PECKING ORDER AND TRADE-OFF THEORIES IN FORMING CAPITAL STRUCTURE: AN IMPLEMENTATION IN TEXTILE INDUSTRY IN THE WEST MEDITERRANEAN REGION OF TURKEY

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Abstract

Increasing competitive environment's pressure on business organizations during globalization process and after it prompts finance managers to be more cautious about business financing and establishing capital structure.

Capital structure decisions change capital components of business organizations and thus become more important in terms of decreasing capital cost and increasing firm value. Modigliani's and Miller's approach towards capital structure are the most outstanding ones among the studies related to this issue. It seems that this approach was adopted intensely first and developed by other studies which were done later; even from its drawbacks new capital structure approaches have been suggested.

Since bankruptcy and agency cost, arising from excessive borrowing, and asymmetric information problem affect capital cost and firm value, they should be taken into account at least as much as tax advantage provided by the loan for establishing capital structure.

In this paper, we tried to form a frame for capital structure at first and then mentioned about trade-off and pecking order theories on establishing capital structure. In the next stage, we referred to previous studies in literature concerning approaches adopted for establishing business organisations' capital structures. In the last part, a field research, relating to the importance of factors which are taken into account while establishing capital structure in textile businesses, was applied, and analyses regarding the determination of current situation of active business organizations were done.

We also applied face-to-face survey method in this study, and the analysis was carried out by subjecting hypotheses to t-test and chi square test with the help of SPSS packaged software.

Keywords: Capital Structure, Pecking Order Theory, Trade-off Theory

Jel Classification: G32, G00

Introduction

A great deal of theoretical and empirical studies made on forming capital structure of business organizations indicates that the issue is one of the most discussed ones in finance literature. A business organization needs certain amount of capital to be established and maintained. The discussions, arising from forming capital structure which represents division of business organization’s total capital requirement between equity capital and debt, are based on capital structure theories of Modigliani-Miller in general.

The studies done on the issue has brought about discussions arising from two different approaches on whether is it possible to achieve optimal capital structure through changing capital structure of business organizations and thus whether it can change average capital cost and firm value. While one of the approaches is claiming that the level of debt use in business organizations affects enterprise risk, expected income, average capital cost and so its enterprise value, the other is arguing that the decisions relevant to capital structure of business organizations are independent from enterprise value and average capital cost.

Various research were carried out to explain what do business organizations give importance to while forming their capital structure, the reason behind some organizations’ excessive indebting or to explain why type of borrowing differs from one organization to another and many studies were done to determine optimum capital structure. Mainly two approaches came out of these studies. Regarded among new capital structure theories, “ Trade-off Theory” and “Pecking Order Theory” have become important theories among those about capital structure. Except for the mentioned theories, effects of taxes, bankruptcy cost and agencycost on capital structure of business organizations have been examined.

Business organizations, while forming their capital structure, have to make a choice between equity and debt and alternative financing sources through taking macro economic conditions, characteristics of the industry in which they are operating and some factors peculiar to their organization into consideration. Optimum capital structure for the organization can be determined only through taking into account the advantages and disadvantages of funds provided to the organization by debt and equity capital.

In light of the developments mentioned above, first, we will form a general theoretical framework about various studies in literature done on capital structure and establishing capital structure, secondly, we will make some explanations about trade-off theory, regarded as an extension of Miller-Modigliani today, and about pecking order theory, as an anti-thesis, and later some information will be given about the results of previous studies.

Finally in our study, the field researches, implemented towards finding out what types of approaches for capital structure were adopted in determining capital structure by business organizations operating in textile sector, and the analyses, made to measure attitudes of business organizations towards borrowing, shall be presented.

1. Capital Structure and its General Scope

All business organizations need capital to maintain themselves. Finance managers should decide on how they will increase their business capital. It is possible to mention about various capital sources for business organizations. These are; short term bank credits, long term private sector bonds, issuing of shares, and preference shares (Rao, 1989; 427).

In addition to acquirement of necessary funds, finance managers should decide upon what kind of finance sources they will be provided from. Similar to the statement above, the borrowing and equity capital are main two sources from which business organizations raise fund. Business organizations' decision on how much of their fund requirement will be met by borrowing or equity capital has always been a matter of discussion in finance literature. (Ceylan, 1995; 213).

Capital structure can be defined as a combination of borrowing and equity capital used in financing business organizations' projects. However it is needed to get a good mix of borrowing and equity capital because determination of right capital structure depends on taking a few factors into account. If the firm prefers to finance its own activities more by borrowing, then the interest rate of credit institution gains importance. (Peterson, 1994; 592).

If the business organization inclined to projects, of which return is higher than the cost, leverage might appear. Therefore it is may be suggested that finance managers, while forming their capital structure, should search for the most proper alternative for the business, and as for financing of investment projects they should tend to preferences which do not spoil that structure. The concept of "optimum capital structure" is derived from the fact that business organizations' attempts towards establishing the most convenient capital structure to maintain themselves.

The capital structure maximizing business organization's value can be defined as "optimum capital structure" (Rao, 1989; 427). Decisions on capital structure require a balance between risk and profitability. The rise in borrowing increases enterprise risk and since it is lower cost than equity capital it also increases business profitability. Thus, optimum capital structure appears before us as a structure balancing between risk and profitability caused by the use of different sources and maximizing market value of business organization through minimizing capital cost (Acaravcı, 2004; 5). When optimum capital structure has been achieved, minimizing capital cost will help maximizing market price of business organizations' shares.

2. Different Approaches on Capital Structure

The theories developed on optimum capital structure will guide business managers in building up their optimum capital structure when they have understood these theories.

The most debatable topic in finance literature is that whether is it possible to maximize firm value through changing financial leverage of business organizations.

The study of Franco Modigliani and Metron Miller, which was published in 1958, is regarded as the beginning of theoretical studies on capital structures of business organizations. Named as MM shortly, this approach claims that there is no relation between financial leverage use of business organizations and capitals cost, like the approach of net operating value. According to MM, firm value is always the same even in different capital structures.

To support this view, MM also set forth a number of hypotheses.(Brigham, Gapenski, 1997; 620,621).

According to MM's approach;

a) Problem-free information is at issue in capital markets. Investors reach at this information about market easily and for free. All investors can purchase securities at the same price.

b) Probability distributions of expected operating revenue and current operating revenue are same. (Ceylan, 223).

c) Business organizations are classified according to similar risk categories. Risk levels/rates of business organizations placed in the same risk category are same.

d) Tax effect is not included in the model. No tax is paid on income. (Acaravcı, 12). But this assumption/hypothesis was left later.

According to MM, when investors have sold shares in their portfolio by arbitraging and buy more profitable shares for them instead, they will allow business organizations to achieve similar market value even if they have been financed differently or have different total market values.

If any business organization changes its capital structure by cheap external source and increases its market value, then investors, thanks to arbitrage, shall invest in the business organization with lower financial risk in the same risk category in an entirely competitive environment. So, the increase in shares of the business organization with lower financial risk in the capital market will become balanced with the shares of other organization.

In all of the approaches, explained above, tax was not taken into account as well. However, the recent situation, which is valid for today and explains the relation of capital structure-firm value, is the integrated state of MM with financial distress and agency costs. (Ercan, Ban, 236).

Bankruptcies lead to assignment of firms to creditors and their being new owners of the firm. Financial distress costs can be expressed as the coming out of a number of hard conditions which business organizations may encounter and which may lead to bankruptcy. (Ercan, Ban, 2005; 238).

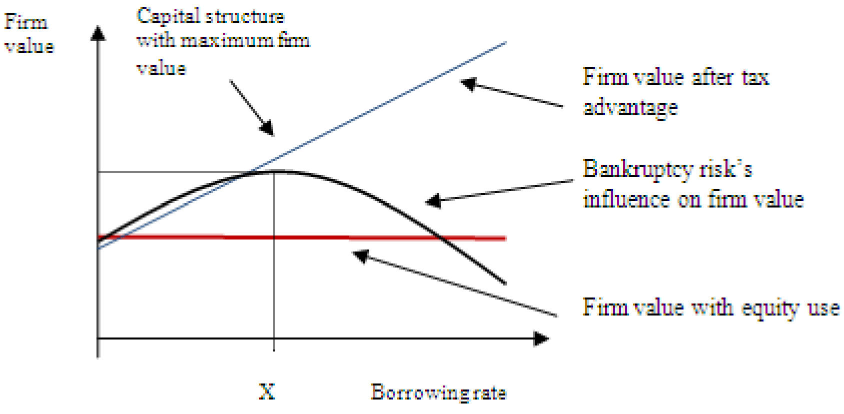
In MM approach, with the argument that there is no relation between capital structure and borrowing cost, it has been claimed that credit institutions will continue to provide credit with the same cost even when business organizations have changed their capital structure in favor of borrowing. Yet, possible bankruptcy risks, which business organizations may face, will increase fund costs to be provided by credit institutions, and this will lead to an increase in capital cost. In other words, a rise in leverage rate, increases bankruptcy possibility and bankruptcy costs.

The claims arising from debts of business organizations will cause to extend collection process preventing asset's turning into cash and thus assets of the organization may suffer from this situation physically. A number of law suit and lawyer costs will also cause to a decrease in firm value (Curtveli, 2005; 30).

The firm value in business organizations is affected from tax advantage provided by borrowing interest and from bankruptcy costs arising from borrowing. If the leverage level of business organization has been increased (borrowing more than equity financing) the firm value rises. Concordantly, an increase in direct and indirect bankruptcy costs by borrowing will decrease firm value. Therefore, it is extremely important to have a balance between tax advantage and bankruptcy risks. (Peterson, 618).

On one hand the tax advantage, provided by increasing level of borrowing, is increasing firm value, and on the other hand the increase in bankruptcy costs, will lead to a decrease in firm value after at a certain point. The influence of borrowing on firm value against bankruptcy costs and tax advantage has been illustrated in figure 1.

Figure 1: Firm Value with Tax Advantage and Bankruptcy Cost



Source: PETERSON P. Pamela, Financial Management and Analysis, McGraw-Hill, 1994, p.618

As it is shown in the figure, forming capital structure with equities only does not affect firm value. While the increase in financial leverage level of business organizations is enhancing firm value by tax advantage, possible bankruptcy risks lead to deceleration in firm value after a certain point.

“Representations Costs” which can be considered as another factor influencing firm value are also a matter that business organizations should take into account. Particularly, after mass production process along with machine-intense working, the number and diversity of interest groups looking for business organizations have increased. In the recent years, the mergers and out coming concept of multinational business made it necessary for business organizations to consider agency costs in forming their capital structure.

Since the concept of professional manager has been adopted and the features of management and ownership have not been a characteristic of a business owner, this brought some kind of clashes and costs along with itself.

Agency costs can be mainly be defined as the costs deriving from the clashes between shareholders and managers of the business organization. Efficiency loss costs, follow up and monitoring costs etc. are named as agency costs of business organization. The existence of agency costs decreases the advantages of borrowing and affects firm value negatively (Ercan, Ban, 239).

Agency costs will also decrease firm value after a certain point like bankruptcy costs. So, it can be claimed that both bankruptcy and agency costs decline the tax advantage provided with borrowing and thus firma value is affected by these factors negatively.

Plenty of studies were done criticizing MM’s approach which argues that capital structure does not affect firm value. The common feature of these studies is their argument that finance structures and capital costs of business organizations are influenced due to imperfect information in capital markets.

One of the reasons behind the imperfectness in capital markets, as it was mentioned above, is the agency costs originating from clashes particularly between business managers and shareholders. Another reason for imperfectness is asymmetric information. (SPK, Araştırma Dairesi Raporu, 1).

Asymmetric information, in the most common sense, refers to any information imbalance between demanders of a property or service and suppliers of those. When a party has knowledge/information about any operation and the other not, then this leads to some opportunist behavior. So, even if there existed an entirely competitive market, the markets would be away from balance (Erdoğan, 2004; 1).

In MM approach, it is argued that business organizations may tend to similar sources relevant to similar costs due to their existence in an entirely competitive and perfectly operating market and thus that the changes in capital structure can not influence capital cost. Yet, today there are a lot of factors preventing perfect operation of markets even in developed countries. Asymmetric information eliminates source substitution which has similar characteristic to each other while forming capital structure of business organizations. For this reason, the business organizations are able to establish their capital structure in imperfect markets only through being aware of asymmetric information (SPK, 5).

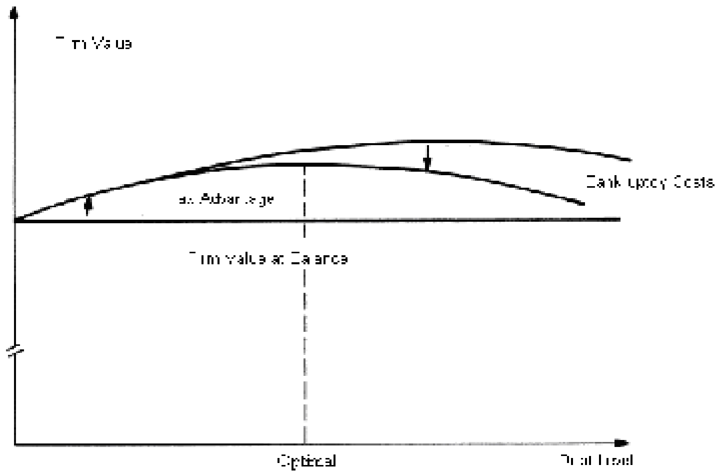
Since the intermediaries, funding business organizations through financial markets, do not have information about the investment project, which they will finance, as much as the organization, they determine their credit interest adding premium to it in order to meet the risk arising from this lack of information. Thus, their non-preference of high cost external sources avoids efficient investments. In the countries facing such conditions, business organizations prefers to meet their fund needs with equities rather than external source. (SPK, 6).

When we add tax advantage, bankruptcy and agency costs to MM approach, there appears the trade-off theory before us. The trade-off theory is simply based on the balance between tax saving from debt interest and the costs of borrowing, which must be ensured by business managers while deciding about capital structure. In this theory, cost&benefit balance, which is to maximize firma value, is taken into consideration while establishing optimal capital structure.

In Trade-off Theory; Business organizations define optimum borrowing rate considering benefits and costs of borrowing. That bankruptcy costs overcome the benefits of tax advantage in the mentioned borrowing can make the value of tax advantage a matter of discussion (Myers, 1984; 577).

The balance between tax advantages of borrowing and financial distress costs is achieved in maximizing the firm value valid at the time when the organization discovered that it had incurred excessive debt. As it can be seen below, in this theory tax advantage of borrowing and bankruptcy costs have intersected at a certain point. (Shyam, Myers, 1999; 220).

Figure 2: Optimal Capital Structure in Trade-off Theory



Source: MYERS C. Stewart, The Capital Structure Puzzle, The Journal of Finance, Vol. 39, 1984, s.577

In this theory, it has been emphasized that business organizations can maximize firm value thorough preferring external sources and that the bankruptcy costs which have come out with borrowing will balance out capital structure. It has been expressed that resulting benefit&cost balance will spoil along with the increase in borrowing level and thus that there will be a decline in firm value of the business in line with this. Another point which has been emphasized in the theory is that business organizations may have different borrowing structures due to the sector they serve in and for this reason, the said balance will differ from one business to another.

Static trade-off theory is under the dominance of optimum capital search. For example, when the firm has discovered that it incurred excessive debt, time optimization incident requires a balancing between tax advantage of borrowed money and financial distress costs. The business organization will equate profit and cost at margin after maximizing its firm value. (Shyam, Myers, 1999; 219, 220).

In the trade-off theory, the business organization determines a target capital structure and begins to perform in line with this. So, resulting optimum capital structure will minimize the mentioned costs while maximizing the firm value. The trade-off theory on forming capital structure emphasizes that the targeted debt rates may differ from one organization to another. (Curtveli, 32).

The abundance in business capital elements not only removes the organization's risk of non-fulfilling liabilities originating from indebtedness but also cause to a decrease in profitability of the business organization. Therefore, particularly small and medium sized enterprises should set up a balance between debt and equity. The basic point emphasized in the theory is that this balance presents difference among sectors because business organizations have distinct borrowing levels due to the difference in industries.

While one of the most important arguments of this theory was that firm value and profitability would increase if indebtedness was raised to a certain point, in practice it has been observed that big and profitable organizations tend to borrow in low levels. At that point, this theory remains incapable of explaining why big and profitable organizations use less borrowing.

Pecking Order Theory; It is one of the most known theories on company financing. The theory, pioneered by Myers (1984), refers to manager's preferences in finding out sources to meet finance need. According to the theory, business managers prefer internal financing to external financing, and when internal sources are not enough they prefer financing by means of borrowing. (Lin, Hu, Chen, 2007; 2)

Pecking order theory, which can be regarded as an approach against trade-off theory, emerged in 1961 with the studies carried out by Donaldson (Myers, 1984; 581). In this theory, a hierarchy has been stated which is preferred by organizations for their finance decisions. Since equities have lower cost than borrowing or issuing shares in particular, a hierarchical order from internal sources to external ones come along with that.

If internal sources fall short in financing the investment, business organizations need to make a choice according to risk degree of the source (Myers, 1984; p 580)

According to the pecking order theory, argued by Myers in 1984, the sources to be used to meet financing need of organizations are ordered as follows (Myers, 1984 ; s 581);

1) Business organizations prefers to financing with equity at first hand,
2) Dividend rates of them are determined in comply with investment opportunities,
3) The cash flow as a result of fluctuations occurred during profitability of organizations may be more or less than expenditures made for investment. As a result of this, the business organization can perform two different operations such as dragging down security portfolio or increasing the ratio of dividend payment,
4) If equities are inadequate and if there is a need for external sources, the organization prefers to issue bond at first, then convertible bond in need, and shares finally.

Except for costs of share issuing at present, business organizations hesitate to issue shares especially due to the asymmetric information in the market. Under-evaluation of issued shares of the organization by the market may require retreat in evaluation of investments with positive net current value. (Erkan, Aydemir, 2006; 132)

3. Literature Review

In many experimental studies done about establishing capital structure, as regarding pecking order approach, some findings have been observed that managers are tend to follow a hierarchical order in business financing.

With his study in 1984, MYERS suggested that pecking order preference come out because of information asymmetry between firms and capital market, and this view was supported by mixed findings of other studies carried out later. Frank and Goyal(2003), Shyam-Sunder and Myers(1999) also obtained such results from their studies.

A similar study was performed by Graham and Harvey in 2001, and as a result of the field research, it was found out that managerial optimism lye under pecking order preference in financing decisions.

Lin, Hu and Chen(2007) carried out studies on the relation between pecking order and managerial optimism in order to meet the need for that in literature. In the study, they used financial data to test how satisfactory was managerial optimism for external financing decisions. As a result of the study made in Taiwan, it was concluded, in line with the previous studies, that optimistic management is effective in pecking order preference. Managers' consideration of shares, by which they plan to make investments, as investment tools because of their optimistic attitude will decrease firm value in the case that these investment instruments are under-valued by the market, thus it is revealed that optimistic managers in the market adopt pecking order approach.

Otherwise, in the case that business managers issue shares optimistically, it may lead to under-evaluation of these shares by the market and to benefit of which cost has been charged on partners.

With the study implemented on SMEs in Australia, Cassar and Holmes(2003) defined the variables to be taken into account while determining capital financing sources and capital structure.

Also in the study realized in Turkey, Erkan and Aydemir(2006) tried to reveal financing preference of SMEs in the country, and concluded that these manufacturing facilities are tend to behave in a similar way to pecking order approach.

4. Capital Structure Implementations in Textile Industry

4.1. Aim of The Research

The aim of this research is to determine the approach adopted by business organizations operating in textile sector while establishing their capital structure, and to set significance level of factors which they consider while using external sources.

4.2. Scope, Method of the Research and Data Source

The scope of the research is made up of the textile facilities operating in West Mediterranean Region of Turkey. In the study, there is a limitation in terms of sectors; only manufacture and commercial facilities operating in textile sector were included in sampling.

Face-to-face survey method was applied in obtaining basic data to be used in the research. Erkan and Aydemir(2006)'s questionnaire, which they implemented on facilities in Turkey, was used while preparing our survey form. Random sampling was applied in the survey and the acquired data was analyzed by Spss 15.0 packaged software. This survey was done in 97 textile facilities operating in the West Mediterranean Region and only 77 survey questionnaires to be worth of analysis were obtained.

4.3. Findings of the Study and Their Analysis

In the study, in line with the answers of textile facilities included in the sampling, the results obtained about the distribution of sources in determining capital structure are stated below.

4.3.1 Demographic Features

Among the facilities included in the sampling, 54,5% of them are family-owned enterprise. Also, it was determined that 100% of the facilities, 75% of which are regarded as SME considering their number of employees, shall be described as SME considering their sale turnovers which are to be evaluated with Basel II regulations. When we classify these facilities within the sector, 77,4% of them are manufacturing facilities and the rest 22,6% are in retail and wholesale trade.

53,2% of the facilities under scope of the study are involved in export business. Besides, export level of 61,9% of the facilities dealing with foreign trade in proportion to total sales is 1% up to 49%.

4.3.2. Financing Options for Forming Capital Structure

The facilities under study were asked to state the sources which they use while forming their capital structure according to order of precedence, and thus Myer's pecking order theory was tried to be tested.

As it is seen in the table the sources, used by facilities during capital structure forming and their order of precedence, brought out evidence supporting pecking order theory.

These facilities gave answers like that they prefer internal sources primarily, but head for short or long term external sources whenever their internal sources fall short, and that they prefer to use capital market as a final choice.

Table 3.1. Financing Options in Capital Structure

	Average	Source I	Source II	Source III
Internal Sources	1,096	67	5	1
External Sources	2,150	5	47	15
Use of Capital Market by Share Supply	2,778	3	9	50

In establishing capital structure, 91,8% of the facilities , included in the study, indicated that they use their internal sources as the first choice in their financing decisions, 77,6% of them stated that they prefer external sources as the second option. Again, due to high costs of entering capital market and issuing securities, 98,4% of the facilities expressed that they do not tend to issue shares.

In the study, it was found out that the facilities in sampling do not behave like optimum debt&equity combination which is similar to trade-off approach, on the contrary that they perform activities supporting pecking order theory.

In the study, the reasons, behind why external sources are not preferred, are tried to be revealed with a research directed towards determining underlying factors of why facilities do not adopt trade-off theory despite the fact that they are trying to fulfill requirements of trade-off theory in using external sources.

In trade-off theory, it has been mentioned that business organizations need to compare benefits and costs of borrowing in order to achieve optimum debt&equity structure. With the questions asked to measure attitudes of business organizations, not behaving in accordance with trade-off theory, towards borrowing, one-sample t test was applied, and it was determined whether there was a difference between realized averages and expected ones through the answers given by the participators.

While deciding on the use of external sources, one of the most significant factors which is taken into consideration by the facilities under scope the study is the fluctuations in cash flow occurring during that period. The importance attached to this factor by participator is 4,29 in likert scale of 5. Similarly, it is observed that facilities leave aside external sources due to bankruptcy risk to be faced because of not paying debts. The average point of that factor is 4,01.

When we look at the factors making use of borrowing desirable, financial leverage effect of borrowing was indicated by the participators as the most important reason by 4,09 behind their resort to borrowing. This is followed by tax advantage of external source by 3,80.

The basic reason of why business organizations head for pecking order theory rather than trade-off theory is that they are concerned about the costs of borrowing more than its advantages. Since the facilities included in the study are of SME type, they have a limited area of movement in the issue of reaching at external sources.

Also, the results of T test came out as we had expected. The attitudes of facilities towards bankruptcy costs, financial leverage and tax advantage, which are the principal factors in literature, resemble our expectations.

Based on the assumption that consideration level of these factors is important, as a result of the t test realized by 95% confidence interval with the expectation that the answers to questions would be 4 on average, sig. value of importance attached to bankruptcy risk is 0,908 to financial leverage is 0,307 and to tax advantage is 0,091.

Considering that the results are above 0,05, it was reasoned that there is no significant difference between realized averages and expected ones in 95% confidence interval.

5. Conclusion

Various studies made on forming capital structure bring the issue to take on different dimensions day by day. Particularly regarding sectoral features of the facilities, in our study based on the idea which variables could be taken into account while determining capital structure, the textile facilities operating in the West Mediterranean Region have been analyzed.

At the end of the study, it was discovered that our sampling, made up of SMEs most of which allot their assets by internal sources, tries to fulfill requirements of trade-off theory while establishing capital structure.

Although they are taking benefits and costs of borrowing into consideration in order to maximize firm value, it is an undeniable fact that they can not head for external sources due to various reasons.

Another issue, having been determined, is that SMEs are much more worried about fulfilling requirements of external sources because of their smaller size.

Besides, along with the desire of credit institutions to implement Basel II capital adequacy regulations, it was unveiled that SMEs incline towards internal sources instead of external ones and that they fulfill requirements of pecking order in determination of capital structure.

The use of external sources have become of secondary importance for business organizations due to asymmetric information problem in the markets and unreal information in financial tables prepared by business organizations.

Finally, similar to Erkan and Aydemir(2006)'s study conducted on the enterprises in Turkey, it was found out that the textile facilities operating in the West Mediterranean Region also adopt pecking order approach in forming capital structure.

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