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Asset specificity and a firm's borrowing ability: an empirical analysis of manufacturing firms

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Abstract

This paper investigates the importance of asset specificity in explaining differences in firms' ability to borrow money. With empirical research, we investigated whether there is a relationship between asset specificity and the debt ratio of a Slovene manufacturing firm. The basic idea of the research was to link the sources of finance that define property rights and the attributes of the assets that are the objects of finance. A firm's capital structure can be viewed as a description of the allocation of risk and control among investors.

JEL classification: D23; G32; G34; L22; M21

Keywords: Asset specificity; Debt ratio; Governance structure; Transaction costs; Corporate finance

1. Introduction

Recent developments in transaction cost economics suggest that a firm's debt ratio may have more to do with strategic and control factors than with purely financial factors (Williamson, 1988; Balakrishnan and Fox, 1993).[1] A firm often invests in firm-specific assets in order to enhance its uniqueness and competitive advantage. The specific asset has greater value when used by that firm than when used for any other purpose. Such assets, however, adversely affect the firm's ability to borrow because firm-specific assets often cannot be redeployed as collateral for borrowing. Many firm-specific assets are intangible (for example, R&D and advertising) and difficult to measure and evaluate (Balakrishnan and Fox, 1993). Transactions involving such assets will be affected by informational asymmetry between the firm's insiders and outsiders. For the firm, specialized assets create both

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[1] Debt ratio is defined as the ratio of debts to assets as proposed by Brigham and Gapenski (1997).

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a problem and an opportunity (Williamson, 1975, 1985). The firm may have problems financing such assets that are encumbered by debts because of the nature of the assets — their ability to be redeployed (Williamson). Williamson suggested incorporating uncertainty explicitly into the analysis (Choate, 1997). Nevertheless, the firm has an opportunity to create governance structures [2] in a way that mitigates this problem.

Effective relationships with lenders could become a key source of competitive advantage, which means that every firm theoretically can influence its debt ratio (Balakrishnan and Fox, 1993). The choices of an appropriate source of finance are just as important as are the decisions of production. Investments in the assets that contribute to competitive advantages raise the value of the firm, which in turn favorably impacts on financing such assets (Balakrishnan and Fox, 1993). A distinction among the different sources of funds, the costs and risks associated with the terms of financing, and the relationship between the extent of financing remain significant issues requiring research attention.

Some empirical studies have already been carried out, in which the authors tried to identify the determinants of a firm's capital structure using different samples, variables, and methods. Motivated by the differences in results from these studies, we decided to do a similar empirical study with the aim of detecting if there is a relationship between asset specificity and the debt ratio of Slovene firms.

The paper is organized as follows: Section 2 provides a brief overview of financing from the transaction cost economics perspective. Section 3 presents the results of two earlier major empirical studies that have great relevance for our empirical study. Section 4 discusses the propositions underlying our research. Section 5 introduces our methodology, sample and model. Our results are revealed in Section 6 and our conclusions are presented in the final section.

2. Financing from a transaction cost economics perspective

In the following sections, we will discuss several key issues of the theory of transaction costs related to the issues of choosing appropriate sources of finance. Williamson has argued that debt and equity ought to be viewed as different forms of governance structure. In this paper, we examine corporate finance through the lens of transaction cost economics. The basic theoretical issue herein underlies the relationship between organizational management, firm uniqueness and capital structure. It focuses on capital market imperfections [3] and their impact on the firm's capital structure.

2.1. Governance structures and their incompleteness

The selection of institutional form determines different coordinating and control mechanisms and different abilities to adapt to disturbances (Williamson, 1991). Governance structures should be chosen that forestall or attenuate potential conflicts in the future and

[2] One can also use the term "constitutive coordination mechanisms and allocations of organizational rights", which is proposed by Grandori (1997, p. 33).

[3] Unlike the modern finance literature that assume perfect capital markets.

reduce transaction costs. Different governance structures result in different transaction costs in response to (1) the creation or change of an institution or organization, and (2) the use of the institution or organization (Furubotn and Richter, 1995, p. 8).

The governance structure is actually created through the provisions of contracts. So contracts become the means by which transacting parties specify future performance and allocate the risks of future contingencies (Klein, 1985). With contracts, the role of "selective intervention" (Ménard, 1996, p. 154; Williamson, 1985, p. 249, 1991) is generated, which contributes to the capacity of agents to predict, react, and to give orders. This capacity is a critical characteristic regarding the right of some members to impose constraints on others.

However, contracts are incomplete [4] or, as Williamson refers to them, they can be thought of as "a framework highly adjustable, a framework which almost never accurately indicates real working relations, but which affords a rough indication around which such relations vary, an occasional guide in cases of doubt, and a norm of ultimate appeal when the relations cease in fact to work" (Williamson, 1991, p. 272).

The predictability of economic operations and behaviors is crucial in a situation of imperfect knowledge since the contracts produce guarantees, or rather insurance, not only for the parties involved but for the whole set of economic operations, thereby enabling the market to operate at lower cost and to expand (Turvani, 1995, p. 198).

From an economic point of view, in spite of the inherent incompleteness of contracts, the choosing of appropriate governance seeks a desired combination between stronger incentives and reduced opportunism (Williamson, 1991). For investors it is important to choose a governance structure that minimizes governance costs and therefore maximizes future payoffs (Choate, 1997, p. 80).

2.2. Sources of finance from a transaction cost economics perspective

Equity financing enables a certain degree of external hierarchical control. Stockholders have the rights to the use, income and transferability of resources (De Alessi, 1990, p. 8). They can exercise these rights through a board of directors by monitoring the conduct of management and by intervening in strategic decisions whenever they deem it desirable. According to the principle of incomplete contracts, "forbearance" is clearly a key component, with the capacity for a hierarchy to act as its own court of ultimate appeal, which induces subordinates to exercise self-control (Williamson, 1993; Ménard, 1996, p. 154).

Debt financing, however, like the market, leaves the firm less open to external intervention than does equity financing. Lenders can seize control of a firm's assets only if the firm has defaulted or violated the covenants of the debt contract (Williamson, 1988; Balakrishnan and

[4] Most real world contracts do not allocate risks associated with all possible future states. For most contractual relationships, the number of possible contingencies is extremely large. From an efficiency standpoint, transactors will devote excessive resources of time and money during the contract-negotiation process to obtain informational advantages over their transacting partners and bargain over mutually acceptable contingent terms that they believe reflect such advantages. To minimize the costs of attempting to cover every possible contingency in an explicit contractual agreement, contracts are intentionally designed to be incomplete. Transactors create an optimal contractual arrangement by intentionally deciding ex ante to leave some contract terms unspecified and rely on implicit enforcement mechanisms to ensure performance. Incomplete contracts must be designed not only to allocate risks associated with an underlying state of uncertainty. but also to minimize behavioral risks.

Fox, 1993). The contracting parties, through the debt contracts ex ante build in a mechanism of control transfer.

Using his well-known transaction costs framework, Williamson argues that the type of governance chosen — debt or equity — will depend on the characteristics of the assets employed in the venture, particularly their redeployability to other uses (Balakrishnan and Fox, 1993). Furthermore, the debt/equity ratio has implications for the choice of mechanism when a firm is in need of reorganization (Berglöf, 1990, p. 243), whether it comes to (1) changes in ownership in the distribution of property rights; (2) changes in incentives; or (3) changes in governance.

2.3. Asset specificity as a key concept of transaction cost economics

Asset specificity is a key concept of transaction cost economics. Many researchers in business strategy have stressed the importance of unique and inimitable assets, resources, skills, relationships and investment as the primary sources of a firm's competitive advantage (Lippman and Rumelt, 1982; Barney, 1986; Montgomery and Wernerfelt, 1988; Rumelt, 1991; Balakrishnan and Fox, 1993). The relationship between firm-specific assets and capital structure, however, had not been the subject of inquiry until 20 years ago (Bettis, 1983; Barton and Gordon, 1988; Turk and Hoskisson, 1991; Balakrishnan and Fox, 1993). Strategic investments in specific assets that are tailored to a firm's strategy and technology can reduce costs, improve quality and enable differentiation of the firm's products and services from those of its competitors (Mang, 1998). Such firm-specific assets are less redeployable to other uses because the secondary market for such assets may not value them as much as the firm, and sometimes may not even exist (Klein et al., 1978; Williamson, 1975, 1985; Balakrishnan and Fox, 1993; Chowdhry and Coval, 1998).

Asset specificity has an impact on debt ratio because of bankruptcy costs that reflect the loss in firm value due to the likelihood of financial distress. In the event of the bankruptcy or liquidation of a firm, its specific assets will lose a lot of value. That is why specific assets usually cannot be used as collateral. If lenders nevertheless decide to finance specific assets, the costs of finance will be higher, since lenders have only limited ability to control a manager's investments and activities. The transaction cost framework suggests that debt governance will inhibit investments in specialized assets because they cannot be readily redeployed and therefore offer poor security to lenders. Such investments are more likely to be financed with equity than with debt (Williamson, 1988; Balakrishnan and Fox, 1993; Mang, 1998).

Asset specificity is incorporated in the specification of liquidating payoffs since it specifies the uncertain future payoffs to investors from the alternatives of liquidating the firm's assets or employing them in operations. Regarding governance costs of debt and equity financing, the optimal capital structure for a firm is one in which investors seek to maximize future payoffs and have the power to make decisions about liquidation of the assets or continuing the firm's operation (Choate, 1997, p. 76). Loss in the case of liquidation (which is the threat of debt) compared to operation is much higher when asset specificity is higher. So the higher the asset specificity, the higher the benefits of operation (implicit composition of equity) and concurrently, the higher the use of equity financing. Therefore, the higher

the level of operating profitability, the greater one would expect to find the use of equity financing and the smaller the use of debt financing.

3. Results of previous empirical studies of the determinants of choosing different sources of finance

Research by Bradley et al. (1984) and Balakrishnan and Fox (1993) illustrates the variety of methods and results in studies of firm financing. Both used capital structure as the dependent variable. Bradley et al. represented capital structure by the ratio of the book value of long-term debts to the market value of equity. Balakrishnan and Fox (1993) enlarged the measure to be the ratio of the sum of the book value of long-term and short-term debts to the sum of the market value of equity and the book value of debts.

Bradley et al. found a significant and negative relationship between earnings volatility and capital structure. Balakrishnan and Fox (1993) used earnings volatility and operating income as a measurement of uncertainty and found it to be negatively and significantly correlated with capital structure too. Bradley et al. found that one of the most important non-debt tax shields — amortization — was significantly and negatively correlated with capital structure. This result is coherent with propositions of the non-debt tax shield theory because it suggests that the expenditures that are tax deductible provide the firm with a tax benefit. They could be represented as alternative sources of finance, relative to debts because they act as substitutes for debt related tax shields. According to the theory of non-debt tax shields, the relationship between the capital structure and the volume of non-debt tax shields is negative, too. However, these results are not in accordance with the expectations of transaction cost economics that uses amortization as a measure of a firm's ability to use its assets as collateral for its debts (Balakrishnan and Fox, 1993). Bradley et al. used the ratio of the sum of depreciation; amortization and investment tax credits to earnings before interest, depreciation and taxes, as a measurement for non-debt tax shields. Balakrishnan and Fox (1993) used the same measure as Bradley et al. Both applied the ratio as a proxy for redeployable assets. The results showed a positive slope and significant coefficient for the variable for non-debt tax shields. Such results are similar to the results of previous research and are consistent with the expectations of transaction cost economics. Amortization is usually proportional to the value of physical assets.

Previous studies used the ratio of R&D and advertising expenses to net sales as proxies for non-debt tax shields, as well as intangible assets of the firm (Bradley et al., 1984; Titman and Wessels, 1988; Balakrishnan and Fox, 1993). Such assets cannot be readily redeployed. Bradley et al. found that the ratio of the sum of advertising and R&D [5] to sales was significantly and negatively correlated with capital structure. Such a measure was used as a proxy for non-debt tax shields and/or the agency costs of investment. Balakrishnan and Fox (1993) used the ratio of R&D expenses to net sales as a proxy for investments in specific assets. The coefficient of the ratio is negative and insignificant. Balakrishnan and Fox (1993) used the ratio of advertising to sales as a measurement of existing specific assets. The coefficient of the advertising to sales ratio is positive and significantly correlated

[5] They calculated the 10-year average expenses of advertising and R&D.

Table 1
Determinants of capital structure[a]: previous results

Variable	Measure	Bradley et al.	Balakrishnan et al.
Volatility (uncertainty)	Earnings volatility	Negative (significant)	
	Earnings volatility and operating income		Negative (significant)
Non-debt tax shields (redeployable assets)	(Depreciation + amortization + investment tax credits)/ earnings before interest, depreciation and taxes	Positive (significant)	Positive (significant)
Intangible assets	(R&D + advertising)/sales	Negative (significant)	
Investments in specific assets	R&D/net sales		Negative (insignificant)
Existing specific assets	Advertising/sales		Positive (significant)

[a] In Bradley et al., capital structure was represented by the ratio: book value of long-term debts/market value of equity. In Balakrishnan et al., capital structure was enlarged: (book value of long-term + short-term debts)/(market value of equity + book value of debts).

with the capital structure that was unexpected and surprising. The discussed results of the previous studies are presented in Table 1.

As one can see, major differences can be found in the results of previous research that are of key importance. Reconciling these differences provided a challenge for our empirical study.

4. Propositions of the interdependence of a firm's assets and its debt ratio from a transaction cost perspective

A central proposition of the theory of transaction costs is that unique, specific factors play a significant role in explaining a firm's debt ratio. This led us to investigate whether there was a relationship between the specific assets and the debt ratio of the firm in a given sample of our empirical investigation. In addition we tested the proposition whether operating profitability is inversely correlated with debt ratio.

We tested the relevance of the following two propositions on the sample we introduce in Section 5:

Proposition 1. *The debt ratio of a firm is negatively associated with its specific assets.*

Proposition 2. *The debt ratio of the firm is negatively associated with its operating profitability.*

Most theories presuppose that it is easier for a firm to borrow financial resources if it has assets that provide a guarantee for lenders. The larger the value of such warranted assets, the smaller uncertainty for lenders. Based on that premise a generic viable proposition was developed[6] that the correlation of the debt ratio of the firm with the value of the

[6] This generic viable proposition was not always supported by empirical results.

firm's specific (intangible) assets is negative. This proposition was accepted by transaction cost theorists. Smaller firms, with small amounts of standard assets and a limited reputation, usually find it difficult to obtain access to institutional finance because of adverse selection [7] and moral hazard problems. The greater the specific assets, the more difficult it is to find the second best alternative usage for the assets. Such assets represent only limited ability or total inability to be used as collateral to increase uncertainty for lenders. Choate (1997, pp. 85–86) argues this position "the debt ratio must decrease with increased specificity. . . . If a firm invests in areas such as research and development or advertising, debt ratios tend to be low".

The costs of R&D and advertising (they could be called as non-debt tax shields) could be thought of as alternative sources of finance relative to debts because they lower the tax base from which taxes must be paid. For these reasons, all the above mentioned items could be thought of as alternative sources of finance, relative to debts because they act as substitutes for debt related tax shields. According to the theory of non-debt tax shields, the relationship between the capital structure and the volume of non-debt tax shields is negative, too. However, this view does not capture the reasoning behind the properties of the assets (Choate). According to Choate (1997, p. 85), increases in operating profitability increase the value of equity so the debt ratio also declines with higher operating profitability.

5. Methodology

The purpose of our investigation was to test whether debt ratios decline with increased asset specificity and with increased operating profitability. We also investigated if there is a negative relationship between the debt ratio of the firm and earnings volatility. We investigated, further, if there is a positive relationship between the debt ratio of the firm and the size of the firm. Because of the latter aim, we added the explanatory variables that measure earnings volatility and the size of the firm in the regression model because they are already known as determinants of the debt ratio and could possibly explain some proportion of the dependent variable. We used the method of classical or ordinary least squares. The estimation was made using the SPSS computer program.

5.1. The sample and data

Enterprises included in the sample were chosen at random from the Slovene Chamber of Commerce Register. The data are available at the following World Wide Web (URL) address: http://www.gzs.si/si/infolink.htm. The data are also available via a CD-ROM. We chose directly from a register of more than 50,000 companies (7000 of them were manufacturing companies). We selected manufacturing firms that had more than 50 employees. According

[7] In the principal-agent framework, adverse selection refers to the principal's problem of being unable to correctly determine the type of agent one is dealing with because of imperfect information. In financial markets, this problem is often encountered by lenders when faced with undetermined types of borrowers; that is, good and bad borrowers (Bell, 1988). Asymmetric information is one of the reasons why lenders exercise credit rationing and, thus, some borrowers who are rejected in the process may face a credit constraint.

Table 2
Population and sample firms with more than 50 employees, by manufacturing sector

SKD[a] activity number	Description of SKD activity	Number of questionnaires sent	Number of questionnaires received	Number of questionnaires used
12	Renovation of uranium ore and Tory ore	1	0	0
15	Production of food, beverages, fodder	72	39	21
16	Production of tobacco products	1	1	1
17	Production of piece-goods	42	19	11
18	Production of clothing, tanning, processing of fur	45	20	11
19	Production of leather, leather products	18	7	3
20	Processing and renovation of wood	54	24	10
21	Production of fibrin, paper and their products	22	9	8
22	Publishing, publications, printing	27	9	5
23	Production of coke, oil derivatives, nuclear fuel	2	0	0
24	Production of chemicals, chemical products, synthetic fibers	36	21	10
25	Production of rubber products and plastic mass	30	30	30
27	Production of metal	15	4	0
29	Production of machines and gears	79	33	11
30	Production of bureau machines, computers	1	1	1
31	Production of electric machines, gears	29	12	7
32	Production of radio and television sets, communication appliances, equipment	22	12	3
33	Production of medical, precision-mechanics, optical instruments	21	10	4
37	Re-cycling processing	1	0	0
	Total	518	251	136

[a] Standard classification of the activities.

to that criterion, we were limited only to incorporated medium-sized and large companies that were required to complete annual statements. We chose at random 19 subareas in the manufacturing sector (Table 2). We obtained addresses and the balance sheet data for each company from the final statements received by the (Slovene) Agency for Payments for the period 1991–1996. Data to determine if the firm was a single business unit were obtained with a questionnaire. Through the questionnaire, we also obtained the costs of R&D and advertising, and the share of the turnover that a company makes with only one activity. The questionnaire was sent to 518 companies, 251 of which responded. Unfortunately, only 187 of the companies represented were single business units. In the end, we could use data from only 136 companies that functioned during the period 1991–1996. We were aware of the short period for observation, but this was the only available period for collection of the required data. Prior to 1991, one could find other types of entities, as the majority of firms went through privatization initiatives during Slovene economic transition. Most large firms prior to 1991 were divided or closed during privatization.

The number of usable questionnaires from companies per SKD classification ranged from 1 to 30, or an average of 9.06 companies per classification. The final sample came from 15 SKD classifications.

5.2. The model and its variables

In the continuation of the research we employed the relationship that is expressed by the following mathematical model:

$$Y_i = \beta_1 + \beta_2 \,\mathrm{SPA}_i + \beta_3 \,\mathrm{PROF}_i + \beta_4 \,\mathrm{VOL}_i + \beta_5 \,\mathrm{EMPL}_i$$

where Y_i is the ratio of the sum of the book value of short- and long-term debts to the book value of assets (the debt ratio of the firm)[8] $i = 1,\ldots, 136$; β_j the regression coefficients $j = 1,\ldots, 5$; SPA_i the ratio of the sum of advertising expenses and R&D expenses to net sales (specific assets). PROF_i the ratio of the sum of net income/loss and amortization, modified for the effective income tax rate to net sales (operating profitability). VOL_i standard deviation of the annual percentage change in operating income (volatility); EMPL_i the average number of employees (the size of the firm).

The variable SPA was used as a measure for specific assets. We used the ratio of advertising expenses and R&D expenses to a firm's revenues in 1996. Data concerning advertising expenses and R&D expenses were taken from the usable questionnaires. With the variable SPA, we tested the Proposition 1. As a variable SPA provided tax deductions, it was expected to be negatively correlated with the debt ratio from the non-debt tax shield perspective, too.

With the variable PROF, we measured the operating profitability (a benefit of operation versus liquidation). In the numerator of the ratio, we took the sum of the net income or net loss and book value of the amortization we increased for the effective tax rate.[9] The amortization and effective tax rate were taken from the income statement for the year 1996. The denominator represented the revenues (sales) in 1996. With the variable PROF, we tested the Proposition 2.

With the variable VOL, we measured the profit variability of a firm as a measure of uncertainty. We calculated the annual percentage change of operating income for each firm for the 6-year period 1991–1996. Then we calculated the standard deviation of the annual percentage change for each firm for a given period. Virtually all of the models predict that uncertainty will be negatively related to the debt ratio. So our expectation was that the estimated regression coefficient of the explanatory variable VOL would be negative. The greater the standard deviation, the greater the uncertainty and the less ability the firm would have to borrow its required financial resources. From a strategic point of view, this might be important, as the firm would be forced to invest in assets with very uncertain payments to assure its competitive advantage.

[8] We recognize that usage of the market value of both debts and equity would be optimal, however, we could not get market values of the data. Bowman (1980) argued that differences in the results of using book values compared to market values were not essential at all. In Slovenia, the stock market is very small. The trading volume through the Slovene Stock Exchange is negligible. Banks are the most important source of financing. For interested readers, we have added an Appendix A with information about the Slovene accounting system. We should note that the firms in the sample were medium-sized and large. Those firms are comparatively bigger firms whose balance sheets and income statements are mainly revised by international reviewing houses, such as Deloitte and Touche, Ernst and Young and KPMG.

[9] For each firm, the amount of profit and paid income tax was taken from the income statements. The effective income tax rate was calculated and multiplied by amortization. If a firm's profits were zero, the effective tax rates were zero too.

We added the control variable EMPL for the size of the firm. The average number of employees represents EMPL. The slope of the variable EMPL was expected to be positive. The larger the number of employees, the bigger the firm (with more assets), the more debts a firm could have (Hart, 1995).

6. Results

The results are presented in Tables 3–5. The regression had an adjusted R^2 value of 0.132. The model is significant beyond the 0.001 alpha level of significance.

The variable SPA has a negative coefficient of −1.461 at a 0.013 level of significance (t-statistic = −2.51). With SPA, we tested the Proposition 1 that presupposes a negative relationship between the specific assets and an ability to borrow. Such result is similar to the result of previous research of Bradley et al. We confirmed the proposition that firm-specific assets should be financed with equity.

The variable PROF has a negative coefficient of −0.539 and is significant at a 0.001 level of significance (t-statistic = −3.3). With the variable PROF, we confirmed the Proposition 2 that presupposes a negative relationship between operating profitability and the debt ratio.

Table 3
Multiple regression results

	R	R^2	Adjusted R^2	Standard error of estimate
Model	0.398	0.158	0.132	0.1980

Table 4
Analysis of variance

Effect	Sums of squares	df	Mean squares	F	P-level
Regression	0.965	4	0.241	6.153	0.000144
Residual	5.134	131	3.919E−02		
Total	6.099	135			

Table 5
Regression coefficients

Model	Unstandardized regression coefficients		Standard coefficient	t-statistic	P-level
	β	S.E.			
Intercept	0.400	0.024		16.560	0.000
SPA	−1.461	0.581	−0.222	−2.514	0.013
PROF	−0.539	0.163	−0.273	−3.300	0.001
VOL	−3.549E−06	0.000	−0.100	−1.249	0.214
EMPL	1.254E−04	0.000	0.277	3.170	0.002

The variable VOL has a negative coefficient of −3.549E−06 and is insignificantly related to the debt ratio of firms. The negative sign is consistent with the theory of transaction costs and the arguments of the theory of business uncertainty (theory of bankruptcy costs, agency costs). The greater the volatility of the business, the greater the standard deviation and the greater the uncertainty of a lender. The negative sign of the slope is in accordance with results of previous studies of Bradley et al. (1984) and Balakrishnan and Fox (1993) except for the significance.

The variable EMPL has a positive coefficient of 1.254E−04 and is significant at a 0.002 level of significance (t-statistic = 3.17) and consistent with our expectation.

The model we used sufficiently explains the variability of the debt ratio of a firm. Based on our results, we can conclude that asset specificity is correlated with the ability to borrow. The debt ratio of a firm reflects strategic and control factors. What is needed is a governance structure that, in the presence of incomplete contracting, can produce the desired result. Investors seeking to minimize governance costs are led to employ an optimal promised debt payment which is a function of asset specificity, and which results in an optimal capital structure. The financing decision comes into play, because both debt and equity finance represent a distinct governance structure, each offering alternative ways, at differing costs, of achieving proper managerial decisions.

From the results arise persuasive evidence that a firm finances its specific assets with equity capital to prevent later difficulties, to avoid opportunistic behavior and to preserve its competitive position.

7. Conclusion

We have engaged in investigating the importance of unique, firm-specific factors in explaining the variability of a firm's debt ratio. According to the results of our investigation, it is apparent that a firm's ability to borrow and its capital structure are interrelated with the business strategy of the firm and the attributes of its assets. Our empirical research should be added to the previous research of transaction cost economics that deal with the transition from one to another governance mechanism. The message of this study is that it would appear advisable to finance a firm's specific assets by use of its equity, for its transaction costs would be lower than if the assets were financed with debt. With a properly chosen governance structure, which forestalls or attenuates potential future conflicts, the reduction in transaction costs is warranted in advance. Different governance structures emphasize arrangements that reduce transaction costs.

The results confirm that assets impact the choice of a source of finance. Firm-specific effects are important determinants of variability in a firm's capital structure. If there is an optimal capital structure, it is a consequence of asset specificity, its sources and relationships. It is essential for a firm to develop and preserve strategic competitive advantages by creating unique and special assets, which are crucially conditioned upon selection of appropriate sources of finance (Balakrishnan and Fox, 1993). Choosing a source of finance should not be left to chance, but should be conditioned upon a firm's strategic determinants.

Appendix A. Slovene accounting standards

Slovene accounting standards (SASs) are based on the Code of Accounting Principles adopted by the Slovene accounting profession on 29 June 1989. The SASs deal in great detail with accounting principles concerning the recording and processing of accounting data, the formulation of financial information, and the presentation and maintenance of accounting data and financial information. The SASs are primarily oriented to the accounting operations of incorporated companies, but are used by other enterprises too. The SASs provide a useful basis for the treatment of certain tax legislation though they themselves do not address the process of calculating and preparing tax returns.

Detailed SAS solutions emanated from the mandatory framework of the International Accounting Standards prepared and issued by the International Accounting Standards Committee in London, as well as from the Directives of the European Community. With respect to the latter, special reference was made to Directives IV and VII. When the SASs were prepared, both domestic accounting theory and practical experience, as well as expertise developed in some other countries, were drawn upon. Particular importance was placed on the accounting standards developed by the Financial Accounting Standards Board in the US, as well as on the standards devised by the Institute of Chartered Accountants in UK and Wales.

Regarding valuation, we should clarify that on the effective date of the balance sheet, the value of tangible and intangible fixed assets and inventories should be restated as maximum replacement cost or net realizable value and current costs. The upper limit for these assets should be established on the basis of the retail price index. Every month, the depreciation rate and the average cost of material per month should also be established. Similar treatment should apply to investments, receivable and liabilities, where the upper limit should be based on a retail price index, but here the current value and/or contractual value is adequate.

On the balance sheet, tangible fixed assets are disclosed exclusively at their net carrying amount, which is the difference between the costs of purchase and accumulated depreciation. The net carrying amount of an individual tangible fixed asset cannot exceed the value that can be recovered in its residual useful life, that is its fair value on the effective date of the balance sheet.

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