient capital markets

3. Capital Structure Determinants

Research on capital structure determinants use various endogenous items already consecrated in international literature to explain company indebtedness. They are size, profitability, tangibility of assets and growth opportunities. Within the works analyzed, the negative matching between profitability and indebtedness is unanimous. Apart from often being the most expressive result observed in the regression (TEDESCHI, 1997; TERRA, 2002; SCHNORRENBERGER and PROCIANOY, 2002) it is the strongest evidence in favor of the *pecking order* theory, according to its authors, since it characterizes a preference for retained earnings against indebtedness . The economic conjuncture is also a factor which has some significant relation with indebtedness (TEDESCHI, 1997; PROCIANOY and CASELANI, 1997 and TERRA, 2003). At last, the economic sector, frequently analyzed as *dummy,* has not shown variables explicative of the company leverage degree. (GOMES and LEAL, 2001; TERRA, 2002 and MELLONE, 2003)

Tedeschi (1997) analyzed the indebtedness determinants during 1985 to 1995, a period characterized by high inflation and no incentive indebtedness on the part of the companies. Consequently, the companies showed a low indebtedness level and an absence of growth opportunities, the latter represented by a *market-to-book ratio* smaller than the unitary one. The regression results indicate indebtedness positively related with size and negatively related with growth opportunities and profitability. The latter presented the strongest evidence in favor of the *pecking order* theory.

Apart from the results previously cited, Schnorrenberger and Procianoy (2002) also showed a positive relation between indebtedness and size, and negative relation between indebtedness and profit, sustaining the evidence in favor of the *pecking order*. The variable ANO, which presupposes an economic conjuncture, also had an explicative power, and the indebtedness index which showed best results was (ELP+PC)/PL, since it relates the short and long term financing with the shareholders' equity.

Afterwards, Terra (2002) investigated the determinants of capital structure in Latin America, in seven countries, including Brazil. The author obtained evidence in favor of the pecking order and verified positive relation between growth and indebtedness, a result opposed to the one observed by Tedeschi (1997) and Gomes and Leal (2001). Generally, the determinants behaved similarly in all the countries and suggest that other endogenous variables must be considered to explain the capital structure. Again the most significant relation was the negative one between profitability and indebtedness.

Table 6. Empirical evidence of determinants

Matching with explicative variables										
AUTHORS	Assets tangibility	Profitability	Size	Growth opportunity	Taxes	Business risk	Adjus-ted R2	Compa-nies sample	Period	Author's conclu-sion
Tedeschi, 1997	+	-	+	-	n/a	n/a	n/a	72	1985-1995	Pecking order
Schnorrenberger & Procianoy, 2002	n/a	-	+	N/a	n/a	n/a	31,55%	306	1995-2000	Pecking order
Terra, 2003	n/a	n/a	n/a	N/a	n/a	n/a	n/a	293	1986-2000	n/a
Mellone, 2003	n/a	n/a	n/a	N/a	n/a	n/a	n/a	187	2001	n/a
Terra, 2002	+	-	n/a	+	n/a	n/a	n/a	293	1985-2000	Pecking order
Calil, 2002	n/a	n/a	n/a	N/a	n/a	n/a	n/a	26	1991-2000	Pecking order
Perobelli & Famá, 2002 *	-	-	-	N/a	n/a	n/a	n/a	172	1995-2002	Pecking order

* Matching with short term indebtedness .
Source: Author's aggregation , extracted from sources cited.

Predicted by Theory						
Static tradeoff	Positive	Positive	Positive	Negative	Positive	Negative
Pecking order	Positive	Negative	Negative	Positive	Indeterminate	Negative

Lima & Brito (2003) reached the same results as Terra (2002) for the tangibility, profitability and growth variables, and inconclusive results for the risk factor. Such results are also consistent with those reached by GOMES & LEAL (2001), who obtained positive relation with indebtedness for the tangibility and risk factors, and negative relation for profitability, growth and size. Additionally, they noted that national private control companies contract for debts more than public control or foreign companies, through intensive use of short term liabilities.

Perobelli and Famá (2002) applied the tests proposed by Titman & Wessels (1998), to 165 public capital companies, using the multifactor model. The short term indebtedness was negatively related with size, assets growth and profitability

The recent researches on capital structure determinants have considered macro-economic factors with potential explicative variables. This is justified by the fact that various articles have found statistical significance in some type of variables associated with economic conjuncture (PROCIANOY and CASELANI, 1997; TEDESCHI,1997). Terra (2003) tested the explicative power of inflation, interest rate and PIB (gross national product) in connection with company indebtedness, and found that although they are important, such factors are not decisive in capital structure determination. Therefore size, profitability and tangibility of assets still continue to explain indebtedness.

4. Capital Market in Brazil

There is a consensus to the effect that economic growth is leveraged by a developed financial system. Even in Brazil , there is evidence of this relation. Matos (2001) obtained evidence of this same relation during the period 1947-2000 in Brazil. A series of works in English deal with the capital structure question in emerging countries, analyzing the period of the eighties and beginning of the nineties. In empirical tests of the cross-section type, Brazil was included in the analysis as a sampled element. Among the various conclusions, the most important is the fact that the financial market development impacts on the economic growth, in such a way that it allows the companies to grow at more accelerated rhythms than if they were using only internal resources (LOVE, 2001). Such restrictions are generally attributed to market imperfections, such as information asymmetry and incentive problems, resulting in different funding costs for financing of internal and external sources.

4.1. Small indebtedness usage

Similar results had already been obtained by Demirgüc-Kunt and Maksimovic (1998), when they related the financial and judiciary system efficacy with the access to financial market in emerging countries. In a sampling of 30 countries, Brazil was one of those that demonstrated the most severe restrictions to credit, being only ahead of Zimbabwe and behind countries like Japan, South Korea and Thailand. Only 38% of Brazilian companies exceeded the growth allowed by auto-financing , whereas in Mexico and South Korea, these indexes were 47% and 67% respectively. The authors obtained a negative and significant correlation between stock market development and company indebtedness level.

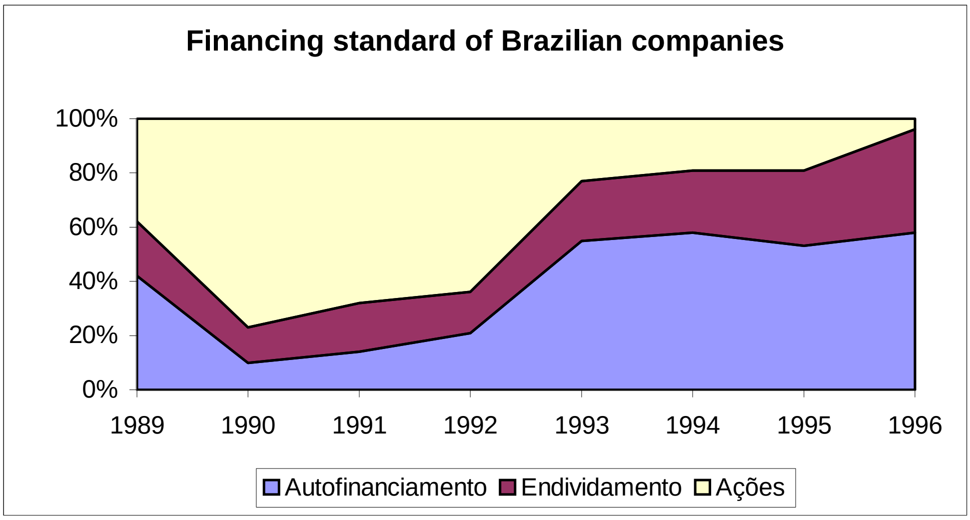
According to Booth et al. (1999) Brazil demonstrates small usage of indebtedness , even compared to other emerging countries. However, this result must be considered with reserve, since the data analyzed was from 1985 to 1991 , prior to the economic stability that the country enjoyed. Furthermore, the results show evidence in favor of the *pecking order*.

Carvalho and Barcelos (2002) verified that in Brazil, share issues responded by almost 1% of gross formation of fixed capital (FBCF) in 1996. By comparison, in Chile share issues represented 14% (7th larger capitalization) The authors also verified that business corporations and public capital companies have larger access to credit, due to more transparency. Size and tangibility also determine greater access. In the states where the judiciary system allows a more efficient execution of guarantees, access to credit is easier.

4.2. BNDES role

Allied to capital market restrictions in Brazil, the only long term financing lines originate from BNDES. This increases the importance of this institution. According to Plattek (2001), BNDES' disbursements in the nineties were responsible for almost 5% of the gross formation of fixed capital in Brazil (FBCF), with disbursements of R$ 11 billions in 1999.

Rodrigues and Melo (1999) verified that self financing of companies was made 63.9% with internal resources, 29.6% with indebtedness and 6.5% with shares, these results being consistent with those obtained by Zoneschain (1998) and Moreira and Puga (2000). As of 1990, there was an increase in participation of the retained earnings, followed by indebtedness and accelerated reduction of share issues for financing. At first sight, the abrupt growth of the stock market seems to be attributed to the resources confiscated in the Collor government, transforming the stock market into the sole available source. Meanwhile, there was a violent reduction in the volume negotiated at Bovespa, reducing the possibilities of the resource takers. However, the principal cause is attributed to law 8.200/91, which substitutes the monetary correction index of the fiscal BTN balance sheets (845,12% in 1990) by IPC (1,794.72% in 1990), reducing the net profit and raising up self-financing.



Source: Rodrigues and Melo (1999)

Missing Moreira and Puga 2000, similar to Zoneschain.

4.3. Primary issues

The Brazilian capital market is known as imperfect and the high cost of the companies' capital leads them to launch issues when opportunities occur, i.e. at moments of rising up market or euphoria. (LEAL e SAITO, 2003). There is no protection to the minorities, and this leads investor to demand a higher return. Furthermore, the prices for public offer are very low, provoking high returns in the initial issue (LEAL, 2000). Although there is an abnormally high return upon launching, this does not occur in the secondary market, which gives negative return after the high launching. (LEAL 1991).

Some studies were carried out to determine destination of the resources funded from the financial market, and to associate share issues with reduction of the risks derived from excessive indebtedness. Procianoy and Caselani (1997) verified that the issue of shares relates to risk aversion, derived from excessive indebtedness. The fact that the manager is frequently the major shareholder, results in his choosing a sub-optimum leverage structure, launching new issues after recent increase of share price. Furthermore, it appears that the economic conjuncture interferes with the resources destination.

The attempts to develop the capital market underwent some setbacks. The Kandir law (1997) provoked a retrocession because it withdrew the basic defense conditions from the minorities, when decisions against their interests were taken by the controllers (right of recess in the case of company mergers, scissions and incorporations). Such a measure was justified to facilitate the Federal Government privatization program (VIDIGAL, 1999).

4.4. Foreign Investment

With reference to direct foreign investment, Singh and Jun (1995) explored the role of foreign direct investments in emerging markets, and verified that the principal variable is orientation to export. This is the principal characteristic of a country which attracts foreign investments.

Leal and Rêgo (1997) –Impact of Attachment IV on the Brazilian Capital Market. Objective: Verify the impact of foreign investment flow on the stock exchange, considering Attachment IV between 1992 to 1995. Liquidity increase occurred for some papers, there was volume increase of share issues, but there was no increase of return in real or in dollars, and there is no evidence of volatility reduction. The ingression of foreign capital in the Brazilian stock exchange increased the liquidity of some papers, but did not reduce the market volatility and collaborated for business concentration increase (in few papers). There was liquidity increase in the secondary market, but there was no volatility reduction. This appears to be principally because of local but not international factors. There was no increase in the debenture issues. The share issues showed evidence of increase, but this seems to be related to the Real Plan.

There was no impact on the returns in real and dollar on the IBOVESPA after introduction of Attachment IV.

Probably the economic conjuncture did not encourage investment during the period.

4.5. ADRs (American Depositary Receipts)

Globalization brought with it the possibility of Brazilian companies borrowing resources abroad at lower costs. Silveira and Barros (2003) verified that ADR issuers reduced their capital cost, as well as volatility, increased liquidity of their papers and obtained greater exposure in the market.

Bruni and Famá (2003) verified that ADRs issues reduced the cost of the companies capital, due to abnormal return in the share price after issuance announcement. This fact was verified through the negative beta variation of shares.

With the re-establishment of access to foreign markets, Brazilian companies had the possibility of borrowing funds from greater and more liquid capital markets abroad, via issue of bonds or American Depositary Receipts (ADR). These sources, previously restricted to export companies, who acted via advance exchange contracts (ACC), surge with opportunities to borrow funds at rates more attractive than the ones on the domestic market. The first questions in connection with ADR were regarding the reduction of costs of privately-owned capital and volatility of share prices.

Holthausen and Galli (2001) determined that the ADR impact differs according to the level thereof. Significant abnormal returns were verified only in level I ADRs around the date of the event; reduction of the returns volatility was confirmed in the ADRs of level I and II, fact attributed to improvement of the information flow to the market. Finally, the ADRs of level III behave as seasonal issues of shares, in agreement with the timing of the stock market. In spite of these improvements, the Brazilian stock market is still segmented, and the papers undergo the influence of the domestic market (MARCON, ALBERTON and COSTA, 2001)

However, Vale (2001) made a cross-section analysis of the paper and cellulose sector, comparing the funding cost of 42 companies of 10 countries, in the American and European market, between 1991 and 1998. He confirmed that rating and accounting information are the principal explicative variables and that Brazil paid an additional premium for having received a speculative rating grade. Additionally, when the risk is greater, the influence of the specific variables of the company is greater. The companies inherit the sovereign risk in their funding, which is motive for concern since the ratings lower than investment grade are very diverging among the risk classification agencies. (CANTOR and PACKER, 1995 cited by VALLE, 2001).

4.5. Debentures

In view of the growing importance of debentures as long term financing source, many studies have been made in order to verify the determinant items of spread, remuneration and debenture types issued in the Brazilian market. According to Saito et al. (2002), the funding volume with this instrument doubled in the period of 1993 to 2001, from US$ 3,936 billions to US$ 6,160 billions. This occurrence is attributed to the market demand, represented by investors looking for private debt papers and to the inefficient intermediation on part of the banks. Apart from the structural questions mentioned above, there are contractual clauses extremely sophisticated, which give the creditor a series of financial options (repricing, selection of the indexer, conversion into shares), which mitigate his risk (KIMURA, 2003).

The right to call also gives guarantee to the issuer, allowing the company to buy back the debentures prior to due date, when the interest rate shows signs of falling down. (PROCIANOY and VEISMAN, 1994). At the same time, it is noted that convertible bonds are not sensitive to price variations, thus reducing the information asymmetry. As a result, companies issue convertible debentures when their financial situation is deteriorated by excessive leverage, short term financing and inferior profitability. (KIMURA, 2003). We may conclude that, even in the absence of a secondary market, there was demand for private bonds, since the risks were mitigated in part by the contractual clauses in the form of covenants and guarantees.

The IGP-M, which was already the principal debentures indexer in the period prior to the Real Plan (SCHERER e LIMA, 1994) gave place to the CDI. Saito et al. verified that among 119 issues between 1998 and 2001, 65% used the CDI as remuneration floating rate. At the same time, the issues had greater guarantees as regards control change, and smaller guarantees for dividends. From 1995 to 2001, the volume of issues with guarantee increased, and the volume of subordinated debentures decreased. On the issuer side, the anticipated call is present in 85% of the issues.

However, before the stability period, the use of bonds was a cyclical event. The repricing clause transformed the debentures in a succession of short term bonds. From 1980 to 1984, the debentures were issued with convertibility clauses unviable for the investor, but with a remuneration compatible with the type of debenture. As from 1991, ingression of foreign investment allowed extension of the delivery terms and reduction of the interest rates. (PROCIANOY and VEISMAN, 1994).

Confirming the hypothesis that the financing decisions modify the company value, Millan (1992) observed a negative abnormal return between D-2 and D+5 days around the General Assembly date which deliberated upon the issues. The negative impact was more accentuated in the issue of simple debentures than upon convertible ones. These results presuppose that debenture issues transmit negative information to the market.

With regard to the term, Santos and Martelanc (1998) verified that risk evaluation (credit rating) and term are positively related, that the convertible debentures have intermediate maturity between 5 and 10 years, and that the use of floating rates concentrates on longer term papers.

Confirming the hypothesis that the financing decisions modify the company value, Millan (1992) observed a negative abnormal return between D-2 and D+5 days around the General Assembly date which deliberated upon the issues. The negative impact was more accentuated in the issue of simple debentures than upon convertible ones. These results presuppose that debenture issues transmit negative information to the market.

4.6. Spread determinants

The first articles published on debentures were of institutional character, in order to divulge this funding form and its characteristics. Afterwards, more robust analyses were made in order to investigate which factors determine the debenture remuneration. Some attempts to model the determinants of interest rates on debentures were inconclusive. Mellone, Eid and Rochman (2002) verified that the rating had explicative power for the debentures indexed to the CDI, but similar results had not been obtained for debentures indexed to IGP-M.

Significant results were obtained by Sheng and Saito (2002). Analyzing 138 issues of 1999 to 2002, they reached the following conclusions with regard to issue rating: it is positively correlated to the spread; it is more important in unfavorable environment; national ratings are more important than the international ones, and after the rating, sector and volume are more important to determine the issues spread. Another evidence was that 61% of the issues were made in an environment considerable favorable, with the EMBI-Brazil (proxy which measures the economic environment) lower than 900 points, suggesting opportunism in resources funding.

5. Final considerations

6. Bibliographical references

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