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Research Article

Dynamics of conservative financing policy: An empirical analysis on listed Turkish firms*

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ABSTRACT

Despite being in operation for roughly forty years, Turkish stock market is an emerging market with a limited number of listed firms mostly controlled by a family or a business group. The analysis regarding non-financial firms listed on Borsa Istanbul over the fifteen-year period indicates that the vast majority of these firms are reluctant to debt financing, and a remarkable rate of them exhibit a conservative financing bias. However, this behaviour has been ignored in previous researches since the focus was primarily on capital structure and its determinants. Besides, prior studies on conservative financing policy broadly deal with the issue by investigating the financing behaviour of the firms from advanced economies, especially the UK and the US. In this regard, this paper aims to provide a new perspective to the debates on conservative policy by presenting evidences from an emerging economy that experiences frequent crises. The results indicate that cash reserves, cash flows, dividends and ownership concentration have a strong impact on adopting a conservative policy for Turkish firms. The cash flows and dividends also play an important role in maintaining this policy. However, contrary to common findings, macroeconomic conditions do not appear to have a direct impact on it.

Keywords: Conservative Financing Policy, Capital Structure, Ownership Concentration

1. Introduction

Established in 1985, roughly forty years of operations, Turkish stock market is an emerging market with a limited number of listed firms, and families are still the major shareholder of those companies. Besides, over the same time span, Turkish economy has faced many financial crises with frequent boom and bust cycles. On top of country-specific crises, capital markets and exchange rates are frequently affected by global and regional crises due to geographic confusions, trade imbalances, wars in close proximity and domestic turmoils. As expected, these conditions have a great impact on firms' financing decisions. Indeed, the analysis regarding non-financial firms listed on Borsa Istanbul over the fifteen-year period indicates that the vast majority of these firms are reluctant to debt financing, and heavily rely on equity. Furthermore, a remarkable rate of them follow a conservative financing policy. However, previous researches on Turkish firms have primarily focused on capital structure and its associated determinants so that missed this conservative behaviour (for details see Ozkan, 2022). Hence, this study adds a new dimension to conventional capital structure debates in Turkiye focusing on this conservative financing policy and

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its determinants. On the other hand, prior studies on conservative financing policy broadly deal with the issue by investigating the financing behaviour of the firms from advanced economies, especially the UK and the US. In this regard, this paper also aims to provide a new perspective to the debates on conservative policy by presenting evidences from an emerging economy that experiences frequent crises. Within this context, this study purposes to detect the main factors that lead Turkish firms to adopt a conservative financing policy in the light of main capital structure theories, and their compatibility with the findings of prior researches. It also evaluates the effects of the crisis-producing nature of Turkish economy on this policy.

The paper is organised into four main sections. The first section reviews the related literature and briefly addresses the findings of previous studies. It also explains the firm-specific variables based on the predictions of main capital structure theories. The following section outlines the data and the methodology. The next section represents the results and their assessments. This section also presents the analyses regarding the impacts of macroeconomic factors and the switches in financing policy. The final section comprises concluding remarks as well as limitations, and recommendations.

2. Conceptual Framework

2.1. Main Capital Structure Theories and Evidences

Firms can finance their investments with internal funds, debt, equity and a balanced or unbalanced mixture of these. Modigliani and Miller (1958) claim that firms are indifferent to the allocation of capital between debt and equity since the value of the firm depends on its cash flows and investment policies. Their proposition based on the assumption of the perfect capital market conditions with no investment and financing constraints as well as transaction costs. Nevertheless, there are many factors affecting financing decisions and capital allocation in real market conditions so that different models have been developed to clarify the determinants of capital structure choices. Three main theories have been widely accepted to explain the capital structure decisions of firms. Firstly, the trade-off theory is based on a trade-off between the tax advantages of debt financing and the costs of financial distress, which stems from failure to meet debt obligations (Kraus & Litzenberger, 1973). The tax deductibility of interest payments called tax shield considered as the primary advantage of debt financing. Besides, DeAngelo and Masulis (1980) draw attention to substitute tax shields such as depreciations, amortizations and investment tax credits for debt that may lead to financial distress and bankruptcy. The theory trade-off postulates that firms determine their optimal or target debt ratio by weighing marginal cost and marginal benefit of borrowing. Alternatively, the pecking order theory claims that firms follow a financing hierarchy instead of setting optimal ratios. In this hierarchy, internally generated funds are firstly preferred, and debt is preferred over equity when external financing is required. Myers (1984) posits that firms follow this order to reduce the costs of asymmetric information and financial distress. Myers and Majluf (1984) suggest that firms should restrict dividends when investment requirements are modest and do not pay dividends if they have to recoup it by issuing risky securities. Thus, they can build up a "financial slack" and do not miss out valuable investment opportunities (Myers & Majluf, 1984). On the other hand, the agency theory focuses on the conflict of interests between shareholders and managers together with debtholders, and it seeks an optimal debt ratio which mitigates the costs of these conflicts called "agency costs". Jensen and Meckling (1976) argue that agency costs mainly stem from the separation of ownership and control. Jensen (1986) asserts that conflict of interests is particularly severe when the organisation generates substantial free cash flows that can be invested in the interest of managers and shareholders alike. Thence, debt seems to be a beneficial tool to lessen agency costs by creating pressure on the use of free cash flows and reducing its amount through interest and principal payments (Jensen, 1986). Jensen and Meckling (1976) claim that an optimal capital structure can be obtained by the trade-off between the agency costs of debt and its benefits. On the other hand, Easterbrook (1984) argues that dividend is also useful in reducing agency costs since it reduces the funds under managers' control and causes managers to confront the risk of being monitored by the capital markets due to new capital requirements.

Previous studies on conservative and ultra-low leveraged firms provide evidences for the predictions of each theory. For instance, in their analysis on US firms, Minton and Wruck (2001) find that conservative firms maintain a pecking order style financing policy as long as their cash balances and internal fund flows are relatively high, whereas discretionary expenditures are low. However, they drop this policy and increase leverage when they have lower internal funds and higher investments. In another study comprising UK firms, Iona et al. (2004) point out that the likelihood of pursuing a conservative policy is positively related to the firm's profitability, consistent with the

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predictions of the pecking order theory. They also reveal that firms with greater growth opportunities tend to exhibit a persistent conservative behaviour. Bigelli et al. (2014) reach similar results for Italian firms. They state that firms are more likely to be conservative if they generate more cash flows, and make lower current investments. However, firms drop conservative policy when they experience a decrease in their cash flows, and undertake more current investments or decide to pay more dividends. Their findings also show that reduction in the tax benefits of debt increases the probability of following a conservative policy, consistent with the trade-off approach. Sánchez-Vidal et al. (2020) reach supportive evidence for pecking order theory in their investigation on Spanish firms, representing that firms are conservative because they are more profitable, accumulate debt slack and can grow more in one or two years. Although not sufficient in number, emerging market studies mostly support these evidences. For example, in their study comprising Pakistani firms, Yasmin and Rashid (2019) point out that financially conservative firms are more profitable, less risky, and pay higher dividends than their non-conservative peers. Their results also reveal that conservative firms prefer to rely on internally generated funds as predicted by the pecking order theory.

Researches on ultra-low leveraged firms point out similar outcomes but also different aspects. For instance, Strebulaev and Yang (2013) state that family firms are more likely to use debt conservatively and follow a zero-leverage policy since their shareholders and founders care more about maintaining control and family legacy, justifying the prediction of agency theory. However, Byoun and Xu (2013) obtain different motives for small and large US firms that adopt zero-leverage policy. Their findings reveal that the debt-free capital structure of large firms results from the replacement of debt with internal funds to avoid the agency costs of free cash flows, whereas it stems from heavy reliance on external equity due to financial constraints for small firms, which cannot obtain debt as much as larger firms. Dang (2013) represents that UK firms are more prone to use little or no debt when they have substantial internal funds. Moreover, small, young and less profitable firms generally tend to pursue this policy, and they rely heavily on equity to overcome underinvestment problems. Huang et al. (2017) reach similar results for Chinese firms.

2.2. Explanatory Variables

For the purpose of the study, book leverage is used in order to detect conservative financing policy and its determinants. The leverage is measured as the ratio of the total debt to total assets. On the other hand, prior studies use different variables to determine the factors that lead to conservative behaviour. In the light of main capital structure theories, seven firm-level explanatory variables are constructed as follows:

Cash: It is used as a proxy for firm's cash reserves and measured as the ratio of cash and cash equivalents to total assets. The pecking order theory predicts that as firms accumulate cash, leverage ratios will decline since internal funds are preferred over external funds. From the trade-off theory perspective, firms will tend to adopt conservative policies if they face higher costs of financial distress (Minton & Wruck, 2001). Indeed, high level of cash reserves decreases the likelihood of facing financial distress by lowering debt requirement. Yet, it also allows firms to raise their debt capacity and borrow at higher ratios given that they can pay the interests and principals easily. The agency theory predicts a positive link between the two as excessive amount of cash increases the agency costs, and debt is a useful tool to reduce agency costs (Jensen, 1986).

Cash Flow: It is the ratio of earnings before interests and taxes plus depreciation and amortization to total assets and used to constitute the firm's free cash flows. The pecking order theory predicts a negative relation between leverage and cash flows since firms prefer internally generated funds over externally generated ones. The forecasts of the trade-off theory are in line with the expectations concerning cash reserves. As stated above, the agency theory suggests using debt to mitigate the conflict of interests stemming from substantial free cash flows.

Dividend: It is calculated as the ratio of dividend paid to total assets. As stated earlier, under the pecking order approach, firms should not pay dividend if they have to retrieve it by issuing risky securities and restrict dividends when investment requirements are modest. Thus, valuable investments are financed by undistributed dividend instead of debt. Conversely, the agency theory predicts a negative correlation between leverage and dividends since dividends are considered as an alternative to control free cash flow problems (Easterbrook, 1984).

Growth Opportunities: The market-to-book ratio is utilized as a proxy of growth opportunities. The pecking order theory postulates that if external capital is required to finance a valuable investment opportunity, debt is preferred to equity because of being less risky (Myers & Majluf, 1984). From this perspective, firms with high growth

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opportunities, typically with large financing needs, will have high debt ratios. The agency theory suggests that debt should be utilised if it is not possible to undertake a potentially profitable investment opportunity due to the owner's limited resources. This is because the marginal benefit of new investment project will be greater than the marginal agency costs of debt (Jensen & Meckling, 1976). On the other hand, the trade-off theory asserts that firms with valuable growth opportunities tend to borrow less. This is attributed to the fact that growth opportunities are more likely to lose value in case of bankruptcy since they cannot be collateralised and do not generate current income (Myers, 1984).

Non-Debt Tax Shields: The ratio of depreciation and amortization to total assets is used as proxy of non-debt tax shields. The pecking order theory predicts a negative link between leverage and non-debt tax shields since non-debt tax shields increase the firm's free cash flow by reducing the amount of tax payable. From the trade-off theory perspective, firms with high level of non-debt tax shields may also use less debt since it substitutes the interest tax shield (DeAngelo & Masulis, 1980). On the other hand, firms with high level of depreciations have large amount of tangible assets that can be used as collateral and improve credibility. Moreover, tangible assets may decrease bankruptcy costs as they have higher liquidation value in case of default. Besides, large amount of tangible assets decreases the agency costs of debt by reducing the "information asymmetry" and the risk of "moral hazard" (Myers, 1984).

Size: The natural log of total assets is taken as proxy for firm size. Large firms usually generate high and steady cash flows compared to small firms and, thus, they can accumulate more internal funds for valuable investment opportunities. From this standpoint, an inverse relation is expected between leverage and firm size from the pecking order theory perspective. Conversely, the trade-off theory postulates a positive link between the two since larger firms are more diversified and have a lower default risk (Shuetrim et al., 1993). Indeed, large firms can borrow more easily than their smaller counterparts since they have reputation and greater expected liquidation value. The agency theory claims that agency problem is more severe in larger firms since management remunerations are positively correlated with firm size (Jensen, 1986). As stated above, debt seems to be a beneficial tool in lowering agency costs.

Age: Mature firms are expected to borrow more easily as they are known by the creditors and capital markets for a long time. However, younger firms may not be able to borrow as easily as their mature counterparts since they do not have a strong reputation (Ferrão et al., 2016).

On the other hand, as mentioned earlier, most of Turkish listed firms are controlled by a family or a company group where family members are the major shareholders. Iona et al. (2004) state that the probability of adopting a conservative financing policy is affected by the firm's ownership structure and ownership concentration is one of the most important determinants of this policy. Similarly, Yasmin and Rashid (2019) reveal that business group affiliation plays an important role in the adoption of conservative debt policy. Moreover, family firms are expected to be more likely to seize a conservative financing policy since their shareholders and founders care more about maintaining independence and control (Strebulaev & Yang, 2013; El Ghoul et al., 2018). However, Gottardo and Moisello (2016) find that debt utilization rate increases correspondingly with an increase in family ownership. Morais et al. (2020) obtain supportive results, indicating a positive relation between ownership concentration and the tendency of resorting debt. In this study, a dummy variable, which takes value of 1 if separate or joint ownership ratio exceeds 50%, is created to determine whether ownership concentration has an impact on the adoption of conservative financing policy.

3. Method

3.1. Data

The investigation period has been selected as 2005-2019, considering the research method and data availability when the study was conducted. The firm data used in this study are taken from Borsa Istanbul, Bloomberg and company websites. The number of listed firms varies from 321 to 517 over the investigation period. To carry out the study, firm-year observations with missing information on total debt and total assets are omitted. Additionally, financial firms and parent companies that prepare consolidated financial statements containing other studied firms are also excluded to better capture financing policy. Thus, the final sample consists of 119 non-financial firms and 1.782 firm-year observations.

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The investigated firms have a wide range of age distribution, varying between 5 to 95 at the commencement of investigation period, and 80,67% of these firms are accounted for manufacturing firms. Besides, most of them are owned by a family or a company group where families are major shareholders as well. The percentage of firms with ownership concentration ranges between 64,71% and 70,59% over the investigation period.

The initial analysis on financing preference clearly points out that sample firms are generally reluctant to debt financing and a remarkable rate of them have a leverage ratio lower than 50%. Table 1 represents the distributions of sample firms' debt ratios in their capital structure.

Table 1. Distribution of debt ratios

Years	Mean*	Minimum	Maximum
2005	37.52	2.84	82.32
2006	39.08	1.91	82.21
2007	38.45	2.30	82.52
2008	44.01	2.94	97.47
2009	39.78	0.64	92.36
2010	41.13	1.72	89.98
2011	44.21	1.09	94.06
2012	43.40	1.56	86.80
2013	45.90	1.34	90.92
2014	45.18	1.52	90.74
2015	47.65	0.66	95.29
2016	50.81	1.39	99.82
2017	52.56	0.86	97.61
2018	54.50	2.92	121.17
2019	55.02	4.17	145.04

* Debt ratios with a mean value lower than 50% indicate equity-weighted financing.

As seen from the table, the average debt ratio gradually rises over the investigation period while it is around 38% at the beginning. Despite this increasing trend, the average remains below 50% for most part of the investigation period. Moreover, some firms use almost no or very little debt when considering minimum and maximum level, even though the equity values of some sample firms become negative in last two years of the research period due to poor macroeconomic conditions. Overall, the average debt ratio is around about 45%, indicating that sample firms are heavily rely on equity financing.

3.2. Methodology

For the purpose of the study, the examination commences with an analysis to detect conservative firms. There are two main classification methods broadly used in related literature: The first one is fixed threshold method used by Minton and Wruck (2001), Zeng (2011), Bigelli et al. (2014) and Yasmin and Rashid (2019). The second method is target threshold levels utilised by Iona et al. (2004) and Iona et al. (2017). In Minton and Wruck (2001), Bigelli et al. (2014) and Yasmin and Rashid (2019) the fixed threshold level is taken as the lowest quintile of annual total debt to total assets. Besides, there is no consensus in previous studies regarding the duration of leverage ratios remaining below the threshold level. For example, Bigelli at al. (2014), Yasmin and Rashid (2019) and Sánchez-Vidal et al. (2020) use two consecutive years, while five consecutive years used by Minton and Wruck (2001) and Iona et al. (2017) to satisfy persistency.

In this study, the lowest quantile is used since the number of firms is limited. Firms are classified as financially conservative if they adopt a persistent low-leverage policy. To satisfy persistency, data is divided into three-year non-overlapping panels considering the length of investigation period and formed as: 2005-2007, 2008-2010, 2011-2013, 2014-2016, 2017-2019. Additionally, non-overlapping panels are formed as in Iona et.al (2017) to avoid overlapping observations. Thus, a firm is classified as financially conservative if it ranks in the lowest quantile of leverage ratio for three consecutive years, otherwise it is classified as non-conservative. The results of classification for each panel are given in Table 2.

Table 2. Distribution of conservative and non-conservative firms

	2005-2007	2008-2010	2011-2013	2014-2016	2017-2019
Conservative Firms	20	24	23	22	22
Non-Conservative Firms	99	95	96	97	96
Percentage of Conservative Firms	16.81%	20.17%	19.33%	18.49%	18,64%

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As mentioned before, the initial analysis reveals that most of sample firms have a leverage ratio lower than 50% over the investigation period. This second analysis points out that a remarkable rate of these firms follow a conservative financing policy. In the entire sample, the percentage of conservative firms ranges from 16,81% to 20,17%, meaning that one in every five or six firms behaves in a conservative manner.

4. Empirical Results

4.1. Descriptive Analysis

As stated above, to achieve persistency, three-year panels are used for determining conservative firms. Therefore, three-year averages are used for descriptive analysis. Table 3 shows the descriptive statistics of the quantitative variables. The sample firms have a leverage ratio of approximately 45% on average, indicating the reluctance of Turkish firms to use debt. Moreover, some firms use almost no or very little debt when considering minimum and maximum levels although some of them have extremely high levels due to negative equity value. On average, sample firms appear to be large considering the minimum and maximum levels of size. Besides, some firms have fairly high growth opportunities, and some of them pay larger dividend. The average rate of non-debt tax shields is 3,4%, and it seems quite low compared to the 10,3% and 8,5% for cash and cash flow, respectively. However, this ratio is reasonable considering the average age since as the firms get older, the rate of depreciation and amortization to total assets decreases.

Table 3. Descriptive statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Leverage	594	.453	.228	.012	1.195
Cash	594	.103	.106	.001	.678
Cash Flow	594	.085	.103	-.736	.581
Dividend	594	.039	.051	0	.343
Growth Opportunities	594	2.261	2.919	.327	39.158
Non-Debt Tax Shields	594	.034	.021	0	.194
Size	594	19.808	1.723	15.59	25.36
Age	594	40.751	15.085	6	108

Table 4 presents Pearson's correlations among the explanatory variables. Since there are significant correlations between some variables, variance inflation factors (VIF) are calculated to investigate the multicollinearity and given in the last column. VIF values above 10 generally indicate a multicollinearity problem, but for models such as logistic regression the levels exceeding 2,5 may be regarded as the concern (Midi et.al, 2013). As seen from the table, all VIF values are lower than the 2,5 threshold value, indicating that there is no multicollinearity problem.

Table 4. Pearson's correlation matrix and variance inflation factors (vif)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	VIF
(1) Cash	1.000							1.27
(2) Cash Flow	0.424*	1.000						1.92
(3) Dividend	0.379*	0.624*	1.000					1.74
(4) Growth Opportunities	0.103*	0.084*	0.161*	1.000				1.08
(5) Non-Debt Tax Shields	0.025	0.209*	0.098*	0.210*	1.000			1.11
(6) Size	0.062	0.169*	0.030	-0.052	-0.053	1.000		1.16
(7) Age	0.018	0.113*	0.107*	0.023	-0.013	0.317*	1.000	1.13

*** p<0.01, ** p<0.05, * p<0.1

Table 5 demonstrates the t-test results of the conservative and non-conservative firms with regard to the quantitative explanatory variables. As seen from the table, growth opportunities, non-debt tax shields and age variables are not significant. This implies that these variables are not significantly different in conservative and non-conservative firms. However, cash, cash flow, dividend and size variables are observed to be significantly different in conservative firms and their non-conservative peers. These results clearly reveal that conservative firms have more liquid assets, higher cash flows, and pay more dividends than non-conservative firms. Moreover, they appear to be smaller than their non-conservative peers.

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Table 5. T-test difference in mean

	Obs. (NC)	Obs. (C)	Mean (NC)	Mean (C)	Difference	Standard Error	t value	p value
Cash	483	111	.088	.168	-.079	.011	-7.4***	0
Cash Flow	483	111	.073	.139	-.065	.011	-6.2***	0
Dividend	483	111	.032	.072	-.04	.005	-7.75***	0
Growth Opportunities	483	111	2.316	2.023	.293	.308	.95	.341
Non-Debt Tax Shields	483	111	.035	.033	.002	.003	.8	.42
Size	483	111	19.985	19.035	.95	.177	5.35***	0
Age	483	111	3.644	3.574	.07	.044	1.6	.108

Obs. denotes the number of observations for non-conservative (NC) and conservative (C) firms.
*** p<0.01, ** p<0.05, * p<0.1

It is noteworthy that the outcomes for cash reserves, cash flows and dividends are consistent with the findings of Minton and Wruck (2001) and Ferrão et al. (2016) for US firms, Iona et al. (2004) and Dang (2013) for UK firms, Bigelli et al. (2014) for Italian firms together with Yasmin and Rashid (2019) for Pakistani firms. The results are also compatible with the findings of Byoun and Xu (2013), Strebulaev and Yang (2013), Ebrahimi et al. (2020) for US firms, Huang et al. (2017) for Chinese firms and Morais et al. (2020) for western European firms regarding zero and ultra-low leverage policy. Again, the results for size strengthen the findings of Huang et al. (2017), Yasmin and Rashid (2019), Ebrahimi et al. (2020) and Sánchez-Vidal et al. (2020).

Although there is not a statistically significant difference, contrary to common findings of previous studies, non-conservative Turkish firms appear to have higher growth opportunities than conservative firms. Similarly, the results do not represent a significant difference for non-debt tax shields between conservative and non-conservative firms. This may stem from the characteristics of sample firms. As seen from Table 3, the average age of the sample firms is above 40; and as the firms get older, the rate of depreciation and amortization to total assets decreases. Besides, conservative and non-conservative firms do not display a significant difference in terms of age.

4.2. Determinants of Conservative Policy

This section presents the results of the analysis that aims to capture the main factors affecting the probability of adopting a conservative financing policy. Standard maximum likelihood estimators of panel logistic regression models treating individual heterogeneity are known to be inconsistent when time dimension T is fixed and the cross-section dimension N gets large (Kwak et al. 2018). Put differently, the parameters will be inconsistent when estimating the parameters of fixed effect logit model with standard maximum likelihood method since N is high, but T is fixed. This is referred to incidental parameters problem. It is possible to overcome this problem by using the conditional panel logistic model. However, the conditional fixed effect model has drawbacks and does not deliver the estimates of fixed effects. Additionally, all time invariant explanatory variables are also wiped out from the estimation (Stammann et al., 2016).

In this study, number of panels are relatively small as compared to number of firms that utilised in the pooled logit model. Moreover, when analysing non-overlapping panels, the observations are independent and a firm that adopts conservative policy in a panel does not necessarily need to do the same in the consecutive panels. Therefore, the utilisation of pooled logit model is deemed appropriate as in Minton and Wruck (2001) and Iona et al. (2017). To control industry-invariant and time-invariant variables, the time and industry fixed effects are also incorporated to the model. Again, three-year averages of the variables are used to achieve persistency. As seen from Table 6, the results of both models are the same, satisfying the robustness of the results. They are also quite consistent with the values in Table 5, which shows the t-test results for conservative and non-conservative firms.

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Table 6. Main model logit analysis results

Variables	Model (1)	Model (2)
Cash	4.231***	4.570***
	(1.227)	(1.761)
Cash Flow	4.283**	4.208**
	(1.731)	(2.031)
Dividend	10.29***	14.13***
	(2.929)	(4.173)
Growth Opportunities	-0.275**	-0.326**
	(0.128)	(0.165)
Non-Debt Tax Shields	-10.03	-7.304
	(7.048)	(5.575)
Size	-0.484***	-0.559***
	(0.0819)	(0.0950)
Age	-0.251	-0.471
	(0.307)	(0.494)
DOwnerhip	0.762***	0.711**
	(0.267)	(0.283)
Constant	7.832***	9.322***
	(1.785)	(2.188)
Observations	594	574
R-squared	0.228	0.284
Industry Fixed Effect	No	Yes
Time Fixed Effect	No	Yes
Log Lik	-220.8	-201.9

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results represent a highly significant and positive relationship between the probability of adopting a conservative financing policy and cash reserves and cash flows. Besides being in line with the predictions of pecking order and trade-off theories, these results are consistent with the findings of previous researches on both developed countries (e.g., Bessler et al., 2013; Strebulaev & Yang, 2013; Bigelli et al., 2014; Ferrão et al., 2016; Ebrahimi et al., 2020; Morais et al., 2020) and emerging markets (e.g., Huang et al., 2017; Yasmin & Rashid, 2019).

Contrary to the predictions of pecking theory, but consistent with the agency theory, the outcomes depict a positive relation between dividends and the likelihood of seizing a conservative financing policy. This relation is in line with the findings of Bigelli et al. (2014) for Italian firms and Yasmin and Rashid (2019) for Pakistani firms together with the evidence from some zero and ultra-low leverage policy studies on advanced economies (e.g., Byoun and Xu, 2013; Strebulaev and Yang, 2013; El Ghoul et al., 2018; Morais et al., 2020). Taken together, it can be safely inferred that conservative firms prefer equity to debt when external financing is required and transfer funds to their shareholders rather than to creditors through interest payments. Through this policy, they can easily access equity financing and alleviate agency problems arising from free cash flows. Indeed, evidences from emerging markets studies reveal the existence of a new financing hierarchy called "new pecking order model" or "modified pecking order theory". Chen (2004) observes that Chinese firms prefers equity to debt when the internally generated funds are insufficient. Delcoure (2007) detects same phenomenon in transitional economies, and relates it to the fact that equity is not obligatory like debt, and managers usually see it as a "free" source of capital.

The results illustrate a negative linkage between growth opportunities and the possibility of adopting a conservative financing policy although the detected coefficients are not significant and do not represent a strong impact as much as other significant variables. This inverse relation indicates that as growth opportunities increase, conservative firms become more willing to utilize debt. This is consistent with the predictions of pecking order and agency theories, but contrary to trade-off theory. The detected linkage is also not compatible with the findings of prior researches on developed countries cited above. However, it justifies the findings of Yasmin and Rashid (2019) for Pakistani firms.

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Consistent with the predictions of main theories, the outcomes denote an inverse relation between firm size and the likelihood of proving a conservative financing policy. Although the magnitude of coefficients is not as strong as expected, small firms appear to be more likely to adopt a conservative financing policy than large firms justifying the findings of Minton and Wruck (2001), Iona et al. (2004), Ferrão et al. (2016), Yasmin and Rashid (2019) and Sánchez-Vidal et al. (2020). This inverse relation is also consistent with the findings of Bessler et al. (2013), Byoun and Xu (2013), Dang (2013), Strebulaev and Yang (2013), Huang et al. (2017), El Ghoul et al. (2018), Ebrahimi et al. (2020) and Morais et al. (2020) regarding zero and ultra-low leverage policy.

However, the results do not represent a significant relation between non-debt tax shields and the probability of seizing a conservative financing policy, albeit the magnitude and sign of the coefficients refer a strong negative impact. This insignificant relation is not compatible with the expectations of main theories and the common findings of previous studies that broadly reveal a significant relation between non-debt tax shields and the likelihood of adopting a conservative debt policy (e.g., Besler et al., 2013; Dang, 2013; Yasmin & Rashid, 2019; Morais et al., 2020). As stressed earlier, this unexpected result may stem from the average age of sample firms, which is over 40; and as firms age, the rate of depreciation and amortization to total assets decreases. Besides, the outcomes do not exhibit a significant link between age and the probability of seizing a conservative financing policy contrary to findings of previous researches cited above, which point out a significant negative relation. Nevertheless, the negative sign is consistent with the t-tests results presented in Table 5 in previous section as well as the findings of Yasmin and Rashid (2019) indicating that non-conservative firms appear to be more mature than their conservative peers.

Besides all, the results demonstrate a positive relation between ownership concentration and the likelihood of adopting conservative financing policy although the magnitude of detected coefficients does not have a considerable impact as much as cash reserves, cash flow and dividend. The detected relation is consistent with the agency theory perspective and justifies the findings of Iona et al. (2004), Strebulaev and Yang (2013), El Ghoul et al. (2018) and Yasmin and Rashid (2019), who reach a positive relation between the two.

4.3. Impacts of Macroeconomic Conditions

As stressed earlier, Turkish economy has experienced many financial crises with frequent boom and bust cycles. It experienced two severe crises in 1994 and 2001, global financial turmoil of 2008, and again 2015 and 2018 economic crises due to parliamentary election and monetary policy changes (for details see Akcay & Güngen, 2019; TÜSİAD, 2019). The overall impact of these crises is dramatic devaluation of Turkish lira, higher inflation rates and high number of firm closures (Orhangazi & Yeldan, 2020).

Macroeconomic conditions have an important role in financing decisions and capital allocation. Good macroeconomic conditions enable firms to generate high business returns together with stable cash flows. Under such conditions, firms also have opportunity to access debt financing at lower costs through the increase in credit supply and decrease in interest rates. Thus, firms become less susceptible to the costs of financial distress and bankruptcy and can confidently undertake valuable investment opportunities. However, in an economic slowdown or recession, firms tend to use less debt as conditions reverse. Yet, the extent of the effect of these conditions would be different among the firms depending on firm-specific factors such as credit rating, operating and cash conversion cycle, degree of financial constraints and so on (Korajczyka & Levy, 2003; Dang, 2013; Yasmin & Rashid, 2019; Ebrahimi et al., 2020). Previous researches point out that macroeconomic factors also have a significant impact on conservative debt policy. For example, Dang (2013) observes that firms are likely to avoid debt financing under macroeconomic conditions dominated by low or negative economic growth and high interest rates. Although El Ghoul et al. (2018) and Yasmin and Rashid (2019) reach a positive relation between economic growth and the propensity of conservative policy, Bessler et al. (2013) point out that firms tend to abandon ultra-low leverage policy with economic growth. Similarly, El Ghoul et al. (2018) find that firms tend to carry higher leverage ratios as credit supply and inflation rate increase.

To weigh the impact of these factors and dramatic changes in foreign exchange rates, new logistic models have been established using gross domestic products growth rates, central bank policy rates, consumer price indexes, domestic credit to private sector as a percentage of gross domestic products and annual change in real effective exchange rates. The data was taken from the International Monetary Fund, Central Bank of the Republic of Türkiye and World Bank databases. Instead of building non-overlapping panels, the whole sample is analysed on annual basis to better capture the effect of changes in macroeconomic conditions since no significant result can be obtained when using

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average values. Again, two different pooled logit models have been established according to with and without year and industry fixed effects.

As seen from Table 7, both models represent qualitatively similar outcomes, which satisfy the robustness of the results as well. Besides, all firm-specific variables appear significant with expected signs and are also consistent with the non-overlapping regression results presented in Table 6.

Table 7. Impacts of macroeconomic factors on conservative policy

Variables	Model (1)	Model (2)
Cash	3.189***	3.556***
	(0.695)	(0.856)
Cash Flow	5.898***	5.741***
	(0.850)	(0.922)
Dividend	7.428***	10.16***
	(1.322)	(1.744)
Growth Opportunities	-0.298***	-0.316***
	(0.0681)	(0.0770)
Non-Debt Tax Shields	-6.712**	-6.113*
	(3.249)	(3.308)
Size	-0.602***	-0.638***
	(0.0473)	(0.0526)
Age	-0.456***	-0.453**
	(0.169)	(0.223)
DOwnerhip	0.488***	0.339**
	(0.140)	(0.142)
Economic Growth	-0.0151	0.0305
	(0.0182)	(0.105)
Interest Rates	-0.0489	0.0185
	(0.0406)	(0.126)
Inflation	0.107**	0.0670
	(0.0499)	(0.0900)
Credit Supply	0.000438	0.0533
	(0.0171)	(0.0769)
Exchange Rates	-0.000806	0.0617
	(0.00949)	(0.0779)
Constant	11.36***	8.356
	(1.471)	(6.042)
Observations	1,779	1,719
R-squared	0.227	0.257
Industry Fixed Effect	No	Yes
Year Fixed Effect	No	Yes
Log Lik	-775.3	-731.8

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

However, the outcomes reveal surprising results for macroeconomic factors with insignificant and inefficient coefficients. Only the inflation rates seem significant in Model (1); and this may stem from oversensitivity of economic actors to inflation that has dominated the economy for many years. Nevertheless, it has a slight impact considering the magnitude of the coefficient.[4] These results are incompatible with the findings of previous researches that investigate the impacts of macroeconomic conditions on conservative or ultra-low leverage policy. Yet, the results do not appear extraordinary given the volatile and persistent crisis-producing nature of the Turkish economy. In such an economic environment dominated by high level of uncertainty, managers are more sensitive to bankruptcy risk, and they tend to prefer equity since it seems less risky than debt. This behaviour is consistent with the agency theory perspective and the modified pecking order approach. Indeed, empirical evidences reveal that firms with high levels of debt are heavily affected by crises and have a longer recovery period than their counterparts

[4] Different methods were applied to test the robustness of the results. Firstly, macroeconomic variables were included in the model with a lag based on the logic that macroeconomics conditions may affect policy choices belatedly. However, no significant results can be obtained. Alternatively, a dummy variable was created to capture the impact of currency crises since change in real effective exchange rates was the most volatile variable over the investigation period. Nevertheless, the results were insignificant again.

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after the crisis (Bezemer & Zhang, 2019; cited by Sánchez-Vidal et al., 2020). Moreover, Zeng (2011) and Machokoto et al. (2020) empirically prove that the adoption of conservative financing policy is a strategic tool for effective risk management during economic downturns and mitigates the adverse effects of financial crises. Taken together, the precarious nature of Turkish economy may be one of the main reasons behind the conservative policy although macroeconomic conditions do not appear to have a direct impact on it (Ozkan, 2022).

4.4. Switches in Financing Policy

Prior studies that investigate the persistency of conservative financing policy reach different results. For example, whilst Strebulaev and Yang (2013), Dang (2013) and Bigelli et al. (2014) point out that debt conservatism is persistent over time, Minton and Wruck (2001), Bessler et al. (2013), Ferrão et al. (2016) and Yasmin and Rashid (2019) state that it is a transitory phenomenon. In this regard, the aim of this section is to observe the switches in financing policy and identify their reasons. For this purpose, firstly, the sample period is divided into six-year panels in which the first three-year panel represents the pre-switching period, whereas the next three-year panel is regarded as the switching period. As observed by Minton and Wruck (2001), if a firm is conservative during the pre-switching period and non-conservative in the switching period, it is classified as dropping a conservative policy. Conversely, a firm is classified as adopting a conservative policy if it is non-conservative in the pre-switching period and conservative in the next period. Table 8 represents the changes in financing behaviour of conservative and non-conservative firms over time.

Table 8. Changes in financing policy

Panel A: Dropping a conservative policy	
Firms Dropping Conservative Policy in Switching Period (%)	22.73
Firms Pursuing Conservative Policy in Switching Period (%)	77.27
Mean/Median of Leverage Ratio of Dropping Firms in Pre-Switching Period	0.141/0.152
Mean/Median of Leverage Ratio of Dropping Firms in Switching Period	0.293/0.296
Difference in Mean/Median	0.152***/0.144***
Panel B: Adopting a conservative policy	
Firms Adopting Conservative Policy in Switching Period (%)	5.94
Firms Pursuing Non-Conservative Policy in Switching Period (%)	94.06
Mean/Median of Leverage Ratio of Adopting Firms in Pre-Switching Period	0.297/0.258
Mean/Median of Leverage Ratio of Adopting Firms in Switching Period	0.179/0.175
Difference in Mean/Median	-0.118***/ -0.083***

Panel A show that 22,73% of conservative firms drop conservative financing policy in the following periods while the remaining majority continue to pursue it. However, the outcomes on average leverage ratios for pre-switching and switching periods, 14,1% and 29,3%, indicate that conservative firms maintain low leverage policy even if they drop the conservative policy. On the other hand, as demonstrated by Panel B, only 5,94% non-conservative firms adopt a persistent low leverage policy during the switching period. It seems fairly evident that non-conservative firms appear to be less lenient to adopt a conservative financing policy, whereas more than 20% of conservative firms drop this policy in the subsequent periods. Although conservative firms gradually increase their leverage after switching to non-conservative financing policy, their average leverage ratio do not exceed the non-conservative firms' that became conservative in the switching period. Overall, the average leverage ratio of firms that adopt conservative financing policy decreases in the switching period, whereas the average ratio of firms that drop this policy increases, but the average ratios remain below the average of the entire sample, which is 45,3%. To identify the factors that affect switches in financing policy, two different models are formed. In the first model, the dependent variable is assigned the value of 1 if conservative firms drop conservative financing policy during the switching period, and zero otherwise. Under the second model, the dependent variable gets the value of 1 if non-conservative firms adopt conservative financing policy in the switching period. Again, the pooled logistic regression is used as in Minton and Wruck (2001) since the panels are non-overlapping. Macroeconomic factors are not included the analysis since they do not appear to have a significant impact on policy choice. Table 9 represents the results of logistic regressions for the underlying rationale behind the switches in financing policy.

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Table 9. Determinants of chances in financial policy

Variables	Adopt	Marginal Change in Probability	Dropt	Marginal Change in Probability
Cash	1.042	0.0217	-5.216	-0.747
	(2.571)		(4.670)	
Cash Flow	18.25***	0.380	7.148*	1.024
	(5.119)		(4.282)	
Dividend	-7.476	-0.155	-19.39***	-2.777
	(6.746)		(7.206)	
Growth Opportunities	-0.292	-0.00606	0.379	0.0543
	(0.450)		(0.312)	
Non-Debt Tax Shields	-33.29**	-0.692	1.740	0.249
	(15.86)		(11.83)	
Size	-0.351*	-0.00730	-0.00969	-0.00139
	(0.192)		(0.335)	
Age	-0.262	-0.00546	-0.1000	-0.0143
	(0.668)		(0.825)	
DOwnerhip	1.374**	0.0260	-0.845	-0.139
	(0.643)		(0.658)	
Constant	4.073		0.0412	
	(4.632)		(5.547)	
Observations	387		88	
R-squared	0.255		0.176	
Industry Fixed Effect	Yes		Yes	
Time Fixed Effect	Yes		Yes	
Log Lik	-64.96		-38.87	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Although the outcomes regarding cash reserves are insignificant, the positive and significant relation between cash flows and adoption of conservative financing policy justifies the claims of pecking order theory as well as the findings of Minton and Wruck (2001) for US firms and Bigelli et al. (2014) for Italian firms. However, firms do not prefer switching to conservative policy as the level of non-debt tax shields raises. The inverse impact of non-debt tax shields is almost double that of cash flows. Although not consistent with the results represented in Table 6, it is in line with the trade-off and agency theory approach. As stated earlier, high level of depreciation is an indisputable indicator of the large amount of tangible that can be used as collateral and make easier the borrowing. Considering that tangible assets increase the debt capacity, this result justifies the claims of Bessler et al. (2013) stating that the persistency of non-debt policy depends on firms' debt capacity. The outcomes denote an adverse relation between firm size and adoption of conservative financing policy, but its impact is not as strong as that of cash flow and non-debt tax shields. Conversely, firms tend to switch to conservative financing policy as ownership concentration increases. Other factors appear to be insignificant for switching.

On the other hand, only cash flows and dividends appear to have significant impact on dropping conservative financing policy. The results for cash flows indicate that some conservative firms tend to abandon this policy as their cash flow increases, but its impact on dropping is not large and strong as much as on adopting. In contrast, firms are less likely to abandon conservative financing policy as dividends increase. As explained above, dividend policy facilitates access to equity financing since it is considered as a free source of capital in developing countries, consistent with the modified pecking order approach. From this perspective, dividends appear to be an important safeguard for maintaining conservative financing policy.

5. Conclusions

The findings clearly point out that cash reserves, cash flows and dividends have positive and strongly significant impact on the probability of adopting conservative financing policy. This is consistent with the findings of previous studies conducted in both advanced economies and emerging markets. Nevertheless, the results reveal that Turkish firms are less likely to adopt a conservative financing policy when their size and growth opportunities increase, contrary to common findings of prior studies, especially conducted in developed countries. The results pointing an insignificant impact for non-debt shields are also incompatible with the previous researches' findings. However, the

ownership concentration, which is very common in Turkish firms, has a positive impact on adopting conservative financing policy, indicating that major shareholders care about the maintaining their independence and control over firm operations.

Macroeconomic conditions do not appear to have a direct impact on the adoption of conservative financing policy. Although being inconsistent with the findings of previous researches conducted in both advanced economies and emerging markets, these results do not seem extraordinary considering the volatile and persistent crisis-producing nature of the Turkish economy. In such an economic environment dominated by high level of uncertainty, the adoption of conservative financing policy is considered a strategic tool for effective risk management since it mitigates the adverse effects of unfavourable conditions. Therefore, the unstable nature of Turkish economy may be one of the main reasons why Turkish firms tend to follow a conservative financing policy. Indeed, the results clearly point out that conservative firms appear to be quite persistent in their policy although some of them leave this policy over time.

Overall, the factors that lead Turkish firms to adopt a conservative financing policy differ from firms operating in other countries in some particular aspects. This may stem from the precarious nature of Turkish economy. However, the findings presented in this paper should be interpreted with caution due to the possible limitations associated with sample size. At this point, it is worth emphasizing that it would be useful to expand the scope of the research by including non-listed firms in possible researches. It would also be useful to investigate the impact of conservative financing policy on firm performance.

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ETHICAL AND SCIENTIFIC PRINCIPLES STATEMENT OF RESPONSIBILITY

The authors declare that ethical rules and scientific citation principles were complied with throughout the preparation process of this study.

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3rd author contribution rate: 20%