

**T.C
MARMARA ÜNİVERSİTESİ
BANKACILIK VE SİGORTACILIK ENSTİTÜSÜ
BANKACILIK ANA BİLİM DALI**

**Factors Affecting Dividend Policies
of Turkish Banks**

Ph.D. Dissertation Thesis

BÜLENT ŞENGÖNÜL

İSTANBUL, 2013

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Danışman: Prof. Dr. Cemal İBİŞ



T.C.
MARMARA ÜNİVERSİTESİ
Bankacılık ve Sigortacılık Enstitüsü

Aşağıda belirtilen lisansüstü tez, Lisansüstü Öğretim Yönetmeliği hükümlerinde belirtilen esaslar çerçevesinde jüri önünde savunulmuş ve jüri tarafından başarılı bulunmuştur.

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<u>GÖREVİ</u>	<u>ADI SOYADI</u>	<u>İmza</u>
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Danışman	Prof.Dr.Cemal İBİŞ	
----------	--------------------	--

Üye	Prof.Dr.Hasan SELÇUK	
-----	----------------------	--

Üye	Prof.Dr.Suat OKTAR	
-----	--------------------	--

Üye	Prof.Dr. Nadir EROĞLU	
-----	-----------------------	--

Üye	Prof.Dr. Oral ERDOĞAN	
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Abbreviations

AMEX	:American Stock Exchange
BENCH	: Benchmark Bond (yield)
BIS	: Bank for International Settlements
BIST	: Borsa Istanbul
BRSA	: Banking Regulation and Supervision Agency
CAR	: Capital Adequacy Ratio
CDS	: Credit Default Swaps
CBRT	: Central Bank of Turkey
CI	: Cost to Income Ratio
CMB	: Capital Markets Board
GA	: General Assembly
ISE	: Istanbul Stock Exchange (former name of BIST)
IFRS	: International Financial Reporting Standards
IASB	: International Accounting and Supervision Board
IASC	: International Accounting Standards Committee
LIBOIS	: Libor – Overnight Interbank Swap Rate
LVG	: Leverage
NIM	: Net Interest Margin
NPL	: Non Performing Loans
NYSE	: New York Stock Exchange
OLS	:Ordinary Least Squares
RD1, RD2	: Regulatory Dummy 1, Regulatory Dummy 2
ROA	: Return on Assets
ROE	: Return on Equity
RWA	: Risk Weighted Assets
TBA	: Turkish Banking Association
TRGAAP	: Turkish Generally Accepted Accounting Rules
USGAAP	: Generally Accepted Accounting Rules in the U.S.A.
VAR	: Value at Risk
VIX	:Volatility Index

ABSTRACT

This Ph.D. thesis explores the factors affecting bank dividend policies in Turkey from different theoretical perspectives. We find several factors; regulations (namely the dividend-capping regulation), scale and ownership are the most significant determinants of dividends in the Turkish Banking Sector.

The outcomes of my model depict that ownership, type of bank (deposit or non-deposit) regulations and being public or closely-held seem to be significant factors explaining the dividend behaviours of Turkish Banks. The banks that go public tend to lower their dividend payments, an outcome mostly contrasting the dividend trends in the developed countries as stated in Michaely and Robert's¹ study, yet being aligned with some emerging market practices as in portrayed in Forti and Schiozer's² work. Reluctance to share dividends with minorities and/or growth ambitions to move forward in the competition and sustain healthy market shares for a possible M&A in the future could be the triggering factors for the lower pay-out ratios when a bank becomes a publicly-traded entity. Agency problems or lack of sufficient corporate governance may explain the decreasing pay-out ratios for the listed banks. Conversely, I identify that closely held banks, which are mostly composed of state and smaller-scaled foreign banks with wholesale banking features, have inherently higher pay-out ratios.

State-owned banks tend to pay out more as Gugler³ states, as a redemption of their major restructuring and recapitalisation occurred in the Turkish Banking Sector back in 2002 and due to their privileged lending activities (subsidized loans), which are inherently more profitable and growth-drivers. We also find that deposit banks pay out more compared to non-deposit banks.

¹Roni Michaely and Michael R. Roberts, **Corporate Dividend Policies: Lessons from private firms**, 2007, Working Paper, University of Pennsylvania. p:4 Authors suggest that conflicts of interest between large and minority shareholders lead to lower dividend payments in private firms.

² Cristiano A.B. Forti, Rafael F Schiozer, **Informed Depositors and Bank Dividends**, 2011, Working Paper, Midwest Finance Association, p:1.

³Klaus Gugler, "Corporate Governance, Dividend Payout Policy, and the Interaction Between Dividends and Capital Investment", 2003, **Journal of Banking and Finance**, v:27-7, p:1318.

Scale is a significant factor to pay more dividends for Turkish Banks similar to findings of Mayne⁴ and Moh'd et al⁵, an outcome comfortably in line with the bulk of the dividend theory. Likewise, Turkish banks' leverage levels and dividend payments are inversely related, again confirming the findings of the Forti and Schiozer⁶. Growth opportunities induce the managers to hoard more funds and omit or lower dividends, which deteriorates the monitoring function of the latter to check the agency problem, if any. Moreover, the Turkish Banking Sector has been facing an unprecedented foreign interest within the last decade and deploying resources to grow and attract more interest for a possible M&A deal, which could be another motivating factor to conserve funds and increase leverage.

Bank dividends and regulation interaction is an interesting area as the dose of the regulations in Turkish Banking Sector is unusually tight due to the recent memories of the 2001 bank crises. I find that capital adequacy ratios are less important compared to more specific regulations such as direct dividend payment cap started to be imposed back in 2008, which contrasts to the findings of Casey and Dickens⁷, and Dickens, Casey and Newman⁸, yet being consistent with Forti and Schiozer⁹ model. As the regulators set an unusually high capital adequacy level (12%) to grow banks' branch networks in Turkey back in 2006, almost all banks elevated their capital adequacy levels well above 12% within the last decade, which, seemingly, diminished the explaining power of capital adequacy ratios in banks' dividend payments.

Previous year earnings change is an explanatory factor, while previous year dividend pay-out ratios and current earnings are not as in Gupta and Walker's study¹⁰. This postulates that Turkish Banks could not follow a steady dividend pay-out policy possibly due to the changing regulations, asymmetric information

⁴Lucille S. Mayne, "Bank Dividend Policy and Holding Company Affiliation", 1980, **Journal of Financial and Quantitative Analysis**, v:15:2, p:479-480.

⁵M. Moh'd, A. Perry, J.N. Rimbey, "An Investigation of the Dynamic Relationship between Agency Theory and Dividend Policy", 1995, **The Financial Review**, May, p: 384.

⁶Forti-Schiozier, cited in IX.

⁷Michael K. Casey and Ross N. Dickens, "The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy", 2000, **Quarterly Review of Economics and Finance**, v:2:2, p:247-248.

⁸Ross N. Dickens, Michael K. Casey and Joseph A. Newman. 2003. "Bank Dividend Policy: Explanatory Factors" **Quarterly Journal of Finance**, Winter 2003, p:55.

⁹Forti-Schiozier, cited in IX.

¹⁰Manak. C. Gupta and David A. Walker, "Dividend Disbursal Practices in Commercial Banking", 1975, **Journal of Financial and Quantitative Analysis**, v:10:3, p:524.

stemming from a possible M&A deal ahead, and the drive to keep up with the competition in terms of growth performance.

Our model yields positive relation between dividends and interest rate as represented by our Libois independent variable, which stands for the difference between Libor rates and overnight interbank swap rates. As pointed in Akyildirim et al.¹¹ study, we also find that banks tend to increase pay-outs when interest rates are high. This variable both represents interest rate and risk as it contains two measure benchmark rates in the international banking system and it also measures the tension in the banking system. The larger the variable (wider the difference), the more tension is exerted in the banking system. Banks are less willing to lend in the interbank market or cost of interbank rises. Higher interest rates imply lower growth opportunities, less competition, and higher NIM expectations for banks, hence increasing pay-outs appears to be consistent for banks in an increased interest rate environment.

We find a positive relation with banks' dividend payments and the market risk (confirmed both with our Libois and Vix variables), which may stem from the need to signal investors in times of the escalated risks or may arise from lower growth and diminished M&A opportunities when the overall risk pressures augment in the markets.

In dividend-regulation interaction context, I propose a model for the Turkish Banking system, which may be annexed to Basel III rulings as well, at least at the conceptual level, stressing the stabiliser role of dividends for overcapitalisation in the banking system. The current regulatory set of rules address under-capitalisation issue for banks but remain distant to potential overcapitalisation problems. Banks having capitalisation levels well above the regulatory limits and buffers in accordance with new Basel III standards should be encouraged or may be compelled to pay out or increase their pay out levels to lower the probability of these banks to create sudden jumps in leverages or asset expansion through equity growth channel. A Mynskien¹² approach was used in building up the model, which we deem as fully compliant with the new monetary policy set forth by the CBRT and the economy administration in Turkey. Due

¹¹ Erdinc Akyildirim, I.Ethem Guney, Jean-Charles Rochet, H. Mete Soner, **Optimal Dividend Policy with Random Interest Rates**, 2012, Swiss Finance Institute, Research Paper Series, No: 13-14, p:18.

¹²H.P. Minsky, **Stabilising an Unstable Economy**, 1986, Text Book, Mc Graw Hill Press, chapter:1, p:3-11.

to the chronic high current account deficit problem, the Central Bank of Turkey has been recommending an unofficial credit growth cap for the Turkish Banks for the last two years, a gradual dividend payment scheme for overcapitalised bank can formally replace the loan growth cap and may yield more productive results as we discuss in section 5 of this thesis.

Introduction

Lack of any targeted work for the Turkish Banking Industry's dividend behaviours is the basic motivation factor for this thesis. Analysing the dividend trends in a dividend-capped industry like Turkish Banking Sector is another source of motivation, which will pave way for further studies aiming at exploring possible repercussions of Basel III, which will be implemented almost global-scale within five year period and does contain dividend-capping rulings.

This Ph.D. thesis is also motivated by the fact that dividend policy is a significant component of banks' capital structure decisions¹³, which potentially have a marked impact on banks' vital metrics such as leverage levels, asset growth, asset-mix, riskiness and earnings profile. Therefore, understanding dividend dynamics of the Turkish banks will broaden our horizon to better grasp the mechanics behind one of the major capital structure decisions for banks in Turkey.

Dividend may also arise as a risk-shifting mechanism among stake-holders, as evidenced in the recent financial crises of 2007-2009, where large global banks continued and even increased their dividend payments despite the mounting losses. Continued dividend payments were the precursors of shifting risk to bondholders in favour of shareholders¹⁴.

Casey and Dickens¹⁵ argue that bank dividend policies differ from non-regulated industries as capital enters as a significant variable into the equation. Dickens¹⁶ later concludes that bank dividends display same trends with non-banking firms in terms of stock price reactions to dividend policy changes. Secondly, the relevance of balance sheet and P&L items like total assets and income are both related to banks and non-bank firms. He, however, states some features like capital and

¹³William Marshall and Michael Smirlock, **Bank Dividend Policy and the Prediction of Future Bank Accounting Returns**, 1983, Working Paper, The Wharton School, University of Pennsylvania, p:15.

¹⁴ Viral Acharya, Hanh Le, Hyun Song Shin, **Bank Capital and Dividend Externalities**, 2012, Princeton University, Working Papers, p:1.

¹⁵Michael C Casey and Ross N. Dickens, "The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy", 2000, **Quarterly Review of Economics and Finance**, v:40:2, p:291-292.

¹⁶ Ross Dickens, "Dividend Policy in Regulated Industries", in Kent Baker's **Dividends and Dividend Policy** Textbook, 2009, chapter:26, p: 471-72 in pp:463-479.

geographic constraints are unique for banks. Spotting the difference, if any, between, Turkish Banks' dividends with those of non-financials will be portrayed.

Bank dividend decisions involve many factors and contain more meanings that it appears in that information regarding the capital strength, asset and funding mix, basic banking risks, which include liquidity, interest rate and credit risks. Dividend decisions do also potentially impact the interaction between major shareholders and minorities, if any, could be a potential problem source or solver for the managers.

Following the devastating crises in the recent periods, from Lehman debacle to European debt crises, almost all regulators and law-makers seem to have reached a clear consensus, which is the rising need of re-regulation of the banking sectors globally. This is why more and more regulations have begun to be implemented and efforts to apply Basel II and Basel III rulings gained pace. To bolster banks' capital bases and control leverage levels, containing dividend payments have been at the top levels of the measure lists¹⁷. Given this, we still witness the increasing trend of bank dividend payments in total pay-outs almost across the globe. Increasing dose of regulations and continuation of dividend payments for the banking industries add a significant piece to the already unsolved dividend puzzles. As a highly regulated sector in the global scale, inspecting dividend trends in the Turkish Banking Industry may bring different perspectives to the related researches in the future.

Regulatory environment coupled with tax applications affecting dividend distributions in Turkey will be presented to get a broader view. We will, then, present our econometric model(s) to determine the factors affecting the dividend trends in the Turkish Banking Sector to test our predetermined hypothesis with references to the studies in the literature that we deem to be benchmarks to our studies. In the final section, we will be discussing the outcomes of our model in the conclusion section and will discuss the results with specific references to the dividend theory and highlight the areas that we contribute to the literature. Further areas that need to be explored by the researchers will also be highlighted.

¹⁷Malcolm Baker and Jeffrey Wurgler, 2013, **Would Stricter Capital Requirements Raise the Cost of Capital? Bank Capital and the Low Risk Anomaly**, p:16, HBS, Working Paper.

Contribution of the Thesis

Dividends are important because they represent part of the company's earnings shared with the shareholders and it affects the amount retained in the firm to make re-investment¹⁸. Dividend decisions are mostly involved with different arrays of conflicting issues. Paying dividends also affects shareholders' wealth and investment, and these three, investment; financing and dividend decisions are interrelated as put forward by Pruitt and Gitman¹⁹.

Dividends are exceptionally significant for financial firms due to the fact that it is extremely difficult to determine the free cash flow to firm in those institutions as numerous non-cash items such as accruals, provisions and others may make it practically impossible to trace a visible cash flow²⁰. To circumvent that, finance theory suggests that cash flow to shareholders in the form of dividends is one of the best tools to derive the fair value of financial firms. Intrinsic values of banks are generally derived through using dividend based valuation models from dividend discount to residual income and Gordon²¹ Growth models. Dividend payments and dividend policies of banks do carry significant amount of information to outsiders as to the financial health of the institution, the regulatory and tax environment, the competition, and life cycle of the firm.

The targeted main contributions of the thesis can be outlined below;

- i- **To explore factors affecting dividend decisions of Turkish banks.** The main contribution of the thesis will be exploring the factors affecting Turkish banks' dividend behaviour so as to conceive the future potential trend of bank dividends in Turkey. To our best knowledge, no previous study has directly examined and studied the dividend trends in the Turkish Banking Sector with respect to main dividend theories in the finance literature.

¹⁸Baker, Kent H., **Dividends and Dividend Policy**, Text Book, 2009, chapter 1: p:9 in p:3-19.

¹⁹Stephen W. Pruitt, Lawrence J. Gitman, "The Interactions between the Investment, Financing and Dividend Decisions of Major U.S Firms", 1991, **Financial Review**, v:26:3, p:429-430.

²⁰Aswath Damadoran, **Valuing Financial Service Firms**, 2009, Working Paper, NYU Stern Business of School p:6.

²¹Myron J. Gordon, "Dividends, Earnings and Stock Prices." May 1959, **Review of Economics and Statistics** Vol:41, No:2, Part I, pp:99-105.

- ii- **Do Turkish Banks follow a stable dividend policy?** What are the factors or counter factors affecting dividend decisions? Do investors and shareholders take their share as dividends from arguably the most profitable sector of Turkey? If not, what are the causes for non-distribution or low pay-outs of dividends?
- iii- **Interaction of dividends paid by banks with the evolution of gradually getting heavier regulations in Turkey.** Turkish Banking Sector is arguably one of the most heavily regulated banking systems in the World, therefore investigating and observing dividend policy evolution in a re-regulated plateau, where repercussions of Basel II- Basel III passage (presently at the initial stage), precautions/new regulation²² put forward by the regulator in the crises times and dividend interactions will be tried to be measured. This is rather an uncharted area in the literature and we expect a marked contribution. Turkish Banking sector underwent a major restructuring phase following the devastating 2001 crises and a stricter regulatory system was imposed on the banks so as to heal the vulnerabilities of the sector to cope with the crises in the future better²³.

Turkish regulators also brought dividend deterring regulatory clauses for banks to maintain the capital between 2002-2012²⁴; hence the thesis will also find an answer to dividend pattern and behaviours of banks in a relatively excessive regulatory environment.

A proposal for bringing dividend payment condition for the overcapitalised banks is another contribution we aim to fulfil. The continuation of dividend payments in highly excessive regulatory environment creates another dividend puzzle in the theory, where there are strong motives not to pay out dividends for banks. Considering the growth potentials of the sector and robust profitability of Turkish banks along with the alive foreign interest to the system, paying out dividends may not be so attractive for the managers

²² A 20% maximum dividend cap is imposed in 2008 tying the dividend payment of banks to their CARs.

²³ Banking and Regulation Agency of Turkey, **Structural Developments in Banking**, 2006, p:40.

²⁴ İhsan Uğur Delikanlı, **Road to Basel III: Strategies and Priorities of BDDK**, Presentation, 2011, p:26.

and owners themselves as well, hence another support point for the existence of the puzzle.

- iv- **Deriving dividend-agency cost analysis for Turkish banks.** Through analysing dividends, we will also be investigating whether dividends are being used to monitor the agency costs, if any, or not in the Turkish Banking Sector. Some researchers²⁵ argue that regulations should theoretically replace dividends as monitoring device for agency costs in banks. However, Mercado-Mendez and Wiley²⁶ point that banks use more dividends to control for agency costs.
- v- **Earnings, dividends and growth interaction.** Interaction among earnings, dividends and growth opportunities will be discussed.
- vi- **Ownership, control and dividend relationship in the Turkish banking Sector.** We will also look at how important ownership structure, going/being public (listed), or the type/segments are for the banks in forming their dividend decisions. One of the sub objectives of the thesis is to unravel the relationship between the listed Turkish banks' valuations levels with their respective dividend pay-outs or dividend policies. The analysis will be broaden to the data gathered in selected yet similar emerging markets to be able to draw a more general and conceptual conclusions.
- vii- **Risk, performance and dividends.** What financial performance metrics and risk factors exert influence on dividend decisions of the Turkish Banks?

The crux of the study is to shed light on Turkish banking sector dividend strategies and behaviour, this will be analysed through modelling econometrically the relationship between dividends and the other explanatory factors that will be determined and shared in the upcoming sections of this thesis.

The scope of the thesis will be rather extensive, incorporating data inclusive of all banking segment groups that include listed or non-listed, deposit or non-deposit and state or private banks.

²⁵ As stated in Ross Dickens' chapter 26 **Dividend Policy in Regulated Industries**, 2009 in Kent Baker's Dividend and Dividend Policies Textbook, p:463.

²⁶ Jose mercado-Mendez and Thomas Willey, "Agency Costs in the Banking Industry: An Examination of Ownership, Behaviour, Leverage, and Dividend Policies", 1995, **Journal of Economics and Finance**, v:19:3, p: 116-117.

The data of the banks listed in the Borsa Istanbul (BIST) coupled with closely held banks will be used over a time horizon, comfortable enough to yield reliable statistical outcomes.

This thesis is organised to give an extensive literature review on dividend policies of firms in the theory of finance first. The literature review encompasses the cornerstone of the dividend theories presented to strive for explaining the dividend behaviour of firms. Some of the academicians claim that dividend are irrelevant in a world where the frictions are omitted, while there are numerous studies put forth to argue that dividend polices actually do matter in the real world. Several different theories developed to try to solve why dividends are paid, changed, initiated or omitted. The reference studies for the thesis were also analysed in detail.

Following the literature review, a detailed coverage will be presented regarding the dividend trends in Turkey with special references to the Turkish Banking Sector. The data gathered from BIST will also be sketched to give a comparative analysis and give a broad picture about the dividend trends among the listed companies and sectors in Turkey. The operating and regulatory environment will also be envisaged so as to form a better notional picture regarding with the dividends.

In the succeeding sections, an econometric model will be construed in order to determine the explanatory factors for dividend trends in the Turkish Banking Industry. The outcomes of the model will in detail be analysed with frequent references to the existing dividend and finance literature.

Then, a new regulatory dividend model will be proposed for Turkish Banking system in conjunction with the newly evolved capital regulations.

Dividend: A Significant Value and Information Instrument

The dividend theory and dividend policies of firms have been a wide area of interest for academicians since the inception of the modern corporate finance theory. Many researchers have been trying to prove or refute the significance of dividends in creating value for shareholders. There are numerous studies conducted to find answers why the firms pay dividends and why the investors demand dividends like in the studies of Baker Powell and Veit²⁷, Frankfurter et al²⁸. The outcomes of these studies vary but all points to validity and significance of dividends for investors thus for firms.

Are the dividend policies an outcome of or true indicator of firms' earnings and cash flows thus a main indicator for value creation for shareholders or are they simply temporary or limited managerial instruments to cater investors' demands, thus forming a main tool of a general capital management of the firm?

A share price is a genuine indicator of a firm's value and dividend policies of firms directly or indirectly affect the value of share price in many ways. The extent of this impact is subject to testing over time and will continue to attract more researches to solve the puzzle. As Black²⁹ noted in his infamous study on dividends, "the more we look at the dividend picture, the more it becomes like a puzzle, with pieces that do not just fit together". The extent of the impact of dividends on firm's value or why investors like dividend paying firms or managers get rewarded for paying higher dividends are the ones still unanswered fully to this date. But the early studies put forward by Graham and Dodd³⁰, Williams³¹, Lintner³² and Gordon³³ advocate one idea, which is investors like dividends and more dividends are liked more. Graham and Dodd asserted that retained earnings should be justified to shareholders as they would create more value in

²⁷ Baker H. Kent, Gary E. Powell and Theodore Veit, "Revisiting Managerial Perspectives on Dividend Policy", 2002, **Journal of Economics and Finance**, V:26:3, p: 280-81 in pp:267-283.

²⁸ George M. Frankfurter, Arman Kosedag, Kevin Chiang, David Collison, David M. Power, Hartmut Schmidt, Raymond So and Mihail Topalov, "A Comparative Analysis of Perception of Dividends by Financial Managers", 2004, **Research in International Business and Finance**, v:18:1, p:74.

²⁹ Fisher Black. 1976. "The Dividend Puzzle". **Journal of Portfolio Management**, Vol:2 No.:, p:8.

³⁰ Benjamin Graham and David Dodd, **Security Analysis**, Textbook, McGraw Hill, New York, 1934, p:636-637.

³¹ John Burr Williams, **The Theory of Investment Value**, 1938, Harvard University Press, p:211-16.

³² John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2, p:97 in pp:97-113.

³³ Myron J. Gordon May 1959. "Dividends, Earnings and Stock Prices" **Review of Economics and Statistics** Vol:41, No:2, Part I, p:101, in pp:99-105.

comparison with foregone dividends. Williams argued that a firm's intrinsic value is related to its discounted future dividends, not earnings, earnings are only means. Williams is accepted as the founder of famous dividend discount model in the finance literature. In a more formal context, dividends represent the expected future cash flows for a firm, which define the intrinsic value for stocks³⁴.

John, Hand and Wayne³⁵ assessed the role of dividends in valuation. Authors employed Ohlson's equity valuation model to assess how the dividends are being priced as represented in stock prices. Are the dividends irrelevant to stock prices as proposed by Miller and Modigliani³⁶? Employing annual cross sections of firms in NYSE, NASDAQ and AMEX over the period 1974-1996, they found strong evidence that dividends are materially positively priced, sharply contrasting with the negative relation predicted by dividend displacement. Adding this, the authors also found that positive pricing of dividends are three times larger for loss firms than profit firms. Managers in loss firms use dividends as a signal for future profitability, whereas managers in profit firms use dividends to alleviate concerns about the misuse of free cash flow. Dividends lead to the pricing in the future abnormal earnings that are not captured by current financial statements.

Are the dividends lagging or leading indicators for firms' operations, or do they create illusions in the eye of investors to affect the firm value? Bhattacharya³⁷ argues that dividends are signalling devices and investors would be willing to pay higher tax rates in exchange for a signal from the firms they contain in their portfolios. Brown et al³⁸. also confirm the signalling feature of dividends, yet find that timing of this signalling is crucial, if dividend changes precede the earnings reports, signalling impact mitigates.

³⁴Neil Fargher, Robert A. Weigand, "Why Firms Begin Paying Dividends: Value, Growth, and Life Cycle Effects", in Kent Baker's **Dividend and Dividen Policy** Textbook, 2009, Chapter:24, p:424.

³⁵ John R. M. Hand and Wayne R. Landsman "The pricing of dividends in equity valuation", **Journal of Business Finance and Accounting**, v:32:3, 2005, p: 466-67, in, pp:435-469.

³⁶Merton H. Miller, and Franco Modigliani. "Dividend Policy, Growth and the Valuation of Shares.", **Journal of Business** v: 34:4, 1961, p:430 in pp: 411-433.

³⁷Sudipto Bhattacharya,"Imperfect Information, Dividend Policy and The Bird in The Hand Fallacy", **Bell Journal of Economics**, Vol:10, No:1, 1979, p:259 in pp:259-271.

³⁸Lawrance D. Brown, Dosoung Choi and Kwon Jung Kim, "The Information Content of Dividend Changes and Earnings: A Test of Signal Mitigation", **Seoul Journal of Business**, V:1:1, 1995, p:33 in pp:1-34.

Dividend policy is to determine which part of the earnings will be retained or will be distributed to shareholders. The decision or trade-off between retaining or distributing earnings is one of the biggest puzzles in the modern finance theory. Dividends are not the only payment instruments to investors, which have been widely replaced by share repurchases in many financial markets in the recent years. Alternatively, the value of firm can be further enhanced by paying no dividend or doing no share repurchase as long as investors believe that non-dividend paying firms can channel the internally generated funds into profitable investments, which buoy firms profit performance thus the share price.

The dividend policies may be formed in two basic methodology. Those are namely managed and residual dividend policies which have different repercussions for firms' value over time. The dividend increase, decrease or omits are generally outcome of residual dividend policies implemented by managers. The residual dividend policy simply refers to the residual income or cash flow or potential dividend left for shareholders after firms make all investments it had planned. In a managed dividend policy, we simply observe a steadier dividend policies over time, which do not fluctuate much and provide a predictable income to shareholders. The agencies do generally believe that the shareholders seek a steady income stream for their investments. The optimal dividend policy is the one that maximizes the firm's value and the shareholders' wealth.

Miller-Modigliani³⁹ theorem in 1961, which states that dividends are insignificant to firm value when the agency and other frictions do not exist, was a breakthrough in the dividend literature and discussion over this theorem still continues unabated.

The dividend decision of firms does have equal importance upon the share price of this particular firm as investment, financing decisions do. The objective of finance managers or CFOs is to find an optimum dividend policy, which not only appeases the investor's demand but it also aligns with the company's financing and

³⁹ Miller, Merton H., and Franco Modigliani "Dividend Policy, Growth and the Valuation of Shares." **Journal of Business**, 34:4, 1961, in p:413 in pp:411-433.

investment decisions. The earnings are the reference points for dividends, and a lagging reflection of the earning power. Yet it also may give positive signals if there is an increase in dividends or vice versa, it sends a negative signal when the dividends are reduced or omitted. According to the signalling effect, managers have superior information regarding the firm's outlook and they tend to choose dividend policies to convey this information to the existing and potential shareholders.

Firms tend to follow dividend policies that reflect the life cycles they are in. The high growth firms with high positive cash flow generating capacity but fewer investment opportunities may tend to follow a high-dividend pay-out policy or initiate⁴⁰, yet dividends may tend to be lower for high growth firms with high earning capacity in the future. Maturing firms with increasing trend of generating cash tend to increase their pay-outs or similarly firms envisaging limited growth potentials in their respective markets may tend to share more of their earnings with shareholders in the form of dividend⁴¹. According to findings of Brown, Bali and Demirtas⁴², portfolios consisting of value stocks (more mature) yield higher returns compared to those of growth stocks in a long-short zero investment strategy.

Although firms are inclined to stick with their pre-announced or pre-patterned pay-out policies, dividends are the functions of earnings and they lag the earning performances, therefore a weakness in earnings may be preceded by a dividend cut or a jump in earnings may be pre-communicated by dividend increases⁴³. Firms tend to set their payment ratios at lower rates in an attempt not to lower their pay-out rates in case of downturns.

The significance of dividends for financial firms especially for banks is more visible. The cash flow for an industrial firm can be closely pictured and analysed over time using many assumption metrics. The cash flows in an industrial firm could be

⁴⁰Laarni Bulan, Narayanan Subramanian, Lloyd Tanlu, "On the Timing of Dividend Initiations", **Financial Management**, V:36:4, 2007, p:57 in pp:31-65.

⁴¹Dennis C. Mueller, "A Life Cycle Theory of Firm", **Journal of Industrial Economics**, v:20:3, 1972, p: 217 in pp:199-219.

⁴²Turan G. Bali, Stephen J. Brown and Ozgur Demirtas, **Investing in Stock Market Anomalies**, Working Paper, Center for Financial Markets and Policy, Mc Donough School of Business, Georgetown University, 2012, p:26 in pp:1-50.

⁴³Joseph Aharony and Itzhak Swary, "Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis", **Journal of Finance**, v:35:1, 1980, p: 11 in pp:1-12.

easily traced, which lead them to be used more easily by investors to determine the firms' values. However, it is extremely difficult for financial firms to determine the cash flow as it is extremely difficult to determine the capital expenditures, stripping off the accruals from the actual cash flow etc. Since it is a hard task to determine the cash flow to firm for banks, cash flow to shareholders in the form of dividends stand out as a more traceable and accurate cash flow information, from which banks' value can be determined. Also dividends do poses variety of information other than being the cash flow to shareholders for banks as in Boldin and Leggett's⁴⁴ study, who concluded that there is a positive correlation between bank quality rating and bank dividends.

Although dividends are crucial in sharing the residual earnings with the shareholders and forming the basis for valuation especially for banks⁴⁵, the banking industry's regulated format may further blur the picture for dividend payments of banks. As bank capital is the major factor for any bank's viability and under the constraint of capital adequacy, true dividend potential or pay-out policy may not be fully unveiled due to explicit and implicit regulatory constraints⁴⁶. This, however, should not lessen the importance of dividends in banks, as they still stand the only viable and visible cash flows to shareholders. Although the actual pay outs may be lower than the target pay outs in banks due to regulatory constraints, the potential pay-out or target pay-outs are frequently employed to determine the future cash flows to shareholders in valuing banks. Despite the existence of regulations and their curtailing power on dividends, bank managers are reluctant to cut dividends althea a dividend cut may also suggest some profitable investments ahead unlike traditional view of bad signalling⁴⁷.

As the dividends represent the cash flows to shareholders in banks, as cash flow to firm cannot be easily determined in banks, they form the basis for the valuation. Although variety of valuation models could be implemented, the most frequently applied valuation techniques are all based on dividend discount models or the ones

⁴⁴Robert Boldin and Keith Leggett, "Bank Dividend Policy as a Signal of Bank Quality", **Financial Services Review**, v:4:1, 1995, p:1-8.

⁴⁵ Ross Dickens, Michael K. Casey and Joseph A. Newman. "Bank Dividend Policy: Explanatory Factors" **Quarterly Journal of Business and Economics**, Winter 2003, v:41, p:3 in pp:3-12.

⁴⁶Howard, Jr. Keen, "The Impact of Dividend Cut Announcements on Bank Share Prices", **Journal of Bank Research**, v:13:4, 1983, p:274-291.

⁴⁷ Howard Jr. Keen, "Bank Dividend Cuts: Recent Experience and the Traditional View", **Business Review by Federal Reserve Bank of Philadelphia**, 1978, p3-4 in pp:1-10.

directly related to equity and dividends⁴⁸. The Gordon growth valuation model and its derivatives, dividend discount and excess equity return models, are all based on banks' equity, dividends and growth assumptions. Hence, the dividend policies and assumptions underlying the bank dividend policies shape up the valuation of banks by impacting equity return of equity and actual cash flow to shareholders.

In this dissertation thesis, we will be exploring the indigenous and exogenous factors affecting the Turkish banks' dividend decisions with respect to the practices employed in some similar emerging markets. Our objective is to determine the factors shaping the Turkish banks' dividend payment and/or non-payment decisions.. The dividend decisions of banks have strong information content features, which strongly affect the valuations⁴⁹. The banking industry is heavily regulated and bank capital emerges as the core reference point in assuming the risks available in the market at the given level of required cost of capital. Banks strive to generate higher level of returns above the required level of cost of capital without disrupting the minimum capital adequacy levels or by not assuming too much risk, envisaged by regulators.

Dividends also shape out the capital and they are one of the strong instruments to manage the capital. Therefore, here, managers not only cater the investors' demands or choices through dividends but they more frequently send signals to the markets through dividends as to the viability and sustainability of banks' earnings⁵⁰. Note that non-payment is also a dividend strategy for banks and the dividend payments may also well convey strong signals as to how the operating and regulatory environment affect the bank future plans and dividend decisions.

The dividend theory mostly encompasses the studies conducted by data gathered in developed markets and for the dynamics of dividends in the developed world, and fewer studies have been directed for dividend policies in emerging or developing markets and with particular focus on banks, which requires much further

⁴⁸ Aswath Damadoran, **Valuing Financial Service Firms**, Working Paper, NYU Stern Business of School, 2009, p:6 in pp:1-44

⁴⁹ (Leggett) cited in p:11.

⁵⁰ Wolfgang Bessler and Tom Nahel, "The Stock-Market Reaction to Dividend Cuts and Omissions by Commercial Bank", **Journal of Banking and Finance**, v:20:9, 1996,9 p.1503-1504 in pp:1458-1508.

study as these markets may pose different dividend characteristics than we observe in the developed markets. That said, however, this study will be heavily referencing the studies conducted for the developing markets.

Along with the regulatory environment that heavily hinges on the banks' performances and dividend decisions; the ownership structure of banks may have material influence over the dividend trends followed by banks and financial institutions. Banks owned by holding companies may display a steadier pay-out pattern. The state and foreign ownership may also affect banks' dividend pay-out policies.

PART I:

DIVIDEND LITERATURE AND BANK DIVIDENDS

1.Literature Review

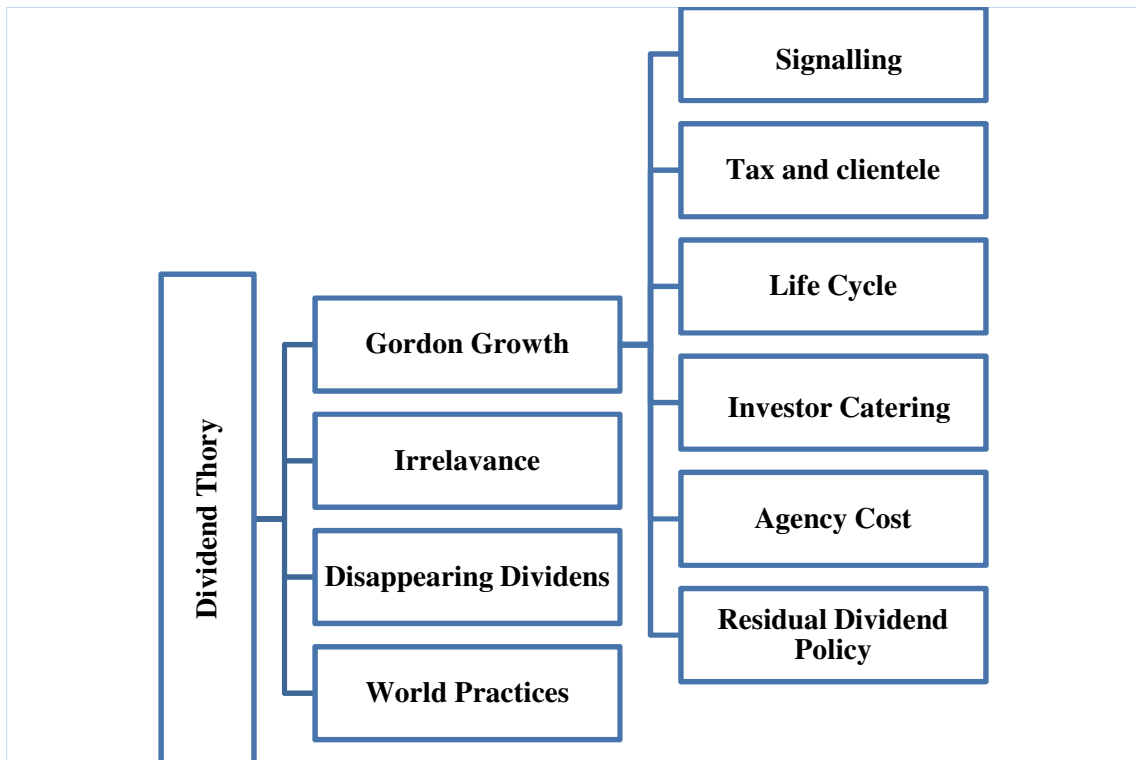
Dividend policy of firms and dividends have attracted great deal of interest in the finance literature as dividends are quite intermingled with firms' financing, investment and capital management decisions, where dividends are either seen a significant part or an outcome of these decisions. Dividends are also a good cash flow indicator and academicians, practitioners and alike often use discounted cash dividends to reach equity value of firms. It is the real cash measure of any investment on a stock or company and forms a significant part of the total return of an investment on a company. Dividend literature is extensive and has several historic cornerstones, i.e., John Burr Williams⁵¹ mentioned for the first time the intrinsic value of stock prices in 1938, which was identified as the sum of stock price at time and the discounted cash flow from this stock in the form of dividends. Graham and Dodd⁵² also articulated on intrinsic value of stock price in 1951, relating this value to dividend and stock price, which was later developed by Gordon, claiming that dividends are the along with the discount and growth rates to reach the intrinsic value of share price.

I will in detail take a glance to the dividend literature with particular reference to our main theme of dividend policies in banking and in the Turkish Banking Sector in particular. While a significant deal of dividend study has been striving to prove that dividends are significant and relevant to all players in the Finance, there has been some strong counter-arguments as well, which are basically centred on irrelevance of dividend theories. We are also one of the firm believers of dividend relevance and significance in the finance not only its overarching impacts on firms' capital, liquidity, financing and investment decisions, but also we also observe that dividends are symptoms and precursor of clear and/or disguised information that is worthwhile to outsiders in valuing their investments and assessing risks.

⁵¹Williams, John Burr, The Theory of Investment Value as mentioned in Kent Baker's **Dividends and Dividend Policy** Textbook p:4.

⁵²Graham Benjamin and Dodd David, Security Analysis as mentioned in Kent Baker's **Dividends and Dividend Policy** Textbook p:4.

Figure 1- Dividend Theories, Cornerstones



Source: Various dividend literatures

1.1. Gordon Growth as a Starting Point

Gordon⁵³ argues that stock prices reflect the future dividend stream and growth of dividends, where the growth is calculated as retention rate (part of earnings are assumed to be retained) multiplied by return on investment. This implies that higher dividends may degrade retained earnings growth and stock price may not move up in tandem with dividends. Gordon observes that dividends are the only plausible cash flow to stock holder and concludes that investor actually purchases dividends when he or she acquires a stock.

It might be viewed according to Gordon that share prices is another wealth of shareholder that could be capitalized in the market and it should be deemed as part of the total return attached to a stock. That said, if a stock is sold in the market, another investor buys it with the intention at least to receive dividends in the future. Therefore, dividends are really the incentive points for this continuous cycle and dividends can be

⁵³ Myron J. Gordon May 1959. "Dividends, Earnings and Stock Prices." **Review of Economics and Statistics** Vol:41, No:2, Part I, p.101 in pp-99-105.

treated as infinite factor determining the share price. If dividend is continuous. Dividend amounts distributed in perpetuity will not change and it will converge to full pay-out, thus discounting this dividend stream at the required rate of return will yield share price. However, this proposition lacks the growth element and some other external factors. Firms may retain more earnings in their growth phases and increase their pay-outs during their maturity periods.

Note that, he also includes discount rate in his equation, which is the rate required to discount future dividends to the present to come up with the intrinsic value. He argues that lower dividends or higher retentions may ultimately lead to higher required rates (discount rates). Lower growth rates can cause the stock price to drop but it may lead to lower cost of capital (also discount rate), hence higher stock prices. Gordon also points that change in prices with the dividends can be calculated with much greater precision especially when retained earnings are held constant.

1.2. Dividend Irrelevance Theory

Merton Miller and Franco Modigliani (hereafter MM)⁵⁴ devised an extensive research on the field of firm valuation and proposed that dividend policy and debt-equity mix that firms are employing does not affect the firm value. They also argued in their notorious study written in 1961 that dividend pay-out policy of firms is irrelevant to firms' value, implying that in perfect capital market conditions, investment decisions of the managers are sole factors affecting firms' value while financing decisions, where dividends are seen a part of it, are irrelevant. Financing the new projects through new equity, debt or retained earnings makes no matter and managers should be indifferent in choosing their financing decisions.

Gordon Growth model, which bases dividends as the main factor determining share price forms the starting point for MM to derive their infamous dividend irrelevance theorem. The early traces of the dividend irrelevance theorem can be found

⁵⁴Merton H. Miller, and Franco Modigliani, "Dividend Policy, Growth and the Valuation of Shares" **Journal of Business** 34:4,1961, p:429 in pp: 411-433.

in their paper related to firm's capital structures⁵⁵, where they concluded that firms' total value are independent from debt and equity structures, implying that optimal capital structure for a firm is of lesser importance. They gave an example of two firms with different capital structures in that one all-equity firm is compared with a firm using leverage. They proved that stockholders and bondholders investing in these firms receive dividends and interest from bond issuances are no better or worse off in a comparative framework and investors remain indifferent in choosing either firms. On that logic, firms should be irrelevant in choosing long or short term debt or equity issuance while forming their capital structures.

MM continued their studies on relation between firm value to capital structure, extending the scope to firm value to dividends in their seminal work completed in 1961. In their analyses, MM made three basic assumptions in deriving outcomes from their models. Those are; investors act rationally in their investment decisions, capital markets operate under perfect conditions, and frictions like taxes, related costs do not exist. Those assumptions imply the price-taking behaviour of investors, costless pricing information and to different tax treatment over capital gains and dividends⁵⁶. Rational behaviour of investors suggests that investors are indifferent between dividend and capital gains. Also, capital markets operating under perfect conditions imply that there is no asymmetric information exists in the markets.

MM's dividend irrelevance theory emerged as a breakthrough in the field of dividend theories and led to extensive amount of researches to further discuss the MM theory and dividends. The assumptions and outcomes of MM irrelevance theorem have been widely argued in the literature and so many theories have been built upon it. The numerous researches to favour and oppose the MM theory are an indicator how much MM theorem made an impact in the history of finance.

⁵⁵Merton H. Miller, and Franco Modigliani, "The Cost of Capital, Corporation Finance and the Theory of Investment" **American Economic Review** Vol:48 No:3, 1958, p:291 in pp: 261-297.

⁵⁶Kent, H. Baker **Dividends and Dividend Policy** Handbook, James S. Ang and Stephen J Ciccone., Chapter 6, "Dividend Irrelevance Theory", 2009, p:101.

Dhrymes and Kurz⁵⁷, Higgins⁵⁸, Grabowski and Mueller⁵⁹ investigated relation between dividend and investment decision. Their findings are such that investment decisions affect the dividend decisions and vice versa, thus finding causality in both directions.

Higgins examined the cross-sectional relation between the dividends and investment and finds that investment is a significant factor in explaining dividend decisions, however dividend decision is not an explanatory factor in explaining investment decision, which supports MM irrelevance theorem.

Grabowski and Miller found interdependence between the dividend and investment decisions consistent with Dhrymes and Kurz findings.

Fama⁶⁰ applied a two-stage least squares econometric model to examine the relationship between the investment and dividend decisions, whereby he could not reject the hypothesis that dividend and investment decisions are independent, again a result consistent with MM theorem. Smirlock and Marshall⁶¹ relates dividend and capital decisions for financial firms but do not mention about dividend-investment dimension. Pruitt and Gitman⁶² find no relation between the dividend and investment policies. De Angelo & De Angelo and Skinner⁶³ show that dividends and investments are highly correlated in both time series and cross-sectional. In the short run, authors find no relation between investment, dividends and earnings but over the longer haul these three factors start to affect and become interdependent and partially explanatory each other.

⁵⁷ Phoebus J. Dhrymes and Mordecai Kurz, **Determinants of Investment Behaviour**, Textbook by UMI, chapter:12, 1967, p:428 in pp:427-486.

⁵⁸ Robert C. Higgins, "The Corporate Dividend-Saving Decision", **Journal of Financial and Quantitative Analysis**, v:7:2, 1972, p:1536-38 in pp:1527-1541.

⁵⁹ Henry G. Grabowski and Dennis C. Mueller, "Managerial and Stockholder Welfare Models of Firms Expenditures", **The Review of Economics and Statistics**, v:54:1, 1972, p:15 in pp:9-24.

⁶⁰ Eugene F. Fama, "The Effects of a Firm's Investment and Financing Decisions on the Welfare of its Security Holders", **American Economic Review**, v:68:3, 1978, p:273 in pp:272-284.

⁶¹ Marshall William and Michael Smirlock. **Bank Dividend Policy and The Prediction of Future Bank Accounting Returns**, Working Paper, Rodney L. White Center for Financial Research. The Wharton School. University of Pennsylvania, No:12-83, 1983, p:15-16 in pp: 1-33.

⁶² Stephen W. Pruitt and Larry J. Gitman, "The Interactions between the Investment, Financing, and Dividend Decisions of Major U.S Firms", 1991, **Financial Review**, v:26:3, 1991, p:428-29 in pp: 409-430.

⁶³ Harry De Angelo, Linda De Angelo and Douglas Skinner, "Are dividends disappearing?", **Journal of Financial Economics**, v:72, 2004, p:426 in pp:425-456.

1.2.1. Opponent/Proponents Theories: The Impact of Market Imperfections

While several studies support MM findings, most of the study put forward after MM irrelevance theorem has been against it based on our observations. Still, the MM theory has been wildly discussed among academicians and its impacts were so overriding that dividends have become one of the mostly held discussions and issues in the finance theory. What is the urge for firms to distribute dividends if they are irrelevant? The Proponents of MM theory mostly see firms' investment decisions as the main crux of value, hence dividend distributions are merely by-product of decisions taken regarding investments. Brennan⁶⁴ directly attacked Gordon on establishing the dividend relevancy on ignoring impacts of investment hence exaggerating dividend policies in forming firms' financing and investment decisions. Therefore, he advocated MM due to their focus on investments to create firms value. Black and Scholes⁶⁵ also find no relationship between stock prices and dividends, supporting MM theory.

The main area of attack to MM proposition of dividend irrelevance came from their main assumption of imperfect market conditions. MM remained confident their irrelevancy theorem even when imperfections exist⁶⁶. Baker, Powell and Veit⁶⁷ asserted that market imperfections do matter and have much important value attached by the markets, especially referring that taxes, agency costs and information asymmetry are quite crucial issues for the markets and market players, hence one of the main pillar of the MM theorem has main defects. The studies that focused on agency costs implicitly suggest that agency cost are important and should be monitored. In his study, Easterbrook⁶⁸, for instance, showed that dividend paying firms often go to capital markets to raise funds for their future operations, which induce the capital market fund providers to closely monitor the firm and the managers, therefore dividends activate monitoring functioning of the markets.

⁶⁴Michael J. Brennan, "A note on dividend irrelevance and the Gordon Valuation Model", **Journal of Finance**, V:26:5, 1971, p:1120 in p p:1115-1121.

⁶⁵Fisher Black, Myron Scholes, "The effects of Dividend Yields and Dividend Policy on common stock prices and returns", **Journal of Financial Economics**, Vol:1-1, 1974, p:1-2 in pp:1-22.

⁶⁶Kent Baker, **Dividends and Dividend Policy**, John Wiley&Sons, The Robert W. Kolb series in Finance, 2009, p:104.

⁶⁷Kent H. Baker, Gary E. Powell, E. Theodore Veit, "Revisiting the Dividend Puzzle. Do All the Pieces Now Fit?", **Review of Financial Economics**, Vol:11-4, 2002, p.241 in pp:241-261.

⁶⁸Frank H. Easterbrook, "Two Agency Cost Explanations of Dividends", **American Economic Review**, v:68-3, 1984, p.655 in pp:650-659.

Dunham⁶⁹ discussed the relations among investment, earnings and dividends. Sarig⁷⁰ posited that “investment decisions lead pay-out policies not the other way around”, also increase in pay outs is associated with increase in long term earnings structure of the firm. The two important propositions set forth by MM, the capital and dividend irrelevance theorems, imply independence among a firm’s financing, investment and dividend decisions in perfect and complete markets, a result that Fama and Miller⁷¹ label the “separation principle”. The implication of the separation theorem is that investment decisions should never have any impact on firm’s financing decisions, and similarly firm’s investment decisions should not be impacted by the firm’s dividend decisions. The authors, however, states that investment and financing decisions may interact under imperfect market conditions, quoting to Myers and Majluf⁷² as competition for funds under imperfect conditions may force the managers to choose between dividends and investments. The authors also refer to Brav, Graham, Harvey and Micahely’s⁷³ study , which states that managers may give up profitable projects in order to maintain the current dividend level.

De Angelo&DeAngelo⁷⁴ study also blame MM for their treatment on imperfections and also condemn MM irrelevance for taking 100% fixed pay-out assumption, stating that firm’s investment decision may be impacted if some retention is allowed.

Sarig⁷⁵ also employed a similar VAR approach in his model. He finds that dividend investment policies lead to corporate pay-out policies, not vice versa, hence attaching importance to the interaction between investments and dividends. He employed Granger causality results between the variables as well as the decomposition and impulse response functions from the VAR. The findings are granger causality for

⁶⁹Lee. M. Dunham. **The Dynamic Relation Among Investment, Earnings and Dividends**, 2008, University of Nebraska-Lincoln, p:4-5.

⁷⁰ Oded Sarig, “A Time Series Analysis of Corporate Payout Policies”, **Review of Finance**, v:9, 2004, p:1 in p:1-22.

⁷¹Eugene F. Fama and Merton H. Miller, **The Theory of Finance**, Text Book, Hinsdale III, Dreyden Press, 1972, p:211-221.

⁷²Stewart Myers and Nicholas Majluf, “Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have”, **Journal of Financial Economics**, v:13:2, 1984, p.206-07 in pp:187-221.

⁷³Alan Brav, John R. Graham, Harvey R. Campbell, Roni Michaely, “Payout Policy in the 21st Century”, **Journal of Financial Economics**, V:77-3, 2005, p.484 in pp: 483-527.

⁷⁴Harry De Angelo, Linda De Angelo, “The Irrelevance of the MM Dividend Irrelevance Theorem”, **Journal of Financial Economics**, v:79-2, 2006, p:312 in pp: 293-315.

⁷⁵Oded Sarig, “A Time Series Analysis of Corporate Payout Policies”, , **Review of Finance** , 2004 v:9, p:1-2.

the 30% of the sample, which led them to conclude that shocks to dividends have long term consequences and vice versa, implying bi-directional interdependence, evidence against the separation principle. Another finding is over the long run shocks to investment contribute an average 25% to the variance in dividends, while shock to dividends account for an average eight per cent of the variance to investment. These were obtained from the variance decomposition analysis.

Fama and French⁷⁶ point out “disappearing dividend” phenomenon, using a sample that excludes financial firms and utilities. New firms listed between 1978-1999 tend to be smaller and less profitable, but have higher growth opportunities than new firms in prior periods. Firms with such characteristics tend not to pay dividend. However, Fama and French show that regardless of characteristics, firms have become less inclined to pay dividends. Fama and French also perform a univariate analysis that indicates that dividend paying firms are larger, more profitable, and have fewer growth opportunities than firms that do not pay dividends. Fama and French later found that there was a decline in propensity to pay dividends for firms covering 1978-1999 periods. De Angelo, De Angelo and Skinner⁷⁷ examined the trend in dividend payment from the different perspective of aggregate dividend payment, and found that real dollar payments of dividends actually increase over the period examined by Fama and French.

Baker and Wurgler⁷⁸ find a close link between the propensity to pay dividends and catering incentives. They create a variable called the “dividend premium” which they use as a proxy for the value that the market places on dividends. They show a positive, significant relation between the catering incentives represented by the dividend premium and the change in the firms’ propensity to pay dividends.

MM irrelevance theory gathered great interest as it denied the role of dividends in firm valuation, yet it was simultaneously attacked by numerous academics as to the validity of its underlying assumptions. Frictionless world and perfect market conditions

⁷⁶ Eugene F. Fama and Kenneth R. French, “Disappearing dividends: changing firm characteristics or lower propensity to pay?”, **Journal of Financial Economics**, v:60-1, 2001, p:36 in pp:3-43.

⁷⁷ Harry De Angelo, Linda De Angelo and Douglas Skinner, “Are dividends disappearing?”, **Journal of Financial Economics**, v:72, 2004, p:454-455 in p:425-456.

⁷⁸ Malcolm Baker and Jeffrey Wurgler, “A Catering Theory of Dividends”, **Journal of Finance**, v:59, 2004, p:1126-1127 in p:1125-1166.

have been largely criticized, claiming that these imperfections do actual exist and affect the components of firm value.

Taxes have been the main assumption point for MM irrelevance theory, yet later on MM, themselves, accepted the impact of taxes on investors' behaviour and capital structures, even suggesting that firms should structure their capital structures by 100% debt under the existence of the corporate income tax. Farrar and Selwyn⁷⁹ contend that an optimal dividend exists as capital gains and dividends are taxed differently, which was denied by Brennan⁸⁰ who argued that when tax rates are above zero, dividends are detrimental to investors. In his infamous study, Black⁸¹ acknowledges firms' dividend policies and investors' approach to dividend as puzzle given that the former continues to pay put while the latter is willing to get dividends even if tax treatments are not favouring dividend payments.

The second assumption of the MM theory is related with the information asymmetry, where the authors claim that investors' reaction to dividend changes are of temporary nature and they are mostly mistaken. Intuitively, MM holds the view that there is no relationship between the dividends and stock prices. This second assumption triggered many researchers to explore the availability of information content of dividends. Myers and Majluf⁸² led the pack in that sense as they point that managers convey non-public information through dividends. Signalling theories have gained pace following the MM's second assumption and most of the studies aimed at proving that dividends reflect information to outsiders regarding the future profitability of the company. Given that however, there are also numerous studies refuting the findings of the previous studies, claiming that dividends do not contain any information regarding the cash flow and profitability of the companies. Ross⁸³, Battacharya⁸⁴, and Miller and

⁷⁹Donald E Farrar, Lee L. Selwyn. 1967. "Taxes, Corporation Financial Policy and Return to Investors", **National Tax Journal**, Vol:20 No:4, p: 444 in pp: 444-454.

⁸⁰Michael J Brennan, "Taxes, Market Valuation and Corporate Financial Policy", **National Tax Journal**, Vol:23 No:4, 1970, p:426 in pp: 417-427.

⁸¹Fisher Black, "The Dividend Puzzle", 1976. **Journal of Portfolio Management**. Vol:2 No.: p:7 in pp:5-8.

⁸²Stewart Myers, and Nicholas Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have". **Journal of Financial Economics**, Vol:13 No:2, 1984, p: 214-215 in pp:187-221.

⁸³Stephen A. Ross, "The Determination of Financial Structure: the Incentive Signalling Approach", **Bell Journal of Economics**, Vol:8, No:1, 1977, p.38 in pp:23-40.

Rock⁸⁵ propose that managers use dividends as signals of profitability. In some models, the tax disadvantage of dividends provides the necessary cosy of signalling, in others, the cost is foregone investment opportunities. These models predict that dividends would use less often (for example), if the information gap between managers and investors has narrowed, or if substitute signalling mechanisms have become more effective. More specifically, information gaps might have narrowed by information technology or by the emergence of institutional investors with stronger incentives to gather information.

MM also assumes that there is no agency costs involved in building firm's capital structure as managers become indifferent between raising equity or debt, also dividend irrelevance also confirms this assumption. Easterbrook⁸⁶ views dividends as a corporate governance device that helps to keep managers close to the capital markets. He assert dividends reduce free cash flow available to managers, who, in turn, are inclined to make low risk-low return investments to secure their jobs. By lowering free cash, firms are compelled to raise new equity or issue debt, both of which will increase monitoring of firm by outsiders. Thus, dividends serve as a mechanism to reduce agency costs of free cash. In a similar spirit, Jensen⁸⁷ prefers debt because it provides less discretion. Under this view, dividends could be disappearing because more effective governance mechanisms have appeared as substitutes. Note that time variation in the level of free cash flow itself, holding governance constant, is not an explanation for time varying propensity to pay.

1.3. Agency Costs And Free Cash Flow Hypothesis

The intersection of agency cost problem and dividends has been extensively examined by the researchers to indicate that dividend is one of the handy devices to control any agency problem in a firm. The agency problem and free cash flow of a firm

⁸⁴Sudipto Bhattacharya, "Imperfect Information, Dividend Policy and The Bird in Hand Fallacy". **Bell Journal of Economics**, Vol:10 No:1, 1979, p. 260 in pp:259-270.

⁸⁵Merton H. Miller and Kevin Rock "Dividend Policy under Asymmetric Information". **Journal of Finance** Vol:40 No:4, 1985, p:1047 in pp:1031-1051.

⁸⁶Frank H. Easterbrook, "Two Agency Cost Explanations of Dividends". **American Economic Review**, Vol:74 No:4, 1984, p:658 in pp:650-659.

⁸⁷Michael C. Jensen, "Agency Cost of Free Cash Flow, Corporate Finance and Takeovers", **American Economic Review**, Vol:76, No:2, 1986, p:326 in pp: 323-329.

are quite interdependent and agency problem may exist as long as a firm produces positive free cash flow. The use of this free cash flow is of vital importance in that managers mostly confront with a set of investment opportunities lying ahead of them or pay out a portion or part of their excess cash to shareholders. Managers who are engaged in investments may actually choose a low return investment or use these cash in less lucrative areas where firm investors would otherwise be better off. Free cash flow hypothesis claims that dividends reduce the excess cash available to managers and act as an insurance mechanism to curb them for any wrongdoings. This theory was first introduced by Jensen⁸⁸ where agency cost problem was related to free cash flow available to managers. While Jensen sees dividends act as a monitoring mechanism for controlling agency costs, he sees that debt is a more powerful tool to control agency costs due to more binding covenants in debt contracts. Richardson⁸⁹ posit that firms with highest free cash flow are the usually ones to make overinvestment. These studies suggest that a firm value should go up when dividend payments are initiated as the likelihood of overinvestment diminishes.

Blanchard et al.⁹⁰ concludes that managers with high windfall cash on hand are reluctant to distribute them to investors in the form of dividends and share repurchase, nor do they desire to lower the debt burden. Mostly cash is used to make an acquisition which often yield unproductive outcomes to shareholders. Therefore, windfall gains are mostly not used for the benefit of investors. On the other hand, Opler et al.⁹¹ finds no evidence that firms hold excess cash due to agency problems but drive to make an acquisition seems strong.

The use of excess cash created by a firm's free cash flow generations has been much debated among scholars, some say that signalling has been a stronger motive for firms as firms tend to increase their investments when they increase dividends or vice versa. Here, the advocates of this thesis claim that the firm actually signalled about

⁸⁸Michael J. Jensen, "Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers", **American Economic Review**, V:76:2, 1986, p:326 in p:323-329.

⁸⁹Scott Richardson, "Over-investment of free cash flow", **Review of Accounting Studies**, 2006, v:11-2/3, p:185-86 in p:159-189.

⁹⁰Olivier Jean Blanchard, Florencio Lopez De Silanes, Andrei Shleifer, "What do firms do with cash windfalls?", **Journal of Financial Economics**, v.36, 1994, p.358 in pp:337-360.

⁹¹Tim Opler, Lee Pinkowitz, Rene Stulz, Rohan Williamson, "The Determinants and Implications of Corporate Cash Holding", **Journal of Financial Economics**, v:52, 1999, p:44 in pp.3-46.

future earnings power, hence signalling their ability to continue and increase investments while paying out at the same time. However, some study was against this thought bringing a recurring or non-recurring identity to firms' free cash flows as Lie⁹² suggests. Lie says that firms should use non-recurring excess cash for launching a special dividend or a buyback program, therefore non-recurring items should be used in similar vein through non-recurring vehicles. Thus, if the excess cash is of non-recurring type, this should not be reflected into dividends, which are normally recurring based on normality and previously set policy. Several case studies were also traced in the literature where single event or company's poor investment decisions have been punished by the market while distributing the fund obtained from the disposal of these investments as dividends were largely welcome.

Agrawal and Jayaraman⁹³ contend that all equity firms have significantly higher dividend pay-out ratios compared to those of levered firms and conclude that managerial ownership and dividends are substitutes for controlling agency cost problem in a firm.

Several studies in the global scale also searched for the relationship among cash flow, dividends and agency problems. La Porta et al.⁹⁴ analysed over 4000 firms from 33 different countries and find that minority investor protection plays a crucial role in dividend policy formation. Accordingly, in countries where investor protection rights are better protected, firms tend to pay-out more compared to countries with poorer protection of minority rights. The study concludes that common law countries have more dividend paying firms as their underlying infrastructure for minority protection is far better. The legal environment is significant and crucial in pay out decisions and they play a vital role in dividends. The theory is known as the outcome model of agency theory. La porta et al. also presented an alternate explanation called substitute model, where firms tend to substitute poorly established legal systems to establish good reputations in the eyes of investors.

⁹² Eric Lie, "Excess Funds and Agency Problems: An Empirical Study on Incremental Disbursements", , **Review of Financial Studies**, v:13:1,2000,p:219-20 in p: 219-248.

⁹³ Anup Agrawal, Narayanan Jayaraman, "Dividend Policies of All Equity Firms :A Direct Test of the Free Cash Flow Theory.", **Managerial and Decision Economics**, v:15-2, 1994, p:145 in p:139-148.

⁹⁴ Rafael La Porta, Florenico Lopez De-Silanez, Andrei Shleifer and Robert W. Vishny, "Agency Problems and Dividend Policies around the World", **Journal of Finance**, 2000, v55:1, p.27 in pp:1-33.

Pawlina and Renneboog⁹⁵ analysed cash flow trends of firms in the U.K. and confirmed that investors in the UK are more sensitive to cash flow, which implies that agency cost theory of dividends is more relevant than information asymmetry. They also find that state and institutional ownership is a strong controlling mechanism for agency costs in the UK. Several other studies also searched for the role of dividends in mitigating agency costs. For the markets in the Netherlands, Renneboog and Szilagyi⁹⁶ searched for dividend patterns of the Dutch companies and found out that ownership structure plays a crucial role in controlling agency costs rather than dividends. Firms with higher institutional ownership are being monitored closely and no dividend check is needed for agency cost issues.

As prescribed by Easterbrook⁹⁷, dividend creates an environment where the firm needs external financing. External financing, in turn, brings close monitoring by market participants such as underwriters, rating agencies, and the shareholders (security holders). Dividends lead to capital allocation/acquisition strategies, rather than financing needs leading to dividend decision.

According to Easterbrook, a value-maximising firm would follow a modified residual dividend policy in that the firm pays out cash flow in excess of those remaining after investment, necessitating external financing. Similarly Jensen⁹⁸ asserts that debt issues serve the same purpose like dividends, depriving the excess cash out of the hands of the managers.

Rozeff⁹⁹ mentions about an optimal dividend policy through appealing two market imperfections; one is the agency cost of external financing while the other is the transaction costs associated with external finance. The paper states that increased dividend level lowers agency costs but increase the external financing costs, the sum of

⁹⁵Grzegorz Pawlina and Luc Renneboog, "Cash Flow Sensitivity Caused by Agency Cost or Information Asymmetric Information: Evidence from the U.K.", **European Financial Management**, v:11-4, 2011, p:494-96 in p:483-513.

⁹⁶Luc Renneboog and Peter G. Szilagyi, **How Relevant is Dividend Policy under Low Shareholder Protection?**, Finance Working Paper, European Corporate Governance Institute, 2007, paper no: 128/2006, p:22 in pp:1-35.

⁹⁷Frank H. Easterbrook, "Two Agency Cost Explanations of Dividends", **American Economic Review**, v:68-3, 1984, p:655 in pp:650-659.

⁹⁸Michael J. Jensen, "Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers", **American Economic Review**, V:76:2, 1986, p:326-27 in p:323-329.

⁹⁹Michael S. Rozeff, "Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios", **The Journal of Financial Research**, vol:5/3, 1982, p:258 in p:249-259.

these two opposing costs determine the optimal dividend policy. The firm's past and future (expected) growth rate is inversely related with dividends. The relation of dividend with firm's beta and percentage of stock held by insiders are negative, while it is positively correlated with the number of common stocks.

Lease et al.¹⁰⁰ compared different dividend policies and focus on managed dividend and pure residual dividend policies. After deducting the cost of desirable investment opportunities from the firms' free cash flows, they first pay out dividend. This is called pure residual dividend policy. This, however, can generate highly unstable dividend stream over time, which might be regarded as unreliable by investors. A managed dividend policy results in smoother dividends which are more predictable in the eyes of investors.

Advocates of managed dividend policy claim that it creates more predictability and reliability for dividend streams over time, while opponents of residual dividend policy allege that managed dividend policy lowers the dividend distributed over time.

1.4. Residual Dividend Policy

In their seminal study, MM¹⁰¹ argues that firms pay out all the available cash as dividends when the investment opportunities exhaust, which is one of the key assumptions of the MM theory. Therefore, residual dividends are referred to the funds and cash left to the firm to be distributed to shareholders when all the feasible investment opportunities are exhausted. Yet, sometimes managers can continue their investments although there are no more feasible investment opportunities in the market. In this case, managers do actually enter into an overinvestment phase that will destruct shareholders value according to Jensen¹⁰². Easterbrook¹⁰³ asserts that dividends brings and monitoring for the firm in that dividend paying firms resort more often to debt

¹⁰⁰Ronald Lease, John Kase, Avner Kalay, Uri Leowesntein and Oded Sarig, **Dividend policy: Its Impact on Firm Value**, Text Book Boston, Harvard Business School Press, 2000 p:219.

¹⁰¹Merton H. Miller, and Franco Modigliani, "The Cost of Capital, Corporation Finance and the Theory of Investment" **American Economic Review** Vol:48 No:3, 1958, p:293 in pp: 261-297.

¹⁰²Michael J. Jensen, "Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers", **American Economic Review**, V:76:2, 1986, p:326 in p:323-329.

¹⁰³Frank H. Easterbrook, "Two Agency Cost Explanations of Dividends", **American Economic Review**, v:68-3, 1984, p:655 in pp:650-659

markets, which brings outside inspection and closer monitoring. Therefore, a value maximising firm should distribute all the cash in excess of profitable projects, which actually requires external financing.

As residual dividend policy is construed on cash flow generated by the firms and investment opportunity set available to managers, it is frequently involved and intermingled with agency problems. Since residual dividends are dependent on the cash flow left after investments, the question as to how this excess will be used is equally important. As Mikkelsen and Partch¹⁰⁴ study reveal firms tend to hoard cash that may likely be used in sub-optimal growth and investment plans. They explain that firms operating between 1986 and 1991 follow an extreme cash hoarding policy holding more than 25% of their assets in cash.

The residual dividend policy calls for a true assessment of future cash flows to set a stable dividend policies, which is vital for some clientele group likes pension funds as they require stable future cash flow in their investments with moderate volatility. Therefore, managers are bound to correctly estimate future cash flow, which often may fail due to unforeseen events or wrongly forecasting the future cash flows.

Lease et al.¹⁰⁵ put forward the distinction between the residual dividend and managed dividend policies. They mentioned about the pure residual dividend policy where funds after exhausting all available investment opportunities are distributed to the shareholders. This, however, create an unpredictable dividends to shareholders, which are mostly prone to stable and predictable income streams. A managed dividend policy provides a smoother and more predictable cash flow. In actual life, we see the combination of residual and managed dividend policies implemented by the firms.

As investments are equally important as cash flows in shaping the dividend policies, the macro economic developments are quite vital as they are closely involved with investment decisions and they affect the cash flow volatility and magnitude. Yoon

¹⁰⁴Wayne H. Mikkelsen, M. Megan Partch, "Do Persistent Large Cash Reserves Hinder Performance", 2003, **Journal of Financial and Quantitative Analysis**, v:38:2, p:292 in p:275-294.

¹⁰⁵Ronald Lease, John Kase, Avner Kalay, Uri Leoweshtein and Oded Sarig, **Dividend policy: Its Impact on Firm Value**, Text Book Boston, Harvard Business School Press, 2000 p:219.

and Starks¹⁰⁶ find a positive relation between the dividend changes and the magnitude of the capital investments for U.S firms between 1969 and 1988 period. There are numerous studies finding the relation between dividends and investments as negative, mostly interpreted as the confirmation of residual dividend policy theory. Aivazian, Booth and Cleary¹⁰⁷ inspected the relation between dividends and firms' bond ratings, referring to their debt rating level. They show that firms with a bond rating tend to follow a managed dividend policy, however, firms without bond rating are inclined to follow a residual dividend policy.

1.5. Signalling Theory

1.5.1. Dividend Signalling Future Earnings

Signalling theory was first devised by Ross (1977), where he argued that firms convey information through changing their capital structures. Increasing leverage signal increased cash flow capacity to use debt, therefore it is likely perceived as good signal by investors. Kalay¹⁰⁸ extended this study adding dividend announcements acting as a strong signalling mechanism. He explicitly asserted that managers are generally reluctant to cut dividend in order not to induce a misperception in the eyes of investors.

Brown et al¹⁰⁹. confirm the signalling feature of dividends, yet find that timing of this signalling is crucial, if dividend changes precede the earnings reports, signalling impact mitigates. They find that the extent of signalling mitigation differs among large and small-scaled firms. They, however, assert that earnings and dividends should convey the same information for mitigation to occur.

Aharony and Swary¹¹⁰ and Kane, Lee and Marcus¹¹¹ support the view that dividends convey information about a firm future profitability. Aharony and Swary

¹⁰⁶Pyoon Sig Yoon and Laura T. Starks, "Signalling, Investment Opportunities and Dividend Announcements", **Review of Financial Studies**, v:8:4, 1995, p.1015-16 in pp: 995-1018.

¹⁰⁷Varouj Aivazian, Laurance Booth, and Sean Cleary, "Dividend Smoothing and Debt Ratings, **Journal of Financial and Quantitative Analysis**, v:41:2, 2006, p:439 in p:439-453.

¹⁰⁸Avner Kalay "Signalling Information Content and the Reluctance to Cut Dividends", 1980, **Journal of Financial and Quantitative Analysis**, Vol:15 No:4,1980, p:863 in pp: 855-869.

¹⁰⁹Laurance D. Brown, Dosoung Choi and Kwon Jung Kim, "The Information Content of Dividend Changes and Earnings: A Test of Signal Mitigation", **Seoul Journal of Business**, V:1:, 1995, p:27 in pp:1-34.

¹¹⁰Joseph Aharony and Itzhak Swary "Quarterly Dividend and Earnings Announcements and Stockholders' Returns. An Empirical Analysis". **Journal of Finance**, Vol:35 No:, 1980, p:11 in pp:1-12.

found that quarterly changes in cash dividends render information about the quarterly change in earnings and market reacts positively and swiftly to dividend changes and announcements. Kane et al, also demonstrated the significant corroborative relation between earnings and dividend announcements.

Some researchers contend that dividend convey bigger information for smaller-scaled firms as Mougue and Rao¹¹² concluded in their 2003 study. They argue that information asymmetry is a larger problem for smaller firms and once they initiate dividends the information conveyed to the public results in marginally larger impact compared to those in larger firms. Also, some researchers found evidence that dividends contain meaningfully larger information for recently IPO'ed firms compared to those for others.

Skinner and Soltes¹¹³ found that dividend payers report fewer losses, reflecting the quality of earnings. After controlling for quality, dividend-payers still only report losses around 5% of the time, and this trend mostly remains constant over time.

The relation between pay-out policy and earnings quality, the author estimates earning quality regressions for five groups of firms with distinct pay-out policies.

- Firms that make regular dividends and repurchases
- Firms that pay regular dividends and make occasional repurchases
- Firms that pay dividends and make no repurchases
- Firms that make regular repurchases and do not pay out dividends
- Firms that make occasional repurchases but do not pay out dividends

The author predicts that earnings persistence will decline as we move from group I to group V, because dividends comprise stronger signals of quality than repurchases and because regular pay-outs comprise stronger signals than occasional

¹¹¹Alex Kane, Young Ki Lee and Alen Marcus, "Earnings and Dividend Announcements: Is There a Corroboration Effect?", **Journal of Finance**, Vol:39, No:4, 1984, p: 1099 in pp:1091–1099.

¹¹²Mbodja Mougoue and Ramesh P Rao, "The Information Signalling Hypothesis of Dividends: Evidence form Cointegration and Causality Tests", **Journal of Business, Finance and Accounting**, Vol:30, No:4, 2003, p:470 in pp:441–478.

¹¹³Douglas J. Skinner and Eugene Soltes, "What do dividends tell us about earnings quality?", **Review of Accounting Studies**, v:16:1, 2011, p:26 in pp:1-28.

pay-outs. Firms that pay regular dividends and make regular repurchases have the highest earnings quality.

Are larger pay-outs likely to signal higher quality earnings? It is a proposition for which the author finds little support. Larger firms are less risky because of their size and diversification and this being lower risky increases the likelihood that they pay dividends and it also shows the persistence of their earnings.

Arnott and Arness¹¹⁴ reached the conclusion that higher pay-outs are mostly followed by higher earnings momentum contrary to the general belief that low pay-outs suggest higher future earnings growth.

Another prominent earnings quality measure is the extent to which earnings is composed of accruals versus cash flows Sloan¹¹⁵. Sloan argues that because accruals are generally less reliable than cash flows, the relative proportions of accruals and cash flows are likely to be informative about earnings persistence. Thus, we are interested in whether firms' dividend policy is associated with this measure of earnings quality, either unconditionally (without controlling for earnings persistence) or after conditioning on other measure of quality.

The results indicate that there is a strong relation between the two measures of earnings quality and that even after controlling for earnings persistence; dividend payers have a higher cash flow component of earnings. The author sees that the cash flow measure is always lowest for the no pay-out group, which is consistent with proposition that this group has lowest earnings quality.

There is now agreement that traditional view of signalling under which managers use dividends and repurchases to signal future earnings prospects is not empirically descriptive by Allen and Michaely¹¹⁶. The evidence against the traditional signalling theory does not say, however, that dividends are not informative, especially if

¹¹⁴ Robert D. Arnott and Clifford S. Asness, "Surprise, Higher Dividends=Higher Earnings Growth", **Financial Analyst Journal**, Jan/Feb 2003, p:84 in pp:70-87.

¹¹⁵ R. Sloan, "Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings?", **Accounting Review**, v:71-3, 1996, p: 314 in p:289-315.

¹¹⁶ Franklin Allen and Roni Michaely, **Payout Policy**, Working Paper, Wharton Financial Institutions, 2002, p: 117-18 in pp:1-150.

there are questions about the credibility of managers' reporting practices. Even if increased dividends and repurchases are not followed by increased earnings, the market likes the idea that managers are not left with the excess cash that can be squandered.

Consistent with the idea that dividend provide information about the quality of reported earnings, the authors find that the relation between current earnings and future earnings is stronger for firms that pay dividends than for those that do not. They also find that the magnitude of the dividends, measured in pay-out ratio terms does not affect this relation. The authors also find that firms that make stock repurchases specifically on a regular basis have more persistent earnings than firms that make repurchases occasionally or not at all, but that repurchases are a less credible signal about earnings quality than dividends are. The authors find that "the mix of cash flows and accruals" of quality is associated with firms' pay-out policy, but that it is not incrementally informative.

The authors also find that losses are an important determinant of pay-out policy; firms that pay dividends are much less likely to report losses than non-payers. They also find that an important conditioning factor in this relation is the quality of reported losses. While dividend payers are, like firms in general, much more likely to report losses than they were 30 years ago, this tendency is largely explained by a decline in the quality of reported losses which are now more likely to be attributable to special items. Once this trend is accounted for, the authors find that dividend payers report losses in only small fraction of time, and that this fraction remains constant over time. Overall, the evidence shows that dividends are informative with respect to firms' earnings prospects, although not in the traditional sense of signalling future earnings change, consistent with what Miller and Modigliani originally suggested.

1.5.2. The Impact of Changes in Dividends on Share Price

Bhattacharya¹¹⁷ worked on to explain why firms tend to distribute dividends even if there are clear tax disadvantages. He assumes that accounting data is not fully reliable in determining firm profitability as investors have limited information regarding

¹¹⁷Sudipto Bhattacharya, "Imperfect Information, Dividend Policy and The Bird in The Hand Fallacy", **Bell Journal of Economics**, Vol:10, No:1, 1979, p:269 in pp:259-270.

the firm profitability and cash outflow, therefore dividends fulfil a significant information signalling duty regarding the cash flow of firms. He discusses that investors and firms set up equilibrium between the share price and tax costs related with dividends, where the value can be grasped immediately while costs are accrued on the future.

Miller and Rock¹¹⁸ views dividends as a substitute to financing and see financing as the negative dividends. They conclude that dividend trends rather than nominal dividends are better indicators for future earnings. They assert that there is an information asymmetry between outside investors and insiders. It is concluded that both dividend and earnings announcements separately have considerable impact on share prices, also a significant interaction exists between the two on share prices¹¹⁹.

Bar-Yosef and Brown¹²⁰ find positive abnormal returns on stock prices on the ex-date of firms announcing stock-splits when it is believed that they are accompanied with or followed by lasting benefits like increased future earnings or cash dividends.

1.5.2.1 Dividend Cuts, Omissions and Initiations

Increasing dividends convey valuable information to investors in that sense and that signal is higher than the marginal cost of underlying dividends. Ofer and Thakor¹²¹ extended this study adding share repurchases to dividends and argue that these two mechanisms send strong signals to the market as to the undervaluation of the firm. Although repurchases create slightly higher information effect, their costs are also higher in comparison with those of dividends, making these almost equal in terms of informative power.

¹¹⁸Merton H. Miller, and Kevin Rock "Dividend Policy under Asymmetric Information". **Journal of Finance** Vol:40 No:4, 1985, p: 1048 in pp:1031-1051.

¹¹⁹Kent, H Baker. **Dividends and Dividend Policy** Handbook, Greg Filbeck, Chapter 10, "Asymmetric Information and Signalling Theory", p:169.

¹²⁰Lawrence Brown and Sasson Bar-Yosef, "A Reexamination of Stock Splits Using Moving Betas", 1977, **Journal of Finance**, v:32:4, p:1077-78 in pp:1069-1080.

¹²¹Aharon R Ofer, and Anjan V. Thakor "A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends" **Journal of Finance**, Vol:42, No:2, 1987, p.385 in pp:365-394 in Baker Kent, H. **Dividends and Dividend Policy** Handbook, Filbeck Greg, Chapter 10, "Asymmetric Information and Signalling Theory", p:165.

Under different signalling theory framework, dividend signalling may sometimes be viewed as a negative signalling to the market. For example, in his study dated 1983, Woolridge¹²² argues that dividend increases should be viewed as negative by other debt holders, preferred shareholders and others and may be seen as expropriation of funds from the firm. Other claiming parties like debt holders would confirm such an information if dividend increases send a positive signal about future cash flows and profitability. Another line of the signalling theories generally focuses on whether funds held by the firms are being underutilised or some non-profitable investments are being carried out. Any dividend increases or dividend inception may be met positively as investors believe that the firms have no longer profitable investments to exhaust. Dividend initiations or omissions have also been largely investigated by researchers under the framework of the signalling theories. Benartzi, Michaeli and Thaler¹²³ find that dividend initiating firms are less likely to report future earnings decline in comparison with those of non-changing firms. These findings were also confirmed by the early studies of Healy and Palepu¹²⁴, who found that dividend initiations coincided with previous year earnings growth, existing and two-years after earnings growth. Also, dividend omissions come with preceding two years and existing year's earnings declines.

Grullon, Michaeli and Swaminathan¹²⁵ show that dividend changes are associated with risk shift. If the dividend increases do not stem from positive outlook of future earnings outlook, it may be because of a change in systemic risk. Firms that increase dividends are less risky, while firms that decrease dividends should be riskier. The decrease in the risk is the reason for the positive share price reaction. Lower risk along with deceleration earning momentum and increasing dividends may refer to the fact that firms become more mature as they will have more stable cash flow and less

¹²²J. Randall Woolridge, "Dividend Changes and Security Prices". **Journal of Finance**, 1983, Vol:38 No:5, p:1612 in pp:1607-1615 in Baker Kent, H. **Dividends and Dividend Policy Handbook**, Filbeck Greg, Chapter 10, "Asymmetric Information and Signalling Theory", p:168.

¹²³Schlomo Benartzi, , Roni Michaeli and Richard Thaler. "Do Changes in Dividends Signal the Future or the Past" **Journal of Finance**, Vol:52, No:3, 1997, p.1032 in pp:1007-1034.

¹²⁴Paul M Healy and Krishna G. Palepu.. "Earnings Information Conveyed by Dividend Initiations and Omissions" **Journal of Financial Economics**, Vol:21, No:2, 1988 p:172 in pp:149-175.

¹²⁵Gustavo Grullon, Roni Michaeli and Bhaskaran Swaminathan.. "Are Dividend Changes a Sign of Firm Maturity?" **Journal of Business**, Vol:75, No:3, 2002, p: 423 in pp:387-424.

riskiness. Nissim and Ziv¹²⁶ found that dividend changes do have some useful insights about predicting future profitability and the level of earnings for each of the following two years. Grullon et al.¹²⁷ dispute the relevance of Nissim and Ziv¹²⁸'s findings as they argue that once one controls the non-linear pattern of mean reversion of earnings, the significance of the dividend indicator disappears. Investors are better off ignoring dividends.

Stacescu¹²⁹ found that dividend increases are associated with earnings upward shift, while dividend decreases are related with downward shift in average earnings. The author binds this robust relationship not only findings obtained in the model but also managers' aversion of dividend increases/cuts unless they are sure of the stance of the robustness/weakness of firm's future cash flow. The author investigated dividend per share as it is a more stable indicator of dividends and total earnings (not earnings per share as diluted earnings may deviate the data). Stacescu examined the connection between dividend changes in the firms' earnings performance. The difference between the average earnings for three years before and after the dividend change is taken and divided by the previous year's total assets. According to his findings, firms that increase dividends have significantly higher average earnings following years. Firms that kept their dividends unchanged had flat according to the mean or slightly increasing according to the median test, average earnings. The increasing trend could be associated with economic growth.

Dividend initiations and their repercussions on the firms' overall riskiness level have also been subject to numerous studies. Dyl and Weigand¹³⁰ argue that dividend initiations considerably drop the riskiness of a firm's cash flow earnings, stock-price volatility and level of systematic risks.

¹²⁶Doron Nissim, and Amir Ziv "Dividend Changes and Future Profitability"**Journal of Finance**, Vol:56 No:6, 2001, p:2131 in pp:2111-2133.

¹²⁷Gustavo Grullon, Roni Michaely, Shlomo Benartzi and Richard Taler. "Dividend Changes Do Not Signal Changes in Future Profitability." **Journal of Business**, Vol:78, No:5, 2005, p:1674 in pp:1659-1682.

¹²⁸Doron Nissim, and Amir Ziv "Dividend Changes and Future Profitability"**Journal of Finance**, Vol:56 No:6, 2001, p:2131 in pp:2111-2133.

¹²⁹Bogdan Stacescu, **Dividends Revisited: An-in Depth Look at the Relationship Between Dividends and Earnings**, University of Zurich Press, 2006, p:32 in pp: 1-49.

¹³⁰Edward A. Dyl and Robert A. Weigand "The Information Content of Dividend Initiations: Additional Evidence" **Financial Management**, Vol:27, No:3, 1988,p: 27 in pp:27-35.

Michaeli, Thaler and Womack¹³¹ concluded in their seminal study those dividend omissions have greater shorter term price impact relative to those of initiations. The price trend after omissions and initiations are in the same directions, yet again omissions have more robust price trends post-omission action.

1.6. Dividend Catering Theory

One of the major dividend theories trying to explain the motives for dividend distribution is investment catering theory. This theorem suggests that managers of firms strive to cater investment demand through paying dividends when the premium on dividend paying stocks is high, and they are inclined to omit or decrease dividends as long as premium on dividend paying stock is low. Baker and Wurgler¹³² introduced the catering theory in detail, although previously Long¹³³ found out in his study covering utility stocks in the U.S that cash dividend stocks are priced and treated differently from stocks paying merely stock dividends.

In their seminal study Baker and Wurgler defines the investor demand as uninformed and may vary over time and they conclude that firm managers start to cater investment demand by paying dividend when the premium on dividend paying stock is rising or already high, which generally trigger other non-paying firms to initiate dividend payments as they grasp this premium. Conversely, firms tend to lower or omit dividends when dividend premium is low.

Baker and Wurgler also searched for reasons why firms with similar investment policies have different dividend policies. They measure the dividend premium by four proxies. These are; market capitalisations of dividend payers and non-payers, the second one is the price to book ratio where equity is defined as stockholders' equity minus preferred stock liquidating value, plus balance sheet deferred taxes and investment tax credit minus postretirement assets.

¹³¹ Roni Michaeli, Richard H. Thaler and Kent L. Womack, "Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift?", **The Journal of Finance**, v:50:2, 1995, p:605 in pp:573-608.

¹³² Malcom Baker and Jeffrey Wurgler, "A Catering Theory of Dividends", **The Journal of Finance**, Vol.59, No:3, 2004, p:1125-1166.

¹³³ John B. Jr. Long, "The Market Valuation of Cash Dividends: A Case to Consider", **Journal of Financial Economics**, 2006, Vol:6 2/3, p: 261 in pp: 235-264.

Baker and Wurgler also asserted that non-payer stock may be preferred by the investors if they are positive about growth opportunities available. When they seek safe heavens, normally dividend paying stock is preferred. The other proxies that they incorporate are such that; difference between cash and stock dividends, the three day (average) price reactions to dividend initiations, the forth one is the future excess return of payers over non-payers.

Managers can decide to pay dividends or not based on Baker and Wurgler's model but how much dividend to distribute was later answered by several scholars including Li and Lie¹³⁴. They find that change in dividend and the magnitude of this change are related to the dividend premiums that the market prices imply. They analysed U.S firms that changed their dividends between 1963 and 2000 to reach that conclusion. The extent as to the change magnitude of the dividend is positively correlated with dividend premium. Positive change is associated with high dividend premiums or decrease in dividends when premiums are low. They also asserted that firms tend to increase cash dividend when the dividend premium is high and they chose repurchases when the premium is low. These findings contracts with what Baker and Wurgler's as they spotted no relationship between dividend increases and dividend premium. Also, Hoberg and Prabhala¹³⁵ find no significant relation with dividend increases and dividend premium.

Ashig and Urcan¹³⁶ looked at the dividend catering with respect to signalling by analysing U.S. firms between 1963 and 2000 and they find that dividend increases are highly correlated with positive future earnings surprises especially when the dividend premium in the market is low. Yet, dividend increases tend to phase out in times of high dividend paying periods, which suggest that managers cater investor demand. Dividend initiations will likely take stage when the dividend premium is high.

¹³⁴Wei Li and Eric Lie, "Dividend Changes and Catering Incentives", **Journal of Financial Economics**, v:80-2, 2006, p:305 in pp:293-308.

¹³⁵Gerard Hoberg and Nagpuranand R. Prabhala, **Dividend Policy, Risk and Catering**, Working Paper, University of Maryland, 2006, p.26.

¹³⁶Ali Ashig and Oktay Urcan, "Dividend Increases and Future Profitability" **Asia-Pacific Journal of Accounting and Economics**, v:19:1, 2012, p:12-13 in pp: 12-25.

This is the centre of the discussion held in Bulan et al.¹³⁷ study, which combine the life cycle and catering theories and claim that mature firms with high profitability and low growth opportunities are likely to initiate dividend payments.

Neves¹³⁸ searched for traits of catering theory for European firms and finds that investors have strong expectations to receive dividends for firms with high free cash flow generating capacity, high investment opportunity and possibly engage in overinvestment in the future. Firms with high free cash flows cater investor demand more compared to others.

1.7. The Firm Life Cycle Theory of Dividends

1.7.1. The Life Cycle Theory of Firms and Dividends

Life cycle theory refers to the notion that firms get mature and their ability to grow or to find profitable investments considerably decline, whereas their ability to hoard cash increases commensurately. The dividend distribution is expected to go up in the maturity cycle due to lack of profitable investments to finance. A firm at its infancy usually requires external funds to fund its available investments, which are usually ample. Retained earnings or internal capital generations are significant funding sources to finance these projects; therefore new firms are less likely to initiate dividends.

It is worth to note that empirical evidences are generally in favour of life cycle theory, while it seems to have conflicting results with the signalling theory. Benartzi, Michaely and Thaler¹³⁹ asserted that dividend increases are not necessarily followed by earnings growth. De Angelo, De Angelo and Stulz¹⁴⁰ submit evidence that capital mix determines the faith of the dividends in that earned capital accumulation larger than the

¹³⁷Laarni Bulan, Narayanan Subramanian and Lloyd Tanlu, "On the Timing of Dividend Initiations", **Financial Management**, v:36:4, 2003, p:56 in p:31-65.

¹³⁸Elisabeth Neves, Julio Garcia and Chabela Olvera, **Dividends: New Evidence on Catering Theory**, 2006, Working Paper, Universidad de Salamanca, p:25 in pp:1-44.

¹³⁹Shlomo Benartzi, Roni Michaely and Richard Taler, "Do changes in dividends signal the Future or Past?", **The Journal of Finance**, v:52/3, 1997, p:1032 in p:1007-1034.

¹⁴⁰Baker Kent, H. **Dividends and Dividend Policy Handbook**. The Firm Life Cycle Theory of Dividends. Chapter 12. Page: 202, Referring De Angelo, Harry, Linda De Angelo and Rene Stulz "Dividend Policy and the Earned/Contributed Capital Mix: A Test of Life Cycle Theory, **Journal of Financial Economics**, Vol:81, No:2, 2006, p. 227 in pp:227-254.

contributed capital, funds secured externally, increases chances for the firm to initiate or increase dividends.

In his seminal study, Mueller¹⁴¹ combines life cycle theory with agency costs and concludes that new firms usually retain their full earnings and are inclined to seek external funds to finance its profitable investments, this, in turn, increases monitoring activities of the debt holders and outsiders. If the firm succeeds in its projects, the competition intensifies and marginal returns of new investments tend to decline. After exhausting all the profitable investments available, a shareholder value maximizing firms should distribute all the accumulated cash to its equity holders. This refers to the optimal pay-out policy, and the deviation from optimal policy normally implies managers' actions, which tend to retain more earnings even if viable investments do not exist.

Agrawal and Jayaraman¹⁴² explore the dividend policies of all equity firms under the Jensen¹⁴³'s hypothesis that dividends can be viewed as a substitute for debt in mitigating the agency cost of free cash flow problem. The outcome that the researchers reached from their models all equity firms has larger dividend pay-outs and dividend yields in comparison with those of the levered firms. The median pay-out ratio of is 90% higher than levered firms, while this ratio stands at 71% in dividend yield comparisons. Their findings also include the fact that all equity firms with managerial ownership have lower pay-out ratios, which confirms the hypothesis that dividends and managerial ownership act as substitute mechanisms for reducing agency costs of free cash flow in all equity firms.

The determinants of capital structure: some evidence from banks. It is argued that most banks are optimising their capital in much way the same way the firms do. The results reveal that capital regulation does not exert strong effect on banks' capital structures; It is also evident that banks in the US and globally are holding excess capital

¹⁴¹Mueller, Dennis C " A Life Cycle Theory of the Firm", **Journal of Industrial Economics**, Vol:20 No:3, 1972, p:215 in pp:199-219.

¹⁴²Agrawal A A., Jayaraman..A, "The dividend policy of all-equity firms: a direct test of the free cash flow theory", **Managerial and Decision Economics**, vol.15, 1994, p:145 in 139-148,

¹⁴³Cited in p:35.

than the regulation would suggest. Leverage was also found to be chasing the similar path as non-bank firms do.

1.7.1.1. Growth vs. Mature Firms In Dividend Pay-out Behaviours

The infamous Gordon growth model refers that a firm retains its full earnings when its ROE is greater than the cost of capital and should increase its pay-out 100 per cent when ROE falls below cost of capital. Grullon et al¹⁴⁴ concludes that systematic risk declines when the firm increases its pay-out as investments are poised to decline. This might be further explained by information asymmetry in that the same firms has higher cost of capital at its infancy due to the fact that market players including potential equity holders, debtors and other interesting parties do not have in depth information about the company. However, as the firm gets matured, the information available to the outsiders enriches and this depresses the systematic risks. This, of course, will likely coincide with increasing dividend payments. Jensen¹⁴⁵ and De Angelo and De Angelo¹⁴⁶ argues that agency cost of free cash flow increases when the firm gets more mature in its life cycle, which is agreed by Grullon et al.¹⁴⁷.

Dividend smoothing is another area that researchers relate dividend policies to life cycle theories. According to Leary and Michaely¹⁴⁸, cash cow firms with lower growth prospects, higher institutional holdings and weaker governance smooth more. They also find more evidence that firms that are more exposed to agency conflicts tend to smooth dividends more.

¹⁴⁴Gustavo Grullon, Roni Michaely and Bhaskaran Swaminathan, "Are dividend changes a sign of firm maturity?", **Journal of Business**, v:75: 3, 2002, p:422 in pp: 387-424.

¹⁴⁵ Michael C. Jensen, "Agency Cost of Free Cash Flow, Corporate Finance and Takeovers", **American Economic Review**, Vol:76, No:2, 1986, p:326 in pp: 323-329.

¹⁴⁶ Harry De Angelo and Linda De Angelo, "The Irrelevance of the MM Dividend Irrelevance Theorem". **Journal of Financial Economics**, Vol:79, No:2, 2006, p:310 in pp:293-315.

¹⁴⁷ Cited in footnote 127.

¹⁴⁸ Mark T. Leary and Roni Michaely, **Determinants of Dividend Smoothing: Empirical Evidence**, Working Paper, Washington University, 2008, p:42 in pp:1-74.

According to findings of Brown, Bali and Demirtas¹⁴⁹, portfolios consisting of value stocks (more mature) yield higher returns compared to those of growth stocks in a long-short zero investment strategy.

1.8. Taxes And Clientele Effect

1.8.1. The Impact Of Taxes on Firms' Dividend Behaviors

One of the basic assumptions of MM theorem is a world without corporate and income taxes. However, taxes do matter as long as there are taxes on dividends and alternative financial sources and different tax treatments on capital gains and dividends are other factors for the finance theory to question the MM's tax assumptions. Depending upon the tax rates, investors may prefer to receive dividends or may go for capital gains not demanding higher pay-out rates. Normally, one can expect that firms do minimize their pay-outs to maximize their shareholders' wealth as long as the income taxes on dividends are set higher than the ones levied on capital gains.

Why do companies pay dividend? This question is one of the biggest puzzles that the finance theory has been elaborating to provide plausible answers. There are number of studies trying to bring explanations why firms keep distributing dividends although tax disadvantages continue are existent. One explanation has focused on the nature of the investors demanding dividends from the companies. These studies focus on the clientele of the dividends and found some rational explanations to this question by concentrating on investors' behaviours and motives behind these behaviours.

Capital gains and dividends are generally taxed differently; hence different tax regimes may have impact on dividend policies.

Scholz¹⁵⁰ found inverse relationship between the dividend yields and relative taxation of dividends. Allen and Michaely¹⁵¹, however, found that wealthiest and

¹⁴⁹Turan G. Bali, Stephen J. Brown and Ozgur Demirtas, **Investing in Stock Market Anomalies**, Working Paper, Center for Financial Markets and Policy, Mc Donough School of Business, Georgetown University, 2012, p:2 in pp: 1-50.

¹⁵⁰John K. Scholz, "A Direct Examination of the Dividend Clientele Hypothesis." **Journal of Public Economics** 49:3, 1992, p: 261 in pp: 261-285.

¹⁵¹Franklin Allen and Roni Michaely, **Payout Policy**, Wharton, Financial Institutions, 2002, p:22 in p:20-28.

presumably highest-tax bracket investors receive the bulk of dividends. This casts some doubts over taxes being first order determinant to affect dividends. They also point that it is more costly to pay dividends when relative tax of dividends is higher than that of capital gains, therefore market reaction to dividend payment should be stronger when tax rate is low.

Brown, Liang and Weisbenner¹⁵² find that executives with higher ownership were more likely to increase dividends after the tax cut in 2003 in the USA, yet no relation was sustained when the tax rate is high.

Lie and Lie¹⁵³ contends that firms that lower dividend pay-outs tend to use more repurchases and special dividends. This is especially true especially when firms have higher tax-bracket investors.

1.8.2. Different Tax Clienteles

Pettit¹⁵⁴ argues that younger investors, investors in lower tax brackets and those who have substantial tax rate differentials between their personal taxes and capital taxes may tend to hold stock paying higher dividends. Pension funds, large institutional shareholders, or even short-term investors like hedge funds may be willing to own dividend-paying stock in different market cycles in an effort to provide a more stable return stream to their fund holders. Frequently, dividend paying stocks are held more as a defensive motive especially in market downturns. There are different methodologies to assess the impact of taxes in investors' approach towards dividends. One is the methodology employed by Petit, striving to find a relationship between the features and different tax brackets of the investors and their preference over dividends. Second approach is related with the ex-dividend day studies, led by Gruber and Elton¹⁵⁵, who claim that prices are set in such a way in ex-dates that long term investors are indifferent between buying or selling the shares after and before the ex-dates. The drop

¹⁵² Jeffrey R. Brown, Nellie Liang and Scott Weisbenner, "Executive Financial Incentives and Payout Policy: firm Responses to the 2003 Dividend Tax Cut", **The Journal of Finance**, v:52:4, 2007, p:1963 in pp:-1935-1965.

¹⁵³ Lie, Wei, and Heidi J. Lie "The Role of Personal Taxes in Corporate Decisions: An Empirical Analysis of Share Repurchases and Dividends" **Journal of Financial and Quantitative Analysis**, 34:4, 1999, p:547 in pp: 533-552.

¹⁵⁴ Richardson R. Pettit "Taxes, Transaction Costs and the Clientele Effect of Dividends." **Journal of Financial Economics**, Vol:5, No:3, 1977, p:432 -33 in pp:419-436.

¹⁵⁵ Edwin Elton and Martin J. Gruber "Marginal Stockholder Tax rates and the Clientele Effect." **Review of Economics and Statistics**, Vol:52, No:1, 1970, p:73-4 in pp:68-74.

in prices in ex-dividend days normally reflect the tax effects of dividends and these prices make the long term investors indifferent among the alternative actions. In a later study, they concluded that investors at higher tax brackets prefer low-dividend paying stocks, while investors taxed at marginally lower rates prefer stocks with higher pay-out rates. Some other authors found evidence against the above-mentioned outcome and relate the ex-dividend day premiums to market characteristics rather than tax-related causes.

Tax clientele may fundamentally shift based on the change in taxing regime of dividends vs. capital gains. Harmonization of taxes on dividends and capital gains led to an increase in dividend paying firms in the U.S back in 2003 especially among non-financials and other non-regulated firms i.e. utilities.

Capital gains and dividends are generally taxed differently; hence different tax regimes may have impact on dividend policies. Scholz ¹⁵⁶ found inverse relationship between the dividend yields and relative taxation of dividends. Allen and Michaely¹⁵⁷, however, found that wealthiest and presumably highest-tax bracket investors receive the bulk of dividends. This casts some doubts over taxes being first order determinant to affect dividends. Li and Lie ¹⁵⁸ contends that firms that lower dividend pay-outs tend to use more repurchases and special dividends. This is especially true especially when firms have higher tax-bracket investors.

1.9. Firm Characteristics

1.9.1. The Earnings Structure

There are numerous researchers trying to tie firm characteristics into dividend policies. Fama and French¹⁵⁹ find that likelihood of dividend payment is positively associated with firm size and profitability, however it is inversely related to market to

¹⁵⁶John K. Scholz "A Direct Examination of the Dividend Clientele Hypothesis" *Journal of Public Economics* 49:3, 1992,1992, p: 261 in pp:261-285.

¹⁵⁷Franklin Allen and Roni Michaely, **Payout Policy**, Working Paper, Wharton Financial Institutions, 2002, p: 117-18 in pp:1-150.

¹⁵⁸Wei Li, and Heidi J. Lie." The Role of Personal Taxes in Corporate Decisions: An Empirical Analysis of Share Repurchases and Dividends", *Journal of Financial and Quantitative Analysis*, 34:4, 1999, p: 550 in pp533-552.

¹⁵⁹Eugene F.Fama and Kenneth R. French, "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics*, v:60-1, 2001, p:36-38 in pp:3-43.

book ratio. De Angelo and De Angelo¹⁶⁰ included retained earnings to book value metric to measure the impact. They concluded that higher amount of retained earnings ultimately lead to paying dividends.

Grullon, Michaely and Swaminathan¹⁶¹ argue that dividends are associated with firms' life cycles. Over time, firms that are paying dividends experience a decline in their systematic risks measured by their firm betas and they also realise some decline in their future profitability as well. It is also observed that these firms happen to lower their capital expenditures over time.

Smith and Watts¹⁶² found that dividend payment is related with firm size and with the fact that whether the firm is regulated or not. They used industry level data. The investment opportunity available for firms set is closely associated with dividends, while taxes do not appear to be affecting dividends as primary factor. Another study conducted by Campbell and Shiller¹⁶³ found that real dividends can be forecasted by long moving average of real earnings.

Gaver and Gaver¹⁶⁴ confirm that growth oriented firms have lower propensity to pay dividends a significant role in shaping the dividend policies. Dennis and Osobov¹⁶⁵ analysed dividend policies in six developed countries, namely; U.S, UK, Canada, Germany, France and Japan and their findings suggest that firm size, profitability and firm maturity are associated with dividend policies. De Angelo and De Angelo and Skinner¹⁶⁶ report that dividends are heavily common in larger and profitable firms, they concluded that dividend concentration in industrial firms have been the main cause for

¹⁶⁰De Angelo Harry and Linda De Angelo and Rene M. Schulz, "Dividend policy and the earned/contributed capital mix: A test of life cycle theory", **Journal of Financial Economics**, v: 81:2, 2006, p. 250 in pp:227-254.

¹⁶¹Gustavo Grullon, Roni Michaely and Bhaskaran Swaminathan, "Are dividend changes a sign of firm maturity?", **Journal of Business**, v:75: 3, 2002, p:422 in pp: 387-424.

¹⁶²Clifford W. Smith, Ross L. Watts "The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies" **Journal of Financial Economics**, v:32:3, 1992, p:287 in pp: 263-292.

¹⁶³John Y. Campbell and Robert J. Shiller, "Stock prices, earnings and expected dividends", **Journal of Finance** v:43/3, 1987, p: 675 in pp:661-676.

¹⁶⁴Jennifer Gaver, and Kenneth Gaver "Additional Evidence on the Association between the Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies" **Journal of Accounting and Economics**, v:16:1-3, 1993, p: 149-50, pp: 125-160.

¹⁶⁵David J.Denis, and Igor Osobov, "Why Do Firms Pay Dividend? International Evidence on the Determinants of Dividend Policy" **Journal of Financial Economics**, v:89:1, 2008, p:63 in pp:62-82.

¹⁶⁶Harry De Angelo, Linda De Angelo and Douglas Skinner, "Are Dividends Disappearing? Dividend concentration and the consolidation of earnings", **Journal of Financial Economics**, v:72, 2004, p:452 in pp:425-456.

seemingly declining dividends. The real aggregate dividends paid actually increased, refuting the declining dividend allegations.

For the capital structure and dividend relation, Smith and Warner¹⁶⁷ and Kalay¹⁶⁸ demonstrated that debt covenants of firms may constrain dividends. Smith and Watts¹⁶⁹ find that leverage and dividend yields are positively associated. They consider that managers strive to carry out their dividends along with leverage to be able to benefit from growth opportunities.

Fenn and Liang¹⁷⁰ conclude that dividends are negatively correlated with stock options in more recent years when repurchases become more common. As dividends reduce the value of managers' options, they started to prefer stock repurchases.

Grinstein and Michaely¹⁷¹ looked at relationship between institutional shareholding and dividend policy. They found that dividend paying firms tend to have greater institutional ownership; however it does not mean that higher pay-out policy. They conclude that institutions do not monitor or control managers through dividends.

Douglas and Skinner¹⁷² explored the informative strength of pay-out policy with respect to earning quality changes over the period.

They find that reported earnings of dividend paying firms are more persistent than those of other firms and that this relation is stable over time. They also find that dividend payers are less likely to report losses and those losses that they report tend to be transitory losses driven by special items. Overall, the evidence shows that dividends are consistently informative with respect to earnings quality.

¹⁶⁷Clifford W. Smith, and Jerold, B. Warner "On Financial Contracting: An Analysis of Bond Covenants" **Journal of Financial Economics**, v: 7:2, 1979, p: 117-18 in pp: 117-161.

¹⁶⁸Avner Kalay "Stockholder-Bondholder Conflict and Dividend Constraint" **Journal of Financial Economics**, 10:2, 1982, p: 229 in pp:211-233.

¹⁶⁹Clifford W Smith and Ross L. Watts, "The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies" in Kent Baker's textbook of **Dividend and Dividend Policy**, 2009, p:50-58.

¹⁷⁰George W. Fenn and Nellie Liang, "Corporate Payout Policy and Managerial Stock Incentives", **Journal of Financial Economics**, v:60:1, 2001, p:69 in pp:45-72.

¹⁷¹Yaniv Grinstein, and Roni Michaely.2005. "Institutional Holdings and Payout Policy" **Journal of Finance**, v:60:3, 2005, pp:1389-1426.

¹⁷²Douglas J. Skinner and Eugene Soltes. 2011. "What do dividends tell us about earning quality?", **Review of Accounting Studies**, v:16:1, p:22-25 in p:1-28.

The authors re-examined the empirical validity of the information content of dividends hypothesis by providing evidence on the relation between dividends and reported earnings since 1992. Dividends are another method of gauging the reality of reported earnings and that significant differences between the levels of reported earnings and the availability of cash for dividends would eventually be a red flag of potential problems. Dividends provide information about earnings quality, where high quality earnings are more likely to be sustainable in future periods.

Earnings quality

- Persistence of earnings
- It accurately reflects the company's operating performance, it is a good indicator of future operating performance and it is a useful measure to derive firm's intrinsic value¹⁷³.
- The extent to which earnings are comprised of cash flows versus accruals

For dividend increasing firms, De Angelo et al¹⁷⁴ report managers' over-optimism lead to overestimate the future earnings, hence undermining the signalling power of dividends. Therefore, even if a firm has a strong earnings quality, managers may sometimes give some false signals when they engage in dividend increases.

Stock repurchases emerged as an alternative pay-out vehicle in the early 1980s, and are now both prevalent than dividends and often larger in aggregate dollar magnitude as described in the essay by Grullon and Michaely¹⁷⁵. Skinner reports¹⁷⁶ that many firms are now using repurchases in comparison with dividends to pay-out earnings. Theory suggests that managers' dividend decisions are based on their assessment of their firms' long-run sustainable earnings, and so they are likely to be informative about earnings quality. Dividends are seldom paid by firms, which have been reporting losses.

¹⁷³Patricia Dechow, Weili Ge, Cathrine Schrand, "Understanding Earnings Quality: A review of the Proxies, Their Determinants and Their Consequences", MIT, Working Paper, 2009, p.149 in pp:1-175.

¹⁷⁴Harry De Angelo, Linda De Angelo and Douglas Skinner, "Reversal of fortune Dividend signaling and the disappearance of sustained earnings growth", *Journal of Financial Economics*, 1996, v:70 p:29 in pp:1-31.

¹⁷⁵Gustavo Grullon and Roni Michaely, "Dividends, Share Repurchases and the Substitution Hypothesis", *The Journal of Finance*, v:57/4,2001, p:1682 in pp:1649-1684.

¹⁷⁶Douglas J. Skinner, "The Evolving Relation between Earnings, Dividends and Stock Repurchases" Kent Baker's textbook of *Dividend and Dividend Policy*, 2009, p:40.

The fact that dividends are now primarily the domain of large mature firms, as prescribed by De Angelo et al.¹⁷⁷, is also consistent with the fact that managers are using dividends to communicate their firms' earning prospects; if anything, the demand for signalling would seem to be the highest among younger, growth firms with more volatile earning structure. Increases in earnings that managers consider to be permanent will be accompanied by dividend increases, while earnings increases that are largely transitory will not.

Increasingly conservative nature of dividend policy may be related to covenants that make dividends a function of retained earnings in bond covenants, to the asymmetric incentives in the contracts, and to the associated conservatives in reported earnings

Brav et.al¹⁷⁸ survey indicates that the stability of future earnings and a sustainable change in earnings are two of the three most important factors in determining firms' dividend policies.

Guay and Harford¹⁷⁹ find that cash flow shocks associated with dividend increases are more permanent than those associated with stock repurchases, and that market's reaction to dividend increases is correspondingly more positive.

Jagannathan et.al¹⁸⁰ finds that dividend payers are likely to have relatively high "permanent" cash flows while repurchases are more likely to have "temporary" non-operating cash flows.

Fama and French¹⁸¹ show that U.S firms' dividends substantially declined between 1978 and 90 and they also demonstrated that emergence of numerous small and medium sized firms in the bourses fuelled the dividend disappearance as they are inclined to retain their earnings.

¹⁷⁷De Angelo, Harry, Linda De Angelo and Rene M. Stulz "Dividend Policy and the Earned/Contributed Capital Mix: A Test of Life Cycle Theory", **Journal of Financial Economics**, Vol:81, No:2, 2006, p. 227 in pp:227-254.

¹⁷⁸Alan Brav, John R. Graham, Harvey R. Campbell, Roni Michaely, "Payout Policy in the 21st Century", **Journal of Financial Economics**, V:77-3, 2005, p.484-85 in pp: 483-527.

¹⁷⁹Wayne Guay and Jarrad Harford, "The Cash-Flow Permanence and Information Content of Dividend Increases versus Repurchases", **Journal of Financial Economics**, V:57:3, 2004, p:410-11 in pp.385-415.

¹⁸⁰Murali Jagannathan, Clifford P. Stephens and Michael S. Weisbach, "Financial Flexibility and the choice between stock dividends and repurchases", **Journal of Financial Economics**, 2000, v:57:3, p:380 in p:355-384

¹⁸¹Cited in p:19.

Arnold and Asness¹⁸² point that future earnings growth is positively related to the current dividend pay-out ratios. Unlike most residual dividend models previously concluded, they looked at the dividend behaviour patterns by relating dividend payments to lagged earnings. Their study showed that dividend pay-outs explain more than 53% of earnings after 1956. Their study covers a long period between 1871 and 2001. Their more important conclusion is that aggressive retention and reinvestment of current earnings do not produce high future earnings growth.

1.9.2. Other Firm Characteristics

A model of optimal dividend pay-out is presented in which increased dividends lowers agency costs but raises the transaction costs of external borrowing. The optimal dividend pay-out minimizes the sum of these costs. The author relates the dividend pay-out to the fraction of equity held by insiders, the past and future expected revenue growth of the firm, the firm's beta coefficient and the number of common shareholders. All these variables proved to be significant in Rozeff¹⁸³ model and he also concludes that the firm's investment policy affects its dividend policy.

The article presents three propositions;

- a) Investment policy affects the dividend policy due to the fact that external funding is costly.
- b) Higher betas imply lower dividend payments as higher betas suggest higher operating and financial leverage.
- c) The lower the insiders hold the equity, the higher the dividend pay-outs are.

The model refers two studies, those of Lintner¹⁸⁴ and Higgins¹⁸⁵. Lintner suggests that firms have target pay-out ratios and earnings adjust to them with a lag, target pay-

¹⁸² Robert D. Arnott, and Clifford S. Arness, "Surprise! Higher Dividends=Higher earnings growth", **Financial Analyst Journal**, 59:1,2003, p:84 in pp:70-87.

¹⁸³ Michael S Rozeff "Growth, beta, and agency costs as determinants of dividend payout ratios." 1982, **The Journal of Financial Research**, Vol.V No:3.

¹⁸⁴ John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2 p:111 in p:97-113.

out ratio is determined as a result of this unspecified process. Higgins adds cash flow and optimal debt to equity constraints to reach the optimal dividend pay-out level. The optimal pay-out stems from the residual dividend policy combine with minimization of the sum of the costs of excessive current assets and cost of external financing.

The author sees the dividend payment as a device to reduce the agency costs. Dividend payment is done at the expense of raising external financing; therefore rational investors will seek equilibrium where the agency and external funding costs are at a minimum.

1.10. Sector And Market Characteristics

1.10.1. Regulated vs. Non-Regulated Industries

Collins, Wansley and Saxena¹⁸⁶ focused the differences in dividend policies of regulated and unregulated firms within the context of agency cost and monitoring. The role of insiders in determining dividend policies for regulated and unregulated firms is being explored. The authors strive to find answers whether the regulators are substitutes for insiders for the regulated firms, They separately look at the comparisons between utilities and unregulated firms and financial service firms and unregulated firms. The role of insiders for regulated firms is similar to those found in unregulated firms. The results of the regression model show that the authors found confirming results with the previous research as growth, systematic risk, number of shareholders and firm size are the significantly influential factors on dividend pay-out.

They find that the regulatory environment increases the role of insiders for utilities, however they find no support for the hypothesis that increased risk as measured by fixed rate deposit insurance schemes increase the role of insiders in determining the dividend pay-outs for financial service firms. The authors refer to Rozeff studies (Growth, beta and agency costs as determinants of dividend pay-out ratios), which suggests that dividend pay-out level of unregulated firms negatively related to the level

¹⁸⁵Robert C. Higgins, "The Corporate Dividend-Saving Decision", **The Journal of Financial and Quantitative Analysis**, 1972, v:7 p:1527-1541.

¹⁸⁶M. Cary Collins, James W. Wansley and Atul K. Saxena, "The Role of Insiders and Dividend Policy", **Journal of Financial Strategic Decisions**, Vol:9 No:2, 1996, p:7 in pp:1-9.

of insider holdings. Firms with higher level of insider holdings will need less signalling motives through dividends.

Crutchley and Hansen¹⁸⁷ examine the relationship between ownership, dividend policy and leverage and contend that managers make financial policy trade-offs to control agency costs efficiently, Smith and Watts¹⁸⁸ conclude that a firm's dividend policy is affected by its corporate policy choices. Moyer et al.¹⁸⁹ find that security analysts' activities are higher for financial firms than for nonfinancial firms, indicating that the influences of fixed-rate deposit insurance overwhelm the influences of other regulatory restrictions. The authors' results indicate that financial-service firms have dividend pay-out ratios that respond to changes in insider holdings in much the same fashion as unregulated firms. These firms tend to increase (decrease) the pay-out ratio when the level of insider holding decreases (increases). With respect to agency role of insiders, neither regulatory constraints nor fixed rate deposit insurance produce significant changes in dividend policies of financial-service firms.

1.10.2. Level Of Corporate Governance And Investor Protection

Before the MM's ground-breaking impacts on the theory of dividends, Lintner's¹⁹⁰ work, dated back to 1956, was a starting point for numerous dividend studies. In his seminal work, Lintner surveyed number of U.S firms and tried to explore the dividend trends and motives behind firms' dividend actions. In his study, Lintner concluded that, firms tend to have a target dividend pay-out ratio in determining their dividend policies and managers are reluctant to cut their dividends unless the outlook of the cash flow changes dramatically over the long haul. MM irrelevance theory strongly objects the findings of Lintner's survey, claiming that investors are indifferent between dividends and capital gains under some radical assumptions. Later on, tax, clientele effects and signalling theories tried to explore the causes and motives of dividend

¹⁸⁷ Crutchley and Hansen "A test of the Agency theory of managerial ownership, corporate leverage and corporate dividends.", **Financial Management**, Vol:3,1989, p:41 in pp 36-46.

¹⁸⁸ Clifford, W Smith., and Ross Watts, "The opportunity set and corporate financing, dividend and compensation **Journal of Financial Economics**,1992, p: 285-86 in pp. 263-292.

¹⁸⁹ Charles R Moyer, Robert E. Chatfield, and Phillip Sisneros " Security analyst monitoring activity: agency cost and information demands", **Journal of Financial and Quantitative Analysis**, December 1989, p:509 in pp. 503-512

¹⁹⁰ John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2, p:106-7 in pp:97-113.

polices by striving to refute the outcomes of the Irrelevance theorem. Agency theory is another area that researchers tried to find answers to dividend puzzle. The conflict between the agents (managers) and interest holders (shareholders) could only be mitigated through dividends in the absence of corporate governance. Here, the corporate governance element comes into the equation. Easterbrook (1984) concludes that this conflict between the managers and shareholders paves way to several costs. One is the monitoring costs put up by the monitoring shareholders and the other one is the risk aversion of managers that lead to under-utilisation of retained earnings. Easterbrook argues that dividends solves this dilemma as dividend paying firms generally go to the markets to raise extra capital, which puts the managers under monitoring and replaces shareholder monitoring with those who provide these funds to the firm.

In a system where corporate governance rules are stronger and minority protection rights are better, investors may put up receiving lower dividend yields as retained earnings may be better utilised and capital gains may be enhanced. This is especially true when the firms have some solid growth potentials ahead that could be capitalised as higher profits in the future.

Gugler¹⁹¹ investigates relationship between dividend pay-out policies and firms' ownership structures with special emphasis on investments and R&D spending. The author explores the causes as to why companies are reluctant to cut dividends even if conditions do warrant so. Ownership, control structure and corporate governance play a significant role in dividend policies as well as legal environment do. In Anglo-Saxon systems, the market is a determining factor as we observe high density of shareholder loyalty, whereas continental Europe is more largely dominated by companies with concentrated ownership. In Japan, for instance, cross-holding is the dominant ownership structure. All these ownership types have different repercussions on the formation of dividend policies. The author analysed Austrian firms between 1991/99 and their dividend patterns. Relation between dividends and investments/R&D is inversely related.

¹⁹¹Klaus Gugler . "Corporate governance, dividend payout policy and the interrelation between dividends, R&D and capital investment",2003 , **Journal of Banking Finance**, Vol: 27, 2003, p:1318 in pp:1297-1321.

Lintner¹⁹² found that managers are largely concerned about securing a stable dividend policy as they believe that market assigns a premium on firms' valuations with stable dividend pay-outs. Agency theories reckon high and stable dividend pay-outs to lessen the free cash available to managers (Easterbrook 1984). Dudenberg and Tirole (1995) contend that managers are opt to smoothing out dividends through pay-out at higher in bad times and saving more in good times. La Porta et al.¹⁹³ (2000) concludes that minority shareholders seek for dividend payers as they cannot be sure of a fair return particularly in countries with weak corporate governance applications.

The author found that target dividend levels, smoothing out dividends and reluctance to cut dividends are largely associated with firms' ownership types. State-controlled firms have the most dividend-smoothing actions and higher dividend pay-outs, while family controlled firms tend to have less dividend smoothing and they appear to be the least reluctant group in terms of cutting dividends. These findings also apply to high growth firms with high R&D spending. Firms with no high growth prospects tend to smooth dividends and higher pay-out ratios irrespective of who controls the firm.

1.10.3. Investor Profile

Ownership structure of a firm directly affects agency problems; hence it is related to dividend policies. Jensen and Meckling¹⁹⁴ notes that managers become more aligned with shareholders' views as their ownership stake increases. Numerous theory findings suggest that dividend pay-out levels decreases when managerial ownership augments in a firm. That said, however, Fenn and Liang¹⁹⁵ claims that the extent of the agency problem actually determines the firm's dividend policies. Managerial ownership normally reduces the agency costs in a firm with less profitable investment opportunities. When the agency problem tends to rise, the dividend paying tendencies of

¹⁹²John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2, p:106-7 in pp:97-113.

¹⁹³La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny. 2000. "Agency Problems and Dividend Policies Around the World." **Journal of Finance**, Vol:55, No:1, 2000, p:29 in pp:1-33.

¹⁹⁴Michael Jensen and William Meckling.. "Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure." **Journal of Financial Economics**, Vol:3, No:4, 1976, p:357-59 in pp:305-360.

¹⁹⁵George W Fenn, and Nellie Liang "Corporate Payout Policy and Managerial Stock Incentives.", **Journal of Financial Economics**, Vol:60, No:1, 2001, p:69 in pp:45-72.

these firms normally increases as well. These firms happen to have low managerial ownership, lower investment opportunities and higher free cash flows. For the firms with higher investment opportunities, higher managerial ownership and limited cash flow, the authors do not find a meaningful relationship between the managerial ownership and dividend policies.

1.11. Macro Variables and Risk

Bhar and Malliaris¹⁹⁶ analysed the interactions among dividend, macro variables and equity risk premiums. Under three economic regime, namely low, medium and high volatility regimes, authors try to assess the importance of dividends, momentum and macroeconomic variables in determining equity risk premiums in the U.S. Using three-state Markov switching regime econometric methodology, the statistical significance of above-mentioned variables change across economic regimes.

In conclusion, they tested two models that differ in the number of independent variables that explains the equity premium. The first model includes dividends, inflation and unemployment; second one considers these three independent variables and momentum. Empirical evidence demonstrated that fundamental variables represented by dividends are significant across all three regimes, while inflation and unemployment fluctuate in terms of significance across three regimes. Dividends and equity risk premium have negative significant relationship, implying that higher dividend pay-outs (lower returns) necessitate lower risk premiums.

¹⁹⁶Ramaprasad Bhar and A.G. Malliaris, “Dividends, Momentum and Macroeconomic Variables as Determinants of U.S Equity Premium Across Economic Regimes”, **Review of Behavioral Finance**, v:3:1, 2011, p:48-49 in pp:27-53.

Part II

DIVIDEND TRENDS IN THE WORLD AND TURKEY

2. Cross Country Dividend Behaviours

2.1. Dividend Pay-outs In Anglo-Saxon Countries

Dividend trend and policies are largely affected by the legal operating environment as it shapes the corporate culture, the level of corporate governance, treatment in tax policies and etc. Common Law countries, mainly U.S and U.K, display similarities in dividend policies. Most of the theoretical studies regarding with the disparity in dividend policies across the countries centered on managerial ownership-dividend and level of agency costs. Generally, dividend pay-out ratios are in an increasing trend when the managerial ownership decreases. Studies on U.S firms form the bulk of the dividend literature. Chen and Steiner¹⁹⁷ modelled dividends, capital structure, risk, managerial ownership and found that managerial ownership and dividends are substitutes for reducing agency costs. As for the ownership structure and dividend policies, Zeckhauser and Pound¹⁹⁸ find no organic relation between large ownership and lower dividend pay-outs. Institutional investors have become more decisive power in corporate policies and this has been affecting or reshaping dividend policies. Many researchers found that there is an inverse relationship between institutional ownership and dividend pay-outs, though some researchers found non-linear relation between the two. Firm size also matters as several researchers concluded that negative stock price reaction to dividend omission is lower with firms using more leverage.

Aivazian and Booth¹⁹⁹ examined the dividend distribution pattern of US firms between 1981 and 1999. They found that probability of firms to pay dividend increases

¹⁹⁷Carl R.Chen, And Thomas L. Steiner "Managerial Ownership and Agency Conflicts: A Nonlinear Simultaneous Equation Analysis of Managerial Ownership, Risk Taking, Debt Policy and Dividend Policy." **Financial Review**, Vol.34, No:1, 1999, p:131 in pp:119-136.

¹⁹⁸Richard J Zeckhauser, and John Pound "Are Large Shareholders Effective Monitors? An Investigation of Share Ownership and Corporate Performance", Chicago University of Chicago Press 1990, p.170 in p:149-180.

¹⁹⁹Varouj Aivazian and Booth Laurence . 2002. **Why Some Firms Smooth Their Dividends and Why Others Don't?**, University of Toronto and Cleary Sean, St Mary's University, p:21 in pp:1-34.

when the profitability increases and probability decreases when the firm's debt level increases. Probability of paying dividend decreases over time, which is consistent with the findings with Fama and French²⁰⁰. They also found that firm characteristics and asset size play a significant role in dividend distribution. Looking at the debt ratings of the firms, the outcome of their models pointed that high debt firms tend to pay lower dividends. Firms with bond rating generally smooth their dividends and pay-out less from their earnings in comparison with those who don't. If a firm does not have a bond rating, they tend to pay-out on consistent basis and tend to follow a residual policy. Their main conclusion is that there is a significant relation between dividends and debt. The type of debt is also important, as borrowings secured from private banks may increase the riskiness and small firms with high debt burden tend to pay-out less.

Khan²⁰¹ found that there is a significant negative but non-linear relationship between dividends and ownership concentration in the UK. A positive relation is found between insurance company shareholding and dividends, while a negative relationship is found for shareholding by individual investors. An increase of ownership by insurance companies (individuals) leads to an increase (decrease) in dividends. Also several research findings suggest that institutional ownership is an important factor in UK in that higher institutional ownership results in higher dividend ratios, yet dividends are inversely related to managerial ownership. Also, dividend smoothing has been largely utilised by the UK companies and studies show that UK firms gradually adjust the change in their earnings to dividends. Rozeff (1982) claims that block holders or coalition of institutional owners mitigate the agency problem in U.K firms.

2.2. Dividend Behaviours in European Countries

The distinctive feature of EU corporate structure especially in comparison with common law countries is the fact that large shareholding dominates the corporate world in Europe, whereas the ownership is largely dispersed in the U.S and U.K. Another peculiarity of the European corporate culture is the fact that European employees and

²⁰⁰Eugene F.Fama and Kenneth R. French, "Disappearing dividends: changing firm characteristics or lower propensity to pay?", **Journal of Financial Economics**, v:60-1, 2001, p:36 in pp:3-43.

²⁰¹Tehmina Khan, "Company Dividends and Ownership Structure: Evidence from UK Panel Data", **Economic Journal**, V:116:510, 2006, p:187 in pp:172-189.

banks have much higher say in corporate strategies. Also, some European countries have mandatory dividend distributions, required by their own capital market regulations²⁰². Gugler and Yurtoglu²⁰³ focus on ownership structure of the European firms and see the agency problem between the larger and small block holders. Several studies concluded that German firms have more flexible in setting their dividend policies, for instance they feel more comfortable in omitting their dividends, especially for the firms controlled by banks. Also, there are number of studies concluding that dividend is concentrated in larger firms and finds that dividends had decline before 2000, yet recent years there seems to be a pick-up in dividends in Europe. The pay-out ratios largely differ among countries, where Russia remains at the low end varying between 15-20% pay-out, whilst Scandinavian countries exhibit a dividend pay-out patter of 35-40%.

Dennis and Osubov²⁰⁴ compare the dividend pay-out patterns in six developed countries, namely; U.S, U.K., France, Canada, Germany and Japan, where they test the life-cycle, signalling, catering, clientele theories and modelled dividend premiums and propensity to pay dividends in these countries. They only found evidence supporting agency-cost based life cycle theories.

Large surveys and studies confirmed that both managers in the U.S and Europe are reluctant to cut dividends and tend to smooth their dividend stream. They imply a target dividend ratio, a finding supporting Lintner²⁰⁵ theory. Countries may differ in their dividend patterns, for instance German managers tend to more comfortably reduce their dividends compared to those of the peer European countries.

The dividend policies of European banks also attracted some interest from academics. Non only business profits but also economic and institutional factors play a

²⁰²Baker Kent, H. **Dividends and Dividend Policy** Handbook, Frank Bancel, Bhattacharyya Nalinaksha, and Mittoo Usha R., Cahapter 5, "Cross Country Determinants of Payout Policy:European Firms", 2009, p:72.

²⁰³Klaus Gugler and B. Burcin Yurtoglu "Corporate Governance and Dividend Payout Policy in Germany" 2003, **European Economic Review**. Vol:47, No:4, p:753 in pp:731-758.

²⁰⁴David Denis and Igor Osobov "Why Do Firms Pay Dividends? International Evidence on the Determinants of Dividend Policy" **Journal of Financial Economic**, Vol:89 No:1, 2008, p: 63 in pp:62-82.

²⁰⁵John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2, p:97 in pp:97-113.

significant factor in determining bank dividend policy²⁰⁶ in Europe. The authors conclude that European banks set out a target pay-out ratio, consistent with Lintner model. Institutional factors and legal environment play a significant role in determining dividend depending upon the type of legal environment whether Anglo-Saxon or Continental. They also checked the adoptability of European banks' dividend policies to main three dividend theories, mainly signalling, agency and reputation models. The model findings suggest that dividend patterns comfort to the above-mentioned theories.

Bancel, Bhattacharyya and Mitoo²⁰⁷ surveyed managers in 16 European countries and find that dividend policies in these countries are largely driven by factors similar to those of U.S. Lintner's findings are confirmed but managers in Europe follow a different target pay out policies rather than a fixed pay-out ratio. The findings contradict La Porta et al. findings which asserts that the quality of the legal system as the main determinant. The authors rather find a complex interaction of legal system, ownership and institutional structures in these countries as determinants of dividend policies.

2.3. Other Examples from Developed Countries

As for dividend trends in other countries, we looked at Horace's paper. Horace²⁰⁸ concentrates on the factors affecting the dividend policies in Japan and Australia by exploring the constituent stocks of ASX 200 index and Nikkei 225 index. The fact that Australian tax system favours dividends over capital gains leading to higher pay-out ratios in this country implies that tax environment is a significant factor affecting the dividend performance of companies in these countries. The author's fixed effect regression model points that dividend policies are positively affected by size in Australia and by liquidity in Japan. Risk is a negative factor for dividend distribution in Japan. They also assert sector is an important factor for dividend pay-out levels and ratios for both countries.

²⁰⁶Estaban Diez, Jose Maria, Perez, Oscar Lopez de Foronda, **Dividend policy of European banks**, University of Burgos" Working Paper, 2001, p:17 in p:1-21.

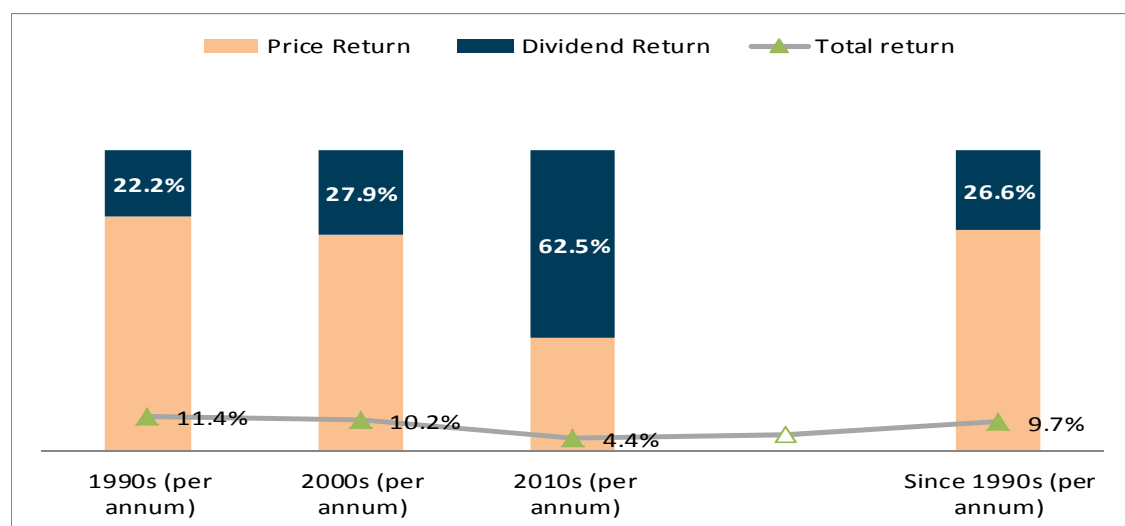
²⁰⁷Frank Bancel, Nalinaksha Bhattacharyya and Usha R. Mittoo, "**Cross Country Determinants of Payout Policy: A Survey of European Firms**", Working Paper, European School of Management, 2005, p:28-29.

²⁰⁸Ho Horace, **Dividend Policies in Japan and Australia**, 2003, IAER. Vol 9, No:2, p:91-100.

2.4. Dividend Characteristics in Emerging Markets

The recent crises for the last decade once again proved the importance of the dividends as a significant investment alternative for investors. The embedded growth problems firstly stemming from the imbalances in the western financial institutions due to use of excessive leverage and toxic assets later was exacerbated by another major imbalance that surfaced at governmental levels, emerging as sovereign debt crisis in Europe. All led to an unprecedented frenzy of quantitative easing by major Central banks on the global scale, driving down the interest rate levels all-time lows to even zero for the most of the Western Club. Now, longer term bonds on US treasuries are actually offering negative real yields, practically reflecting the fears for the possible continuation of these imbalances. In this environment, one of the sides that remained relatively resilient was the corporate world as we have not been witnessing major flow of bankruptcies. Financial firms which were at the epicentre of the crises were largely backed by the Central Banks through asset purchase. In this shaky, low interest rate environment, dividends have become even more important for the investors.

Figure 2- Dividend share in total return is on the rise for EM equity investments²⁰⁹



Source: JP Morgan Asset Management, June 2012 MSCI, Datastream

Total return on equities is formed by two basic sources, cash flow provided by dividends and capital gains attained throughout the holding period. JP Morgan Asset

²⁰⁹ JP Morgan Asset Management EM Equities “The Rise of Dividend Strategies” June 2012, Investor Presentation, London, p:7 in pp:3-19.

Management sketched a study analysing the evolution of dividends in the equity investments directed to Emerging Market Universe since 1990. The findings show that dividend portion of the total returns in EM equity investments has been steadily picking up since 1990. The dividend returns made up roughly 28% of total returns obtained from EM equities, which later skyrocketed to c. 63% in 2010s, making up the bulk of the total return.. This also suggests that the dividends have been defending the total return on EM equities, where the capital gains displayed great fluctuations over the same period. Since 1990, dividend portion of total return jumped to almost 27% from 22%, providing a more stable and increasing contribution to overall returns on equities in emerging markets.

Wang, Wandler and Hanry²¹⁰ investigated the sensitivity of listed Chinese firms' dividend decisions to economic growth rates or economic performances. Their primary finding is that dividend payments and dividend distribution likelihood (up or down) is associated with rise and fall of the economic activity. Major part of the corporate world belongs to the state in China, hence extracting cash benefits from the companies has been the regular act of the government, which is consistent with the agency theory of dividend policy.

Closely held and state controlled firms dominate the Chinese market²¹¹, where legal structures and economic conditions wildly vary among the provinces. They used sample of Chinese firms' data between 2003 and 2007. Corporate regulations sometimes require dividend payment history for firms seeking external financing. The authors tested the dividend payment patterns of the Chinese firms and market reactions to different kind of dividend payments. The authors conclude that low leverage, highly profitable with rich cash positions Chinese firms and firms with state ownership tend to pay dividends especially cash dividends. Firms try to cater investor demands when they set their dividend policy, and firms with higher non-tradable shares tend to pay higher dividends. For the capital intensive firms that make fixed asset investments tend to pay

²¹⁰Wang Xi, Wandler Scott and Manry David, **Economic Fluctuation and Dividend Policy in China**, Working Paper, University of New Orleans, 2010, p:8 in pp:1-11.

²¹¹LiMingsheng, Shi Jing, Twite Garry, He Xi, **Determinants of Dividend Policy in Chinese Firms: Cash versus Stock Dividends**, School of Finance and Applied Statistics, The Australian National University, September 2009, p:30-31 in pp:1-43.

stock dividends and their findings point that analyst attention increased and markets positively reacted to stock dividends. Also, investor types show discrepancies among the provinces and firms operating in the provinces with higher institutional investor base tend to pay higher dividends.

Anand's study²¹² includes a massive survey in the corporate India covering the answers of 81 CFOs, who are executing over 500 companies. Factors affecting the dividend decisions of Indian corporations were explored in light of the previous research and theories. According to survey, most of the firms have a target dividend pay-out ratio and dividends tend to shift if any shift occurs in the company's long term earnings outlook. The findings are in consistency with Lintner's study on dividend policy. Dividends are often used as a signalling mechanism to convey information about the present and future earnings prospects of the companies in question and hence an impact on market share price seems plausible. Design of dividend policy in accordance with the investors' preference and clientele effect has been largely observed.

Kowalewski and Stetsvuk²¹³ analysed Polish companies' dividend distribution patterns. Their aim is to present factors affecting Polish companies' dividend policies, they strongly emphasise the role of corporate governance in dividend distribution, where previous studies did not find concrete retaliations between the two in developed countries. Corporate governance is strongly associated with agency theory of dividends in that capital markets exert power or set up a control mechanism on firms to more efficiently use the funds available to insiders. The main vehicle to fulfil this target is dividends. The authors hypothesise that pay-outs are strongly related with the level of corporate governance. They also tested outcome and substitute dividend theories to determine which theories have more explanatory power in Polish dividends. They tested the dividend payment patterns and pay-out ratios by using a corporate governance index and found out that higher corporate governance leads to higher dividend payments.

²¹²Anand Manoj. "Factors influencing dividend decisions of corporate India", 2004, **Journal of Applied Finance**, v:10:2, p:14 in pp:5-16.

²¹³Oskar Kowalewski, Ivan Stetsyuk and Oleksandr Talavera, **Corporate Governance and Dividend Policy in Poland**, 2007 Preliminary study, Warsaw School of Economics, UMCS DIW Berlin p:21-22 in pp:1-35.

For their literature review, the emphasis is on the relation with dividends and the corporate governance. The importance of monitoring by investment banks has been recognized in literature Shleifer and Vishny²¹⁴ and Allen, Bernardo, and Welch²¹⁵ note that institutional investors prefer to own shares of firms making regular dividend payments, and argue that large institutional investors are more willing and able to monitor corporate management than those of firms with smaller scale and diffuse ownership. As a result, corporate dividend policies can be tailored to attract institutional investors, who in turn may introduce corporate governance practices.

They find that larger companies by asset size and more profitable firms without good investment opportunities pay more dividends in Poland. Furthermore, riskier and more indebted firms prefer to pay lower dividends. Companies do not seem to care about maintaining stable pay-out ratios over time and provide a signal effect in Poland.

Concluding, their results provide evidence that in Poland listed companies where corporate governance practices are high and as a consequence shareholder rights are strong pay-out higher dividends. Those results are in line with the outcome model assuming that when shareholders have greater rights, they can use their power to influence dividend policy.

Al Kuwari²¹⁶ investigated the dividend trends and factors affecting dividend policies of firms in the Gulf Region. The study covers seven stock exchanges' panel data between 1999 and 2003. The author focused on the agency problems and dividend interactions in these countries along with exploring factors affecting dividends. He found strong relationship between dividends and state ownership, firm profitability and firm size, yet there is an inverse relation between dividends and leverage. Those results suggest that dividends are generally used to monitor agency costs in these countries. Al Kuwari also concludes that firms in the region do not have a general dividend policies

²¹⁴ Andrei Shleifer and Robert W. Vishny, "Large Shareholders and Corporate Control", **The Journal of Political Economy**, v:94:3, 1986, p:478 in pp:461-488.

²¹⁵ Franklin Allen, Antonio E. Bernardo, Ivo Welch, "A Theory of Dividends Based on Tax Clienteles", **Journal of Financial Management**, v:55/6 p:2526 in pp:2499-2536.

²¹⁶ Duha Al- Kuwari, "Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries", **Global Economy and Finance Journal**, v:2:2, 2009, p:60 in pp:38-63.

or targets since profitability stands out as a very robust factor affecting dividend policies. Depending upon the profitability, firms may alter their dividends frequently.

Boulton et al.²¹⁷ studied the dividend policies of Brazilian firms with specific emphasis on tax. Brazil differs from most of the other countries as cash distribution could be in two forms by law; dividends and tax advantaged interest on equity. The study finds the taxes as the main determinant of the dividend policies in Brazil. Despite the tax disadvantages of dividends over interest on equities, many Brazilian firms continue to pay dividends as the authors refer to cater investor demands.

2.5. Bank Dividends in Dividend Realm

Banks deserve a separate study of dividend because banks are the only corporations that have both high leverage and deposit insurance, both of which might provide equity holders with varying incentives. Banks might also exhibit different levels of information asymmetry than do industrial firms, thus a potential signalling rationale for different dividend policies. Finally, banks are responsible for a growing proportion of all dividends paid, which increases their importance to dividend clientele²¹⁸. The findings of Tully²¹⁹ for U.S. banks reinforce this proposition that financial institutions allocate larger part of their earnings with shareholders.

Early studies for bank dividend policies date back to 1970s for instance Gupta and Walker²²⁰ searched for factors explaining dividend policies of U.S banks in 1975. They find that current year earnings, change in earnings, asset growth, cumulative earnings and liquidity are significant in explaining the U.S banks' dividend policies for a population covering 980 banks between 1965 and 1968. Keen²²¹ inspected the state of banks that cut their dividends in his study concluded in 1978 and find that dividend

²¹⁷ Thomas J. Boulton, Marcus V. Braga-Alves, Kuldeep Shastri, "Payout policy in Brazil: Dividends versus interest on equity", **Journal of Corporate Finance**, V:18:4, 2012, p:967 in pp: 968-979.

²¹⁸ Stephen Haggard, John S. Howe "Bank Dividends: Increasing, decreasing or unresponsive", **Journal of Applied Financial Research**, 2008, p: 45-48 in pp:36-49.

²¹⁹ Shawn Tully, "Why bank stocks are cash machines?", 2006, **Fortune**, v:153 n:10, p:182-185.

²²⁰ Manak C. Gupta and David A. Walker, "Dividend Disbursal Practices in Commercial Banking" **Journal of Financial and Quantitative Analysis**, V:10:3, 1975, p. 527 in p:515-529, cited in Kent Baker's **Dividend and Dividend Policy** Textbook, 2009, p:464.

²²¹ Howard Keen Jr., **Bank Dividend Cuts: Recent Experience and Traditional View**, 1978, Federal Reserve Bank of Philadelphia p:1-10.

cutting banks improved their operating performance and no significant loss of deposits have been incurred. Kennedy and Scott²²² explored the relation among the dividend pay-out ratios and twenty variables of banking including bank characteristics like deposit, leverage, asset size as well as surrounding characteristics like geographic locations, regulations etc. They find that some surrounding variables like location are not more relevant to dividends yet some variables like asset size, number of common shares are relevant without time constraint. In another study, conducted by Kennedy and Nunnally²²³, states that previous year dividend pay-out ratio and price to earnings ratios are significant determinants of dividend policies for 80 large U.S banks.

William and Smirlock²²⁴ see the prediction strength of dividends. In the long run, they tend to maximize dividends because the price is derived from the expected earnings and dividends, however they may sometimes have to reach a conclusion whether they maximize earnings through retained earnings. If the growth element is considerable parameter in the equation, their decision may opt for retaining earnings, rather than distributing them. Thus, the market where the bank operates in has a considerable implication in dividend decision. An exogenous factor, but it is critical for decision making purposes.

Kalay²²⁵ findings suggest that pay-out ratio is inversely related with uncertainty about future earnings. Authors suggest that predictions conditioned by dividend and capital structure decisions should be superior to those based on time series models by earnings. The model suggest that simple time series of models of earnings may yield spurious forecasts and also suggest a theoretical basis for what is empirically termed the “informational content of dividends.

²²²William F. Kennedy and David F. Scott Jr, “ An Analysis of Large Bank Dividend Policy”, 1984, **Review of Business and Economic Research**, V:20:1, p:28-38.

²²³William F. Kennedy and Bennie H. Nunnally, Jr., “An Emprical Examination of Large Bank Dividend Payout Ratios, 1982-1983”, **Financial Review**, v:21:3, 1986, p: 37 in pp:38-48.

²²⁴Marshall William and Michael Smirlock “**Bank Dividend Policy and Prediction of Future Bank Accounting Returns**” Rodney L. White Center for Financial Research. The Wharton School. University of Pennsylvania, 1983, p: 17 in pp:1-33.

²²⁵Avner Kalay “Stockholder-Bondholder Conflict and Dividend Constraint” **Journal of Financial Economics**, 10:2, 1982, p: 229 in pp:211-233.

Fillbeck and Mullineaux²²⁶ examined the relationship between stock prices to dividend changes covering the period between 1973 and 1987. The study was conducted in 1993. They categorised the dividend changes into four; these are namely: i-) an increase of 20% or more, ii-) an increase between 10 to 20%, iii-) an increase of less than 5% and iv-) omitting or decrease the dividends. They find significant positive stock price reactions to dividend increases, being 20% dividend increase as the largest, while stock prices tend to react adversely to decreases and omission.

Boldin and Leggett²²⁷ suggest that high dividend should send a signal that management expects superior future cash flow. A high cash dividend indicates a reduced probability of failure and it should ultimately have a positive impact of shareholders' wealth. Managers will also be discouraged to increase dividend payments unless they are confident about the future cash flows. While the level of dividend payments conveys information about the soundness of the bank, changing the dividend pay-out ratios may have some mixed consequences according to the authors.

Some other studies contend that there is an inverse relationship between the pay-outs and risk, meaning that higher pay-out ratios imply lower riskiness of the bank. However, since there is no available information regarding the risk or quality, higher dividend pay-out may translate into higher risks for the bank. Higher dividend pay-outs may mean lower earnings to be retained therefore a potential drag on bank capital, a main cushion to absorb risks in the future. Using an ordered probit response model, Boldin and Leggett found that a positive relationship exists between quality and dividends per share, which is consistent with the dividend signalling argument. Additionally, an inverse relationship was found between quality and dividends as a per cent of earnings. The result clearly points to the facts that retained earnings are a key source of capital for BHCs and that capital position provides information about institutional soundness or, alternatively, risk. However, of the two measures, dividend per share provides a stronger signal.

²²⁶Greg Filbek and Donald J. Mullineaux, "Regulatory Monitoring and the Impact of BHC Dividend Changes on Equity Returns", **Financial Review**, v:28-3, 1993, p:412 in p:403-415.

²²⁷Robert Boldin and Keith Legget. "Bank Dividend Policy as a Signal of Bank Quality", **Financial Services Review**, Vol: 4 No:1, 1995, p: 6-7 in pp: 1-8.

Boldin and Legget claim that change in dividend pay-out ratio conveys information about the capital structure of a bank, potential new investments and more importantly potential soundness of the bank in question. Therefore, they mention that dividends perform an action of a market quality. Their basic premise is that reported financials only cover the book value of assets and liabilities; hence the underlying risks may not be conveyed to the market properly to assess the true riskiness of the financial institution. With the information on hand, depositors and creditors cannot distinguish the problematic and sound institutions and the current available cost of capital applies both sound and problematic entities almost at same degree. This will of course drive the sound banks to convey the information of being healthier to the market. The cost of capital for a sounder bank should be lower according to Bolding and Leggett, which should reflect into valuation metrics. Thus, one vehicle available to management to disclose its quality is its dividend policy.

Given the banks are prevented by regulation from increasing their leverage further, we might assume that banks would forgo paying dividends to have an internal source of funds with which to invest in positive net present value (NPV) projects such as new branches. Instead, we observe a higher proportion of banks than industrial firms paying dividend.

Since banks have higher leverage than do firms in other industries, paying dividends creates a larger change in the capital ratio than does a similar pay-out in a firm with lower leverage, *ceteris paribus*. Black and Scholes²²⁸ say that stockholders can increase the value of their equity call option by increasing the riskiness of all underlying assets, all else being equal. Banks can increase riskiness (of assets) by increasing the dividend pay-out, which increases the leverage (lowers the capital ratio) of the bank.

Banks are the intermediary institutions that collect funds from the deposit holders and lend it out to borrowers. Since banks play a crucial role in the commercial activity and the whole economy as being one of the major instruments of payments and lending regulators opt out preserving deposit holders' rights by assigning a deposit

²²⁸Fisher Black and Myron Scholes, "The pricing of options and corporate liabilities", 1973, **The Journal of Political Economy**, v:81/3, p:652-53 in pp:637-654.

insurance scheme on banks. In times of distress, rights of deposit holders are protected and already insured within some limits, in return, deposit insurance agency has some claims over banks' ownership if this risk materialises. Since banks mostly confront to numerous risks in performing their actions, their earnings and equity may be vulnerable to ups and downs in markets and economy. As deposit insurance has claim on banks' ownership in case of bankruptcy, it would be normal for investors on bank stocks or banks to demand dividend to ease their loss of ownership to deposit insurers in times of distress.

Several studies point that banks tend to stop paying dividends during times of distress in the banking industry, then to resume payment when the conditions improve, assuming that capital bases of these banks do get eroded markedly.. Mergers are other strong catalysts for banks' cessation of dividend payments, which may be the case in Turkish Banking Sector, a preposition that is worth to look at in my view. The data show that dividend payers are more profitable than banks that do not pay.

Fama and French²²⁹ find that payers have lower growth opportunities than do non-payers. The study finds those dividend periods of distress in the banking industry more profitable (and presumably safer) dividend paying banks have higher growth opportunities and that during periods of economic prosperity, non-dividend paying banks have higher growth opportunities.

Specifically, banks that cease paying dividends increase their capital ratios at a greater pace than those which have never paid dividends and those that do pay dividends.

Because of scarcity of non-payers during the benchmark period, authors use a probit model instead of a logit model. Greene²³⁰ states the logit distribution produces fat tails when used with samples containing few responses and/or no responses.

Using the probit model, the authors estimate that the probability of dividend payment for each bank in each year of the sample, they define the propensity to pay

²²⁹Eugene F.Fama and Kenneth R. French, "Disappearing dividends: changing firm characteristics or lower propensity to pay?", **Journal of Financial Economics**, v:60-1, 2001, p:36 in pp:3-43.

²³⁰William H. Greene, **Econometric Analysis**, 2002, New Jersey, Prentice Hall, p: 719-730 in pp:1-1056.

proxy as the difference between the actual and expected percentage of payers each year. This proxy differs in sign from the Fama and French²³¹ specification. They noted a general downward trend, which is consistent with the industrial firms studied by Fama and French, after they control for changes in bank characteristics, the decrease is evident that banks are experiencing a declining propensity to pay. Fama and French show that share repurchases are not responsible for the declining propensity to pay for industrial firms. The authors also showed that the same is true for banks.

Onali²³² looks at bank dividends from risk angle and claim that dividend may augment the moral hazard due to the factors that they first reduce the market value of assets, second they transfer wealth from the bank to its owners reducing the negative impact of a possible default on owners. Third banks tend to deplete their safer assets to pay dividends, leaving riskier assets on their balance sheets. Therefore, dividends act as a risk-shifting mechanism working in favour of owners, yet weakening the capital base of the bank at the same time. Higher capital requirements should be imposed on dividend payments especially for banks that has lighter capital base and has riskier portfolio in terms of asset quality. Capital adequacy ratios and dividend pay-outs should act inversely.

Onali searched the relation between the bank default rates and dividend payments, using the log of banks' z-scores. In calculating the z-scores, the author included the capital ratio, calculated as equity to total assets, returns volatility, and profitability. The findings show that dividend pay-out ratios are positively related to default risk (negatively related to the Z-score). Capital ratio has a negative effect on dividends, and some evidence is found of a positive relationship between dividends and ROA volatility. These results are consistent with the risk-shifting hypothesis.

One interesting proposition that the author supported is the positive relation of deposit insurance with the underlying risk of the bank. Banks which have higher deposit insurance scheme may undertake more risks as depositors tend to monitor less due to

²³¹Eugene F.Fama and Kenneth R. French, "Disappearing dividends: changing firm characteristics or lower propensity to pay?", **Journal of Financial Economics**, v:60-1, 2001, p:36 in pp:3-43.

²³²Enrico Onali, **Moral Hazard, Dividends and Risk in Banks**, 2010, Working Paper. Bangor Business School, U.K., 2009, p:1-5 in pp:1-31.

the existence of the deposit insurance scheme. Onali makes an interesting proposition , stating that capital requirements induce banks to preserve a certain amount of capital that may lower the potential return on equity, which actually lowers the franchise value. Higher the franchise value, lower the risk engagements of bank managers will be because there is a sizable value that might be at stake.

According to the risk shifting hypothesis banks with a high default risk are incentivised to increase dividends. Deposit insurance regulation incentivises excessive risk-taking and dividends help transfer the risk to the taxpayer. Dividends effectively shift bankruptcy risk from bank owners to debt holders and, via the deposit insurance scheme, to the taxpayer As explained in the introduction, capital adequacy regulation may not be enough to prevent moral hazard Here, dividends are risk shifters, shifting the risk from bank owners to taxpayers

The findings of Onali have important policy implications. Onali urges that his outcomes should be taken into consideration by the regulators in sketching the new set of banking regulations that has head started with BASEL III. Constraining dividend payments for lower capitalised bank seems plausible and sound for the regulators to start with according to Onali. BASEL III rules also contain similar applications.

Bessler and Nohel²³³ tested for and analysed the outcomes and contagion impact of dividend cuts by money centre banks. They argue that insiders have information that might trigger a panic among investors, especially they command information that is related with their loan customers. As large money-centre banks may frequently have same clientele base, the information may be symptotic to the markets though it may be asymmetric. If the conditions allow, such information may create a downward spiral on share prices and investors may easily panic. Dividend cuts could be good example to convey such information. The researchers here tested the contagion impact of dividend cuts among money-centre banks. Both announcing and non-announcing banks get affected from dividend cut announcements.

²³³Bessler Wolfgang and Tom Nohel. 1999. "Asymmetric Information, Dividend Reductions, and Contagion Effects in Bank Stock Returns." **Journal of Banking and Finance**, v:24, 2000, p:1846 in pp:1831-1848.

They find evidence of the market's ability to assess the information revealed by dividend cuts and identify the banks most exposed to the problems of the dividend-cutting banks. Therefore, information may trigger a contagion among bank stock and dividend cuts can do the similar effect.

The authors also investigated dividend per share as it is a more stable indicator of dividends and total earnings (not earnings per share as diluted earnings may deviate the data). The author examined the connection between dividend change in the firms' earnings performance. The difference between the average earnings for three years before and after the dividend change is taken and divided by the previous year's total assets. According to their findings, firms that increase dividends have significantly higher average earnings following years. Firms that kept their dividends unchanged had flat according to the mean or slightly increasing according to the median test, average earnings. The increasing trend could be associated with economic growth.

2.5.1. Bank Dividends, Signalling and Agency Costs

Bank dividends and signalling relations have been one of the main areas that the researchers rendered a considerable amount of study. As previously noted, Boldin and Leggett²³⁴ claims that change in dividend pay-out ratio signals information about the capital structure of a bank, potential new investments and more importantly potential soundness of the bank in question. Therefore, dividends are fulfilling information conveyor duties especially for the quality and soundness of the bank. Reported information has lack of in depth and real stance as to what risks that the bank has been confronting or exposed to, therefore a more visible and convincing proof is needed to grasp the true financial stance of the bank. With the information on hand, depositors and creditors cannot distinguish the problematic and sound institutions and the current available cost of capital applies both sound and problematic entities almost at same degree. This will of course drive the sound banks to convey the information of being healthier to the market. The cost of capital for a sounder bank should be lower according to Boldin and Leggett, which should reflect into valuation metrics. Thus, one vehicle available to management to disclose its quality is its dividend policy.

Cornett et al²³⁵. find that IPOed banks will likely initiate dividends compared to non-financial firms, they further suggest that dividend imitation for newly publicly traded banks will likely be more subject to a potential acquisition in comparison with a bank not paying dividends. The authors claim that dividend initiation increases for the new IPOed bank subject to acquisition by some 92% for non-dividend payers. Therefore they conclude that dividend imitation is increasing reward for the owners for easier disposition of the newly public bank.

Jia and Wen²³⁶ showed that BHCs use dividends as counterbalancing factors for mitigating agency problems in the banking industry. They also point that ownership

²³⁴Boldin Robert, Keith Leggett. 1995. "Bank Dividend Policy as a Signal of Bank Quality", **Financial Services Review**, Vol:4, No:1, p:5 in pp:1-8.

²³⁵Marcia M. Cornett, Alex Feyman, Alan J. Marcus and Hassan Tehranian, **Dividend Signalling: Evidence from Bank IPOs**, Working Paper, Boston College, 2008, p:20 in pp:1-36.

²³⁶Jingyi Jia and Yuan Wen, "Institutional ownership, managerial ownership and dividend policies in bank holding companies" **International Review of Accounting, Banking and Finance**, Vol.2, No:1 2010, p.19-20 in pp:8-21.

is negatively correlated with dividends in that dispersed owners use dividend tool to alleviate agency problems amidst the lack of collective ownership power.

Rozeff²³⁷ points that dividends lower the resources available to managers and hence the firm becomes more open to capital market's scrutiny. Low dividends may suggest an expropriation of small investors by colluding the larger shareholders and managers. Some studies showed that dividend pay-out is significantly lower for firms controlled by large shareholders in East Asia. Casey et al²³⁸., showed that as insiders hold fewer shares, the demand for dividend rise or vice versa.

The authors searched whether dividend tool is also used in the banking industry to mitigate agency conflicts. In their model, they were able to show, dividend yield and CEO ownership and incentives(insider holdings) is negatively correlated as they are substitutes for reducing agency problems. Institutional ownership is also negatively related to dividend yield. Ownership dispersion is positively related to dividend yields as dividends are used as a mitigating factor to reduce agency costs in firms with highly dispersed ownership.

The dividend payment of BHCs is complicated by regulations and insurance. Dividends are negative accounts to capital bases and drain the banks' capital adequacy ratios. There are three restrictions in the U.S, one is prompt corrective action and it is a measure based on balance sheet perspective, second one is the limitation of capital outflow form the income statement perspective and the third is the restrictions on dividends on banks' undivided profits. Filbeck and Mullineaux²³⁹ investigate various regulatory constraints on bank dividend pay-outs. Weaker banks are not allowed to pay dividend and also according to National Bank act dividend payment is constrained to the retained earnings and requires the approval of Comptroller of Currency to allow dividend payments exceeding the total of net profits in a given year plus the retained earnings of the previous two years.

²³⁷Michael S. Rozeff, "Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios", **The Journal of Financial Research**, vol:5/3, 1982, p:257-8 in p:249-259.

²³⁸Michael C Casey and Ross N. Dickens, "The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy", 2000, **Quarterly Review of Economics and Finance**, v:40:2, p:291-292.

²³⁹Greg Filbeck and Donald J. Mullineaux. (1993). "Regulatory monitoring and the impact of banking holding company dividend changes on equity returns," **The Financial Review** 28, p:412-13 in 403-415.

2.5.2. Bank Dividend Trends in Comparable EM Countries

Procianoy and Weber²⁴⁰ analysed Brazilian banks' dividend trends. They aimed to explore factors affecting dividend policies of Brazilian banks in conjunction with the previous banking dividend research and compare them with the other countries' practices. They drew attention to the fact that regulations affecting the actions of banks put them in a special case in dividend studies where the higher leverage and tighter regulations led to the exclusion of banks from numerous dividend related studies in the past.

Some researchers found some significant differences between financial and non-financial firms in distributing dividend like Casey and Dickens²⁴¹, Baker, Veit and Powell²⁴², yet some academics could not reach meaningful discrepancies between the two in terms of dividend actions like Nnadi and Akpomi²⁴³, Bodla et al, Caprio et al.

Previous research have demonstrated that financial institutions distribute larger portion of their profits to their shareholders in the US market, a similar pattern was found in the Brazilian market in the study rendered by Procianoy and Verdi²⁴⁴. They analysed 181 financial institutions that operated in the Brazilian market between 2001 and 2006 and tried to explore factors affecting their dividend distribution motives

2.5.2.1. Determinants of Dividend Policy of Banking in Selected EMs

From the panel data of Korean Banks during 1994-2005, Lee²⁴⁵ finds that, consistent with the previous research findings, the banks with higher profitability or performance pay more dividends. Furthermore and more importantly, he finds very strong and consistent evidences that the safer banks pay more dividends. Banks with

²⁴⁰Renata de Araujo Weber and Jairo Laser Procianoy, **Are banking Dividends Different? Evidence From Brazilian Banking Sector**, Universidade Federal do Rio Grande do Sul, 2003, p:5-8 in pp:1-17.

²⁴¹Michael C Casey and Ross N. Dickens, "The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy", **Quarterly Review of Economics and Finance**, v:40:2, 2000, p:279 in pp:279-293.

²⁴²Kent H. Baker, Garry E. Powell and E. Theodore Veit, "Revisiting the Dividend Puzzle: Do All the Pieces Now Fit?", **Review of Financial Economics**, v:11:4, 2001, p:259 in pp:241-261.

²⁴³Matthias Nnadi and Meg Akpomi, "The effect of Taxes on Dividend Policy of Banks in Nigeria" **International Research Journal of Finance and Economics**, v:19,2010, p:51 in pp:49-54.

²⁴⁴Jairo Procianoy and Rodrigo S. Verdi "The Determinants and Consequences of the adoption to Brazilian New Markets", **Brazilian Finance Review**, v:7-1, 2008 p:1 in pp:1-30.

²⁴⁵Seok Weon Lee. "Determinants of dividend policy in Korean banking industry" 2009, **Banks and Bank Systems**, Volume 4, Issue 1, 2009, p:29-30 in pp: 20-34.

higher safety and profitability to pay more dividends is observed strongly. Considering that banks are subject to monitoring and surveillance of regulator about their operation and riskiness in addition to the pressure from capital market, dividend policy of banks would be more closely associated with their riskiness than other types of industries.

The variables used in this paper; capital to asset, loan to asset, ratio of non-performing loans to asset, investment securities to asset, ROA, and the pay-out ratio. Higher capital to asset, lower loan to asset and lower NPL ratios are the factors for bank to measure relative safety.

Ameer²⁴⁶ explores the impact of product market competition and dividend pay-out policies of Malaysian banks. The listed banks were included in the analysis for the period covering 1995-2005. The paper also emphasises the impact of monetary policy on banks' dividend policies. The paper also was inspired by Kopecky and Vanhooose²⁴⁷ study where the relation between banks' dividend policies and monetary policy was elaborated. Malaysia is an interesting example for banks' dividend policy theories as so many commercial banks owned by domestic and foreign banks co-exist with numerous Islamic banks. Product differentiation and different competitive levels form a unique place for exploration of banks' dividend policies in an emerging market space. The paper shows that earnings and loss affect dividend policies of Malaysian banks, which underwent a major restructuring following the Asian crises. Forced mergers and saving the big banks were the main moves to cope with the overriding effects of the crises.

The regulations on banks also influence the dividend pay-outs. Tighter monetary conditions tighten spreads and lower interest income on loans. If a bank's product mix is not diverse, tighter monetary conditions may lower the earnings expectations thus dividends. They hypothesize that during tighter monetary conditions; Malaysian banks tend to lower cut dividends. To test the hypothesis, the researchers categorised banks as domestic vs. foreign and Islamic and commercial and M&As and non-M&As (the ones involved in M&As or not).

²⁴⁶Rashid Ameer, **Product Market Competition, Regulation and Dividend Payout Policy of Malaysian Banks**, Working Paper, Munich Personal RePec Archive (MPRA), 2007, p:20-21 in pp:1-27.

²⁴⁷Kopecky, K. and VanHooose, D., "Bank Capital Requirements and the Monetary Transmission Mechanism", **Journal of Macroeconomics**, Vol. 26, No.3,2004, p:460-62 in pp. 443-464.

The results can be outlined as foreign banks have the highest pay-out ratios compared to domestic banks that smooth out their dividends on relative footing. Dividend adjustment gains pace after M&As and higher pay-outs are being observed for banks subject to acquisitions. M&As may lead to a better product mix and better efficiency levels, hence higher pay-outs can be attributed to higher products mix and better efficiency.

Banks with limited growth opportunities tend to pay lower dividends. In the absence of shareholders' rights, managers opt for expropriating funds, which is common in countries with lower shareholder protection laws.

Using base money to GDP ratio, an indicator of tighter or less tight monetary policy regimes, authors tested the responsiveness of dividend pay outs to monetary policy. Based on monetary base to GDP ratio, dividend tend to change giving a knee jerking response to monetary policies, though the authors did not reach the same conclusions for other monetary indicators.

The model results show that probability of dividend increase by a bank is higher there are positive earnings in that particular year. Banks which incurred losses tend to lower their dividends. The results also show that increase in non-performing loan ratio of a bank significantly reduces dividends. After controlling the growth opportunities, a change in deposits and non-performing loan ratio induce dividend cuts. No significant relation was found between capital adequacy and dividends since Malaysian banks had strongly recapitalised banks following the Asian crises.

Wan Mohammad et al.²⁴⁸ explored the earnings management of banks through loan loss provisions and accruals. They analysed 10 Malaysian banks. The paper explores the relationship between the discretionary accruals and dividends per share, loan loss provisions and risks. There variables were found to be correlated with earnings management (dependent variable), these are ;loan loss provisions, operating risks and systemic risks. LLPs were found to be negatively correlated with discretionary accruals,

²⁴⁸Wan Maslisa Wan Mohammad, Rapih Mohd Zaini , Shaista Wasiuzzaman, **A Panel Data Analysis of the Relationship Between Earnings Management, Loan Loss Provision, Dividend and Bank Risks**, 2010, Working Paper, p:1 in pp:1-10.

suggesting that income reducing earning-management. Operating risks is positively correlated due to the assumption that earning management activities tend to rise when operating risks are rising. As for systematic risks, no relation was found that implying that banks remained unaffected from the financial risks that were contingent on the system.

2.6. Studies Exploring Factors Behind Bank Dividend Policies

Although there are numerous studies focusing on exploring factors for bank dividend policies, we preferred to exemplify two studies here to better grasp the link between our theses with the literature. Those two studies extensively cover and test the factors explaining dividend policies in a developed and emerging countries so that the evolution of the bank dividend studies could be better observed. Those studies have been quite inspirational to many bank dividend policy studies across the World. The power of these studies in conjunction with my thesis is the wide array of independent variables having been tested in the model and the similarities of the nature of the independent variables that we aim to incorporate in to our thesis. Those studies are namely;

- i. “Bank Dividend Policy: Explanatory Factors” by Dickens, Casey and Newman and
- ii. “Are Bank Dividends A Signal to Informed Depositors?” by Forti and Schiozer

2.6.1 An In-depth Look at Dickens, Casey and Newman Study

Dickens, Casey and Newman²⁴⁹ (Dickens et al.) try to identify factors explaining bank dividend policies based on Barclay, Smith and Watts²⁵⁰ model. The model uses investment opportunities, capital adequacy, size, signalling, ownership, dividend history and risk to explain dividend payments. The previous studies suggest

²⁴⁹Ross Dickens, Michael K. Casey and Joseph A. Newman. 2003.“Bank Dividend Policy: Explanatory Factors” **Quarterly Journal of Finance**, Winter 2003, pp:3-12.

²⁵⁰ M J.Barclay, C.W. Smith Jr., and R.L. Watts, "The Determinants of Corporate Leverage and Dividend Policies," **Journal of Applied Corporate Finance**, (Winter 1995), p. 4-19.

negative relationship with dividends and investment opportunities, signalling, ownership and risk and positive relationship with size and dividend history.

The authors confirm the usefulness of Barclay, Smith and Watts²⁵¹ model (Barclay et al.), which was applicable for industrial firms and adopted it to banking industry. Barclay, Smith and Watts model employs four variables in explaining firms' dividends. Those are investment opportunity, size, regulation and signalling. Barclay et al. had found empirical support for the first three factors. They added dividend history, risk and ownership to those factors. The main measure to identify dividend is the dividend yields. Barclay et al. model uses market price per share to book price per share in identifying firms' investment opportunities. It uses market to book variable to refer firms' investment opportunities. A higher market to book metric is possible for firms with a greater investment opportunity set ahead.

Like Barclay Smith and Watts model, Dickens et al. used regulation dummy. The variable should have a positive relation with dividend yield. Regulation leads firms to make regular dividend payments thus higher regulation is expected to result in higher dividend yield. The regulation treatment of the authors is somehow different that I will be incorporating in our model. Rather than the capital market regulation that forces the listed or all firms to pay out some portion of their earnings as dividends, I will try to assess the relation between the regulations pertaining to capital and dividends, therefore the sign of the relationship is not obvious for my model as they had expected for theirs. Barclay et al. model uses natural log of real sales in determining the size factor, whereas Dickens et al. study employs natural log of nominal sales as size factor. Firms with higher log of revenue should have lower bankruptcy risks; therefore they should pay higher dividends.

The signalling factor in Barclay et al. model is abnormal earnings, which is termed as the earnings change over the next year. Dickens et al. use the same variable as signalling factor and expect positive relation with dividends.

²⁵¹Michael J. Barclay, Clifford W. Smith and Ross L. Watts, "The Determinants of Corporate Leverage and Dividend Policies", 1995, **Journal of Applied Corporate Finance**, v:7:5, v:1007-1034.

Dickens et al. study uses TOBIT regression to estimate the coefficients. They adapted the model to banking industry. Market to book ratio was incorporated as identifying investment opportunities, while regulation dummy was not pencilled in due to the fact that all banks are subject to regulation. Instead they used book value of equity to total asset ratio to ascertain the degree of regulation that the bank face. Banks with higher equity to asset ratio face with less regulatory burdens, therefore they have higher potential to pay out more dividends. This ratio is expected to have a positive relationship with dividend yield. The scale factor will be crucial in my model as well and scale-dividend interaction is also expected to hold the same direction as Dickens et al. postulated.

Banks log of total revenue is expected to have a positive relationship with their dividend yields as large banks have lower probability of default due to too big to fail concept. They also added a variable to identify agency problem. Insiders have less need for dividends as their ownership already creates an incentive for a more efficient management. Insider owners may also receive compensation in non-dividend forms through perks and alike. Conversely, managers without ownership may pay more dividends to appease owners' desires and to give signal regarding the firm's value. Based on Moh'd, Perry, and Rimbey²⁵², the authors expect inside ownership will have a negative relationship to dividend yield. To spot a direct variable representing or implying an agency relationship or problem is hard to construct in my model as insider ownership is rather limited or negligibly low. Therefore, we may get some inference regarding the agency problem in Turkish Banking Universe in my model through regulation variables, however it is rather a vague issue at this stage.

Dickens et al. also added dividend history variable referring to Lintner²⁵³ and Fama and Babiak²⁵⁴ articles, where findings suggest that firms opt for stable dividend policy. The measure the authors employ is the previous year's dividend per share divided by the previous year's stock price and it is denoted as previous dividend. A

²⁵²Mahmoud A Moh'd, Larry G. Perry and James N. Perry, "An Investigation of the Dynamic Relationship Between Agency Theory and Dividend Policy", 1995, **Financial Review**, V:30:2, p:367-385.

²⁵³John Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes" **The American Economic Review**, 1956 v:46/2 p:111 in p:97-113.

²⁵⁴Eugene F. Fama and Harvey Babiak, "Dividend Policy: An Empirical Analysis", 1968, **Journal of the American Statistical Association**, V:63:324, p:1132-1161.

positive relation is expected between the dividend yield and previous dividend. This is to spot if there is a consistent dividend policy in the banking firm or not. The same variable will be included in my model as well.

The final variable is related to risk. Although capital to asset variable (referred as regulation factor) may capture some risk dimension, they employ earning volatility in identifying risk. Firms with unstable earning base pay fewer dividends. Earnings volatility is defined as the coefficient of variation using the past five year's net income. Earning volatility is expected to have a negative relationship with dividend yield. This is an interesting variable to look at for Turkish Banks as the past decade witnessed some major global crises, though the system remained rather resilient in this period, and volatility for major risk items and revenues were large enough to impact the firms' decisions. The same relation is expected to be found, yet the model will be telling the real profile.

Dividend yield = f [Market to book (-), Capital to asset (+), log of revenue (+), future earnings (+), inside ownership (-), previous dividend (+), earnings volatility (-)]

Dickens et al. used OLS regression in the estimation of equation because only 8% of the banking firms have zero dividend yields. This amount is well below 25% cut off required to justify a TOBIT estimation process.

This study finds five factors empirically explaining the dividend policy of banking firms. These five out of seven factor are; investment opportunity, size, agency problems, dividend history and risk.

Figure 3- Findings of Dickens, Casey and Newman

1. Banks with higher investment opportunities pay lower dividends. Banks with higher market to book values and presumably higher investment opportunities have lower dividend yields.
2. Banks being large in size and subject to lower bankruptcy costs should pay higher dividends. Banks with higher total returns have higher dividend yields.

3. Banks with fewer agency problems can pay lower dividends. Higher level of insider ownership thus lower agency problem lead to lower dividend yields.
4. Banks normally use their past dividend trends to set their dividend policies. Previous year's dividend yield is a good explanatory factor for next year's dividend yield.
5. Banks that are facing higher risk should pay lower dividends. Banks experiencing higher earnings volatility have lower dividend yields.

Source: Ross Dickens, Michael K. Casey and Joseph A. Newman. 2003. "Bank Dividend Policy: Explanatory Factors Quarterly Journal of Finance, Winter 2003

2.6.2. A Closer Analysis on Forti and Schiozer²⁵⁵ Study

Forti and Schiozier searched for the traits of signalling theory on Brazilian Banks' dividend policy and applications with an objective to find meaningful relation between the two. They consider that if the model outcomes justify, dividend policy of Brazilian Banks and their dividends are actually strong signals to their depositors about the quality of bank assets. In searching this basic theme, they also applied some bank and market specific characteristics or variables to test the relationship among the dividends and those variables. The Brazilian banking system and the overall Brazilian corporate and equity markets have unique features in terms of dividends and ownership. The basic goal is to find relationship whether dividends are used as signals to depositors about the soundness of the financial institution, the current state of interest paid on deposits and etc. The variables that were added in to the panel data are as follows;

Dependent Variables: Sum of the dividends and interest on equity divided by earnings. In Brazil, apart from regular dividends an interest amount tied to equity is paid to shareholders in the form of dividends, therefore this is also included in the sum. Dividends to earnings and dividends to equity are separately taken as dependent variables

²⁵⁵ Cristiano A.B. Forti, Rafael F Schiozer, **Informed Depositors and Bank Dividends**, 2011, Working Paper, Midwest Finance Association.

Figure 4- Independent Variables of Forti and Schiozier²⁵⁶ Study

Independent Variables	Exp. Sign
Size . Natural Logarithm of assets	(+)
ROA: Return on Assets	(+)
CD Interest Rate: Interest paid on certificates of deposits	(-)
Institutional Investors Percentage of CDs issued to institutional investors	(+)
Leverage. Bank leverage	(+/-)
Capital. Capital Adequacy Ratio	(+/-)
Publicly traded: Dummy, 1= publicly traded, 0=closely held bank	(-)
Non-governmental ownership: Dummy, 0=state banks, 1= private banks	(+)
Credit risk: Non performing loan ratio	(-)
Credit Growth: Growth rate of loan portfolio	(-)

Source: Cristiano A.B. Forti, Rafael F Schiozier, “Informed Depositors and Bank Dividends”,2011, Working Paper, Midwest Finance Association

They analysed 204 banks between 2001 and 2009 to find the relation and in a panel data they employed a Tobit regression methodology, t several other techniques like OLS have also been employed. Later several probit models have been used to test the robustness of the outcomes as well. The outcome of the Tobit regression could be outlined as; they find negative relation between dividend pay-out and interest paid to CDs, meaning that dividends are increasing when the interest paid to CDs is decreasing, hence dividends perform a good indicator action to convey information soundness of the bank. The model gives positive and significant relation between dividends and institutional investors. Banks do need to give signals about their financial stance through dividends to their large deposit clients. The scale and profitability as depicted in

²⁵⁶ Cristiano A.B. Forti, Rafael F Schiozier, **Informed Depositors and Bank Dividends** ,2011, Working Paper, Midwest Finance Association, p:30.

ROA are significant factors explaining banks dividends. Also, ownership factor seems a significant factor, where private banks considerably higher pay-out ratios compared to those of state banks as state banks do not need to convey information due to their state guarantees. One important outcome of the model is the inverse yet significant relationship between the dividend and capital ratios. The authors contend that more-levered banks do need to signal more compared to more capitalised banks where signalling overtaking the regulatory effect. The authors also reminds that majority of banks in Brazil have significantly higher CARs above the minimum threshold of 11%. They find negative and significant relationship between the leverage and dividends as expected, but contrasting with a majority of the findings in this field. Relationship among dividends and credit risk and credit growth were found to be as expected but significance of these relations remained relatively low.

2.7. Dividends in Turkey

2.7.1. Regulatory Framework

One should make the definition of net earnings in Turkey because Commercial Code and Tax Codes in Turkey treat the profit differently. The definition of net earnings varies according to the commercial and tax codes in Turkey. Net earnings according to the Commercial Code, which is termed as “commercial net profit”, is derived from the legal accounting ledgers and documents, prepared in accordance with Turkish Generally Accepted Accounting Standards and Capital Markets Law, while financial net profit, which forms the base amount for taxable profit, is calculated after deducting all applicable tax burdens and adjusted for all legally accepted and not accepted expenses, exemptions and deductions²⁵⁷. The new commercial code defines a new comprehensive profit for the corporations. Accordingly, a classical net profit/loss derived from the difference from the revenues and expenses and the reflections of extensive profit items

²⁵⁷ Musa Kocaman, Tax Inspector, “**Vuk ve TTK açısından Kar Dagitimi ve Vergilendirilmesi**”, Working Paper, Sakarya, 2008, p:4-6.

in to the equity. Net profit that is subject to distribution to shareholders will consist of the definition of the classical profit calculation²⁵⁸.

To derive the financial net profit from the commercial net profit, revaluation differences between the tax code and commercial code/capital market law is reflected to the base net earnings and net profit is adjusted for all legally not accepted expenses and deductions defined in the Tax Code. The basic difference between the Commercial and Tax Codes in treating the net earnings stems from the acceptance or non-acceptance of some expenses in Tax Code. Some operating expenses, which are defined in the accounting records prepared in accordance with Turkish Generally Accepted Accounting standards may not be acknowledged and accepted in the Turkish Tax Code²⁵⁹.

2.7.2. Principles to Distribute Dividends in the Commercial Code

There are six basic rules ascertained in the Commercial Code that govern the dividend distribution of the firms in Turkey²⁶⁰.

1-) According to Turkish Commercial Code, dividend cannot be distributed unless legal and other reserves are built pursuant to the Commercial Code and Company's articles of association. Legal reserves and funds that should be allocated based on commercial code are follows;

- a. First legal reserves
- b. Arbitrary legal reserves based on company's articles of association
- c. Funds similar to arbitrary legal reserves
- d. Legal reserves for employees and pensions

²⁵⁸ M. Uğur Akdoğan, "Calculation of the Distributable Dividend of The Companies Subject to CMB Regulations After the New Commercial Code", *The Journal of Accounting and Finance*, 2012/10, p:120-121.

²⁵⁹ Fulya Sevinc, "12 Numaralı Uluslararası Muhasebe Standardı ve Diğer Ülkelerdeki Uygulamaları Çerçevesinde Ertelenmiş Vergi ve Finansal Tablolara Yansımaları", CBRT, Ankara, Uzmanlık Tezi 2003, pp:13-40.

²⁶⁰ Akif Akarca and Mehmet Safak, "Sermaye Şirketlerinde Kar Dağıtımı ve Önemi", Muhasebetr, 19/08/2011, http://www.muhasebetr.com/ulusalbasin/haber_oku.php?haber_id=7785 (26/05/2013), s:1.

2-) The General Assembly may decide to allocate legal reserves not defined in Commercial Code and articles of association to strengthen the company's financial stance

3-) First dividend should be allocated to shareholders based on the principles set forth in Commercial Code. 5% of paid in capital should be reserved to build first dividend to shareholders. From the remaining portion, 10% is allocated as the second legal reserve.

4-) A portion of profit could be allotted to founders if it is specified in the articles of association.

5-) A portion of profit could be reserved for Board members if it is specified in the articles of association.

6-) Dividend could be distributed to preferred shareholders, if any, following the distribution of first dividends.

2.7.3. Dividend Distribution in Turkey

Recently enacted new capital market law brought some radical changes to dividend distributions in Turkey. Previously, all the listed companies had to allocate a predetermined portion of their earnings as dividends, which was subject to minimum rate set forth by the Board. Previously, the minimum cap was 20%, yet corporations had the right to freely distribute these dividends in the form of cash or as stock dividends.

The new law abolishes the minimum cap rule and instead brings the condition that corporations are obliged to determine a dividend policy which will be voted and accepted at the General Assemblies and until the GA decides otherwise, this policy will be preserved. The new law requires the General Assemblies to determine a dividend policy for the firms. Therefore, no minimum cap in terms of amount or as % of earnings

is imposed on the corporations, but the CMB rests the authority to take actions for the firms, which do not pay out for longer periods²⁶¹.

Another breakthrough is the treatment of dividend payments on existing shareholders. Previously, dividends used to be distributed to existing shareholders at the time, yet if the firm would increase the capital; new shares were not entitled with the previous year's dividends. Therefore, new and olds shares used to be trading in the BIST until the dividend distribution date. The new law eliminated this by bringing dividend distribution to all existing shares²⁶².

First and second types of dividends are the main two pillars of dividend distributions. First dividend to shareholders is calculated after allocating first legal reserves and is calculated as 5% of the paid-in capital. After allotting first dividend, 10% of the remaining portion after deducting first dividend, corporate tax and legal reserves (5% of the current year profit until reaching 20% of the paid in capital) is held as second dividend. Following allocating reserves, first and second dividend, remaining portion is deemed to be distributable. Joint stock companies are subject to CMB's rulings in distributing dividends²⁶³.

Pursuant to the decision taken in the general assembly, an incorporated company can freely decide to distribute its dividends via i-) all in cash, ii-) all in bonus shares, iii-) or combination of both, or iv-) can retain its profit. While legal reserves and first dividend distribution are legally binding clauses, distribution of second dividend to shareholders is dependent upon the decision taken in general assemblies. Corporation can set aside higher provisions than set forth by law if this is necessary to cover a loss or a vital investment need arises and these are clearly stated in the articles of association²⁶⁴.

²⁶¹ Soner Altas, "Sermaye Piyasası Kanun'da Neler Değişiyor?", Dünya Online, 23/03/2012, <http://www.dunya.com/sermaye-piyasasi-kanununda-neler-degisiyor-149200h.htm>, 26/05/2013.

²⁶² Dogan Cansizlar, "Yeni Sermaye Piyasası Kanunu Getirdikleri", Atılım Üniversitesi, Presentation, March 2013, p:34.

²⁶³ Salim Sengel, Seval Selimoglu, Ercan Bayazitli, Kadir Gurdal, Ali Alagoz, **Şirketler Muhasebesi**, Anadolu Üniversitesi Press, First Edition, Eskisehir, 2013, pp:126-127.

²⁶⁴ **Yeni Türk Ticaret Kanunu Geleceği Hazırlayan Bir Düzenleme**, PwC Türkiye, Istanbul, 2011, p:120.

The new law also states that corporations cannot transfer the current year earnings to next year capital accounts unless dividends are distributed to shareholders on the condition that the General Assembly has previously set a dividend policy. Same will also hold true for the payments to preferred shareholders, Board members, and employees.

The law also re-identifies interim dividend payments and make this payment subject to the decisions to be taken at the General Assemblies pertaining to the current financial year. The Board of Directors will be authorised and based on this authorisation, interim dividends could be paid out. Also, a corresponding clause must exist in the Articles of Association to be able to pay out the interim dividends²⁶⁵.

Advances on dividends are also possible according to the Capital Market Board of Turkey and the Commercial Code. Corporations can pay advance dividends to their shareholders provided that such a decision has previously been taken at the General assembly and there is a corresponding clause in the Articles of Association. Based on this, a portion of dividends can be paid out to shareholders, which will later be deducted from the to-be-distributed amounts. Corporations making dividend advances should generate profit in order to realise advance payments. If the advance amounts exceed the earnings generated so far in the current year, part of the retained earnings could be paid out to shareholders. If the company declares a loss in the year that dividend advances were distributed and if that loss exceeds the retained earnings and reserves, those advances must be returned to the company to bolster the equity base²⁶⁶.

2.7.4. Taxation of Dividends in Turkey

Tax issue has been a critical factor in dividend literature, which has some visible repercussions in dividend trends in any market. The dividend taxation has been one of the delicate issues in Turkey as well, impacting the behaviours of the listed companies, IPO trends and investor sentiment. The dividend history cannot be detached from the dividend tax regulation one, where the latter generally impacted the evolution of the former. Prior to 1995, when the stock market had been at its infancy periods,

²⁶⁵ **The Capital Market Board Law**, No: 6362, issued in December 2012, article:19, p:9.

²⁶⁶ **The Capital Market Board Law**, No: 6362, Capital Market Board, issued in December 2012, article:20, p:9-10.

corporations tended to get back the cash outlays incurred by mandatory dividend payments by rights issues commensurate with dividend amounts²⁶⁷. Mostly, companies had been negative dividend payers at this period until 1995, when a major regulatory change was introduced. For the publicly traded companies, mandatory dividend distribution came to a halt and flexibility had been given in conjunction with distributing or retaining (or mixture of these) the earnings.

The applicable tax rate on dividends had been 50% prior to 1995, yet it was reduced to 10% withholding tax rate in early 2000s. The withholding tax rate was later increased to 15% after 2003, which equalized the dividend income stream with that of deposits in terms of taxation; though later the government lowered the withholding tax rate to 10% for deposits with maturities one year and longer. The current applicable withholding tax on all dividend receivers is 15%²⁶⁸. There have been debates over the taxation on dividends, claiming that it has been a deterring factor for companies to go public as bank loans broadly remained more advantageous in terms of financing the investments. Note that interest expenses on bank loans are tax deductible.

The recent drop in interest rates to single digits, where the benchmark rates stabilised slightly below 6% level at the end of 2012, again resurfaces the significance of dividend-related investments in Turkey, and the continuation of single digit interest rates and almost zero real yields offered at the bond market makes the dividend investments a viable and more demanded alternative in the periods to come.

2.8. Dividend Trends in Turkey by Observing Listed Companies

Borsa Istanbul (BIST) is the right venue to keep track of the dividend trends in Turkey, as still healthy and stable data could be gathered for the listed companies over the past decade from the BIST official data base, though the data access to has markedly improved in recent years and one can easily access to data associated with those of non-listed companies as well.

²⁶⁷ **Capital Increases and Dividend Payments** (1986-2013), Data/Equity Market Data/Companies Data, BIST, <http://borsaistanbul.com/en/data/data/equity-market-data/companies-data> , Istanbul, May 2013.

²⁶⁸ **Guide to income tax declaration for security income holders**, No:163, Tax Revenue Administration, February 2013, p:13.

First, data pertaining to dividend payment of companies over years were gathered along with the net earnings in those particular years, hence corresponding dividend yield and dividend pay-out calculations were realized, which was later, crosschecked with our data used in the bank dividend model. In calculating the dividend pay-out ratios, the sum of the net earnings and dividends were factored-in to the calculations and no single averaging of company's individual pay-out ratios was applied. The data thus has been cleared from the losses recorded in that particular year and sector-wise pay-outs were computed in aggregate terms. The aim of this data study is to explore any visible trends in the pay-out ratios of the companies with specific attribution to sector dynamics.

The dividend trends and dividend payments were mainly affected by the regulations of the Capital Market Board. BIST (previously Istanbul Stock Exchange or ISE) was established back in 1986 and between 1986 and 1994, listed companies were obliged at least 50% of its earnings as dividends, which naturally boosted the dividend distribution during this period. This was somehow circumvented by the companies through rights issue commensurate with the dividend payment rate of at least 50%.

Hence an adjustment should be made to get a clearer picture. The Capital Market Board of Turkey removed the minimum required dividend payment rule in 1994, giving the companies the authority to freely determine their dividend payments. Adaoglu²⁶⁹ found that there was no significant industrial difference among sectors in terms of dividend patterns between 1985 and 1994 due to the mandatory 50% payment rule, which was later removed. Yet, the differences started to emerge among industries when the 50% mandatory distribution rule got eliminated.

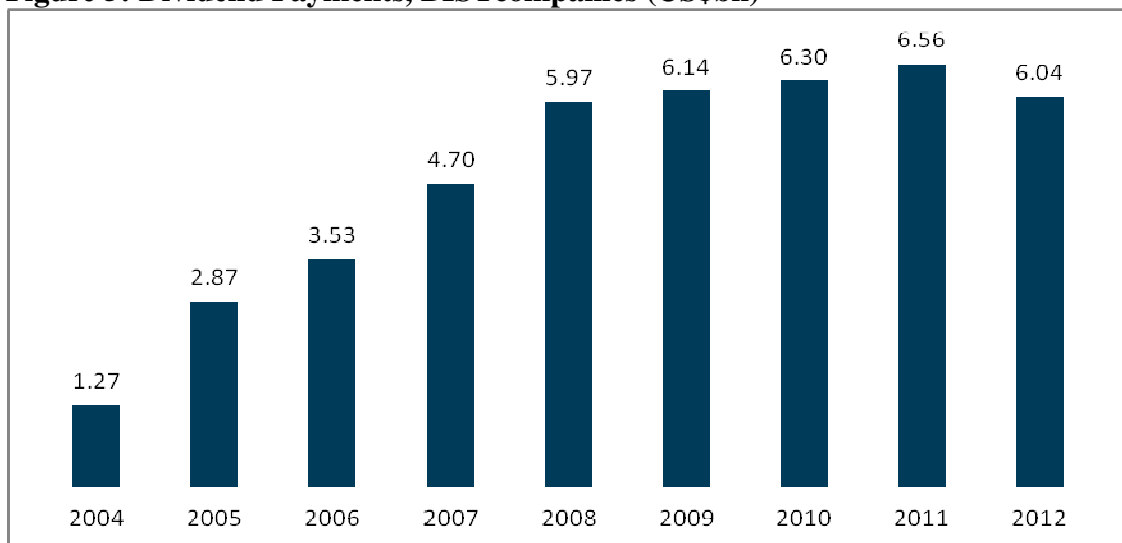
This lasted until 2003, where the authority re-introduced the minimum dividend payment rule but setting the minimum cap at 20% at that time²⁷⁰. Depending on the changes of the regulations, dividend payments displayed a marked volatility between these periods. The minimum distribution rate was raised to 30% between 2004

²⁶⁹ Cahit Adaoglu, "Regulation Influence on the Dividend Policy of the Istanbul Stock Exchange (ISE) Corporations", **The ISE Review**, No:3:11, 1999, p:14.

²⁷⁰ Mustafa K. Yilmaz, "An Analysis on Dividend Policies of ISE Companies: Relationship between Cash Dividends and Sectors", **The ISE Review** No:7:26, 2003, pp:24-25.

and 2006 but was reinstated as 20% back in 2006, which lasted until 2012, where the new law once again eliminated the minimum payment rate. Prior to the enactment of the new capital market law, firms were either pay out 20% of their earnings in cash or as stock dividend or combination of the two. The ability to pay out as stock dividend put a dent on the dividend growth after 2008, which also coincided with the Lehman crises. The banking Watchdog introduced a cap on dividend payment on banks following the Lehman crises in an effort to bolster banks' capital bases. All these factors markedly slowed down the total dividend payment of the ISE companies.

Figure 5: Dividend Payments, BISTcompanies (US\$bn)

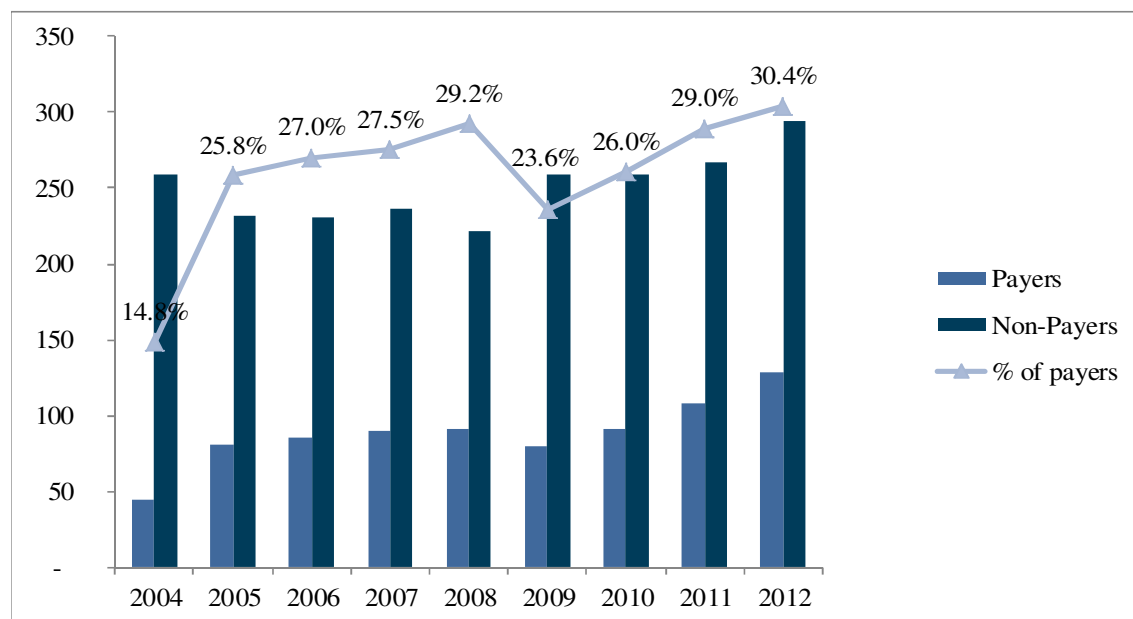


Source: BIST, Rasyonet, <http://borsaistanbul.com/>

Total dividend payment of BIST companies increased sternly between 2004-2008 period, yet it stalled after 2008 with the initial signs of the Lehman crises. The total dividend payment of ISE companies was roughly US\$1.3bn in 2004, which later jumped to US\$6bn averages over the next three year periods. The slowdown in nominal dividend payments may be attributed to the global crises period that head started back in 2008 with Lehman and continued with Eurozone debt crises in 2010. The earning volatility in this crises period remained very high for BIST companies with different reasons where the high volatility in hard currencies led to wide swings in FX gain and losses in this period especially for industrial and service companies with a relatively higher FX debt burden. Earnings for banks and other financials have also sharply fluctuated with the impact of CBRT monetary policies, where it first cut the benchmark rates by over 600bps in 2009 and pursued a tightening policy in 2011, both of which

had different repercussions for banks' profitability. The EU sovereign debt crises, which preceded the Lehman Crises continued to put pressure on global financial markets and its overriding effects were also felt in Turkey despite the fact that the country remained almost unscratched from these devastating crises.

Figure 6: Number of distributing companies on the rise²⁷¹



Source: BIST, Rasyonet, <http://borsaistanbul.com/>

The number of dividend payers have again been displaying a roller-coaster trend in the BIST, sharply declining after 2008 Lehman crises but picking up from the lows of 2009 steadily and reaching its peak at the end of 2012. The number of dividend payers accounts for slightly over of 30% of the all listed companies, more than doubling its levels back in 2004. Improving corporate governance applications, better earning profile of companies and banks, commensurate with the overall macro stability despite the interim global crises, increasing scale and other supporting factors fuelled the number of dividend paying companies in Borsa Istanbul.

The recent studies point that there seems to be a strong relation between dividend payments and the valuation of stocks²⁷² in Turkey as several studies suggest.

²⁷¹ **Dividends of companies traded on the equity market**, Data/Equity Market Data/Companies Data, BIST, <http://borsaistanbul.com/en/data/data/equity-market-data/companies-data> , Istanbul, May 2013.

²⁷² Ahmet Kar, Özlem Özer, Fatih Şantaş, Fatih Budak "Relationship between dividends and stock value: An application on sport clubs traded in the BIST", *Ekonomi Bilimleri Dergisi*, V:4:1, ISSN :1309-8020, 2012, P:8-9.

Yet, some other studies concluded that dividend payments were largely distracted (decline and largely omitted) by financial crises and regulatory impacts as set forth in Kirkulak and Kurt's study²⁷³.

The data depicts that some sectors have significantly higher pay-out ratios in comparison with those of others. The ownership structures, the scale of the companies operating in the sector and their corresponding market shares are the natural determinant factors even if these determinants have not been incorporated into a statistical model to test their explaining power of the underlying dividend pay-outs.

Traditionally, automotive, oil&gas, cement, retail and durables have been the sectors having high pay-out ratios compared to the rest of the sectors. Yet, these sectors are generally represented and dominated by large companies with almost monopolistic or oligopolistic power and they are generally owned by large family conglomerates or pension type organizations. Hence, these companies have been enjoying a high level of profitability largely owing to their unique market share positions, creating monopolistic type profits. Adaoglu²⁷⁴ confirmed this observation for the BIST Listed companies between 1986 and 2007, concluding that concentration in dividend payments and earnings gained pace over years as larger scale companies captured more stakes from the overall dividend paid. Lack of sufficient competition in these underlying sectors and large scales enabled these companies to generate sizable earning momentum over the years and convey part of these earnings to their shareholders in the form of dividends. Ownership structures apparently has been playing a major role here, where parent holding companies generally ask their profitable subsidiaries to pay consistent and high level of dividends especially in cases where the indebtedness of the parent is above averages.

As we glance through the regulated sectors, we observe that banking and utilities have been paying rather lower dividends with thinner pay-out ratios, reflecting the regulation impacts more clearly, yet we do not trace the same trend for instance in

²⁷³ Berna Kirkulak and Guluzar Kurt, "Are dividends disappearing or shrinking? Evidence from Istanbul Stock Exchange", **Emerging Markets Finance and Trade**, v:46:2, 2010, p:38 in pp:38-52.

²⁷⁴ Cahit Adaoglu, "Dividend Policy of the ISE Industrial Corporations: The Evidence Revisited (1986-2007)", **BRSA Banking and Financial Markets**, Serial:2 No:2, 2008.

insurance companies where the dividend ratios settle above 50% levels. The solvencies and capitalisation levels in Turkish Insurance Sector have been rather saliently high, therefore insurers have been less concerned about their capitalisation levels. Also, unique features of some largest insurers with high stakes in some banks resulted in huge dividend payments to their shareholders.

Figure7: Dividend Payout Ratios of Selected Sectors at BIST

Dividend Payout Ratios of Selected Sectors in the Istanbul Stock Exchange (2004-2012)					
	Agri. chemicals	Aviation	Automotive	Banking	Beverage
2004	28.3%	355.1%	30.4%	15.8%	37.4%
2005	18.9%	5.2%	92.4%	18.3%	43.0%
2006	40.4%	1.5%	92.2%	28.7%	27.8%
2007	110.8%	11.2%	80.5%	22.0%	36.3%
2008	21.4%	35.1%	81.5%	22.5%	31.8%
2009	129%	8.7%	64.0%	11.9%	34.2%
2010	17.3%	11.8%	74.2%	14.8%	37.8%
2011	3.3%	4.5%	85.7%	14.0%	44.2%
2012	9.0%	9.2%	73.3%	12.2%	58.6%
Median	52.3 %	11.2 %	80.5 %	15.8 %	37.4 %
Stdev.	45.5 %	115.2 %	19.0 %	5.6 %	8.9 %
	Cement	Conglomerates	Durables	Utilities	Food
2004	45.3%	10.8%	0.0%	0.0%	3.1%
2005	63.4%	13.5%	50.0%	7.6%	28.9%
2006	52.4%	14.7%	48.2%	0.0%	38.5%
2007	62.8%	9.1%	49.0%	11.0%	32.9%
2008	52.7%	5.4%	54.0%	0.0%	20.1%
2009	58%	11.9%	28.0%	11.0%	24.7%
2010	69.2%	16.9%	37.4%	10.3%	20.4%
2011	76.1%	19.8%	33.5%	0.5%	18.5%
2012	81.8%	14.4%	37.8%	44.4%	43.4%
Median	62.8 %	13.5 %	48.2 %	7.6 %	24.7 %
Stdev.	11.8 %	4.3 %	19.0 %	14.1 %	12.1 %

Source: ISE

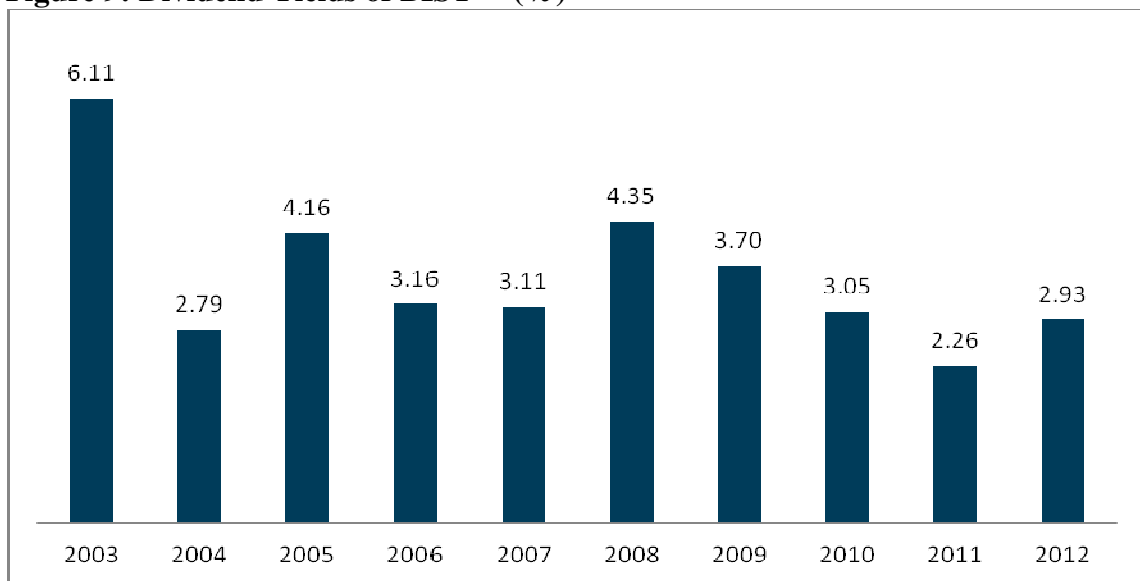
Figure 8: Dividend Payout Ratios of Selected Sectors at BIST

	Glass	Insurance	Oil&gas	Reits	Retail
2004	28.7%	21.2%	43.9%	0.0%	25.3%
2005	34.7%	27.3%	53.7%	14.4%	20.9%
2006	67.5%	37.6%	57.3%	79.3%	14.8%
2007	0.0%	53.2%	54.3%	39.6%	60.1%
2008	0.0%	58.1%	48.6%	37.0%	34.2%
2009	0%	53.8%	105.4%	11.9%	531.1%
2010	0.0%	68.1%	113.2%	4.7%	96.0%
2011	16.1%	47.3%	82.0%	21.6%	54.9%
2012	5.2%	66.6%	65.8%	23.5%	56.6%
Median	0.0 %	53.2 %	57.3 %	14.4 %	54.9 %
Stdev.	26.3 %	16.5 %	25.2 %	27.7 %	163.9 %
	Iron&steel	Textile	Chemicals	Telcos	Construction
2004	11.9%	21.4%	61.6%	10.5%	10.8%
2005	42.6%	44.5%	104.6%	40.4%	8.3%
2006	42.1%	51.8%	84.4%	47.1%	6.6%
2007	11.4%	30.7%	36.1%	44.6%	7.3%
2008	40.5%	34.6%	33.4%	15.1%	7.2%
2009	1.3%	26.9%	12.7%	63.7%	13.4%
2010	139.3%	3.1%	17.9%	68.5%	17.0%
2011	56.1%	27.2%	30.3%	53.1%	19.1%
2012	28.1%	17.8%	4.7%	58.3%	30.7%
Median	40.5 %	27.2 %	33.4 %	44.6 %	10.8 %
Stdev.	40.9 %	14.4 %	33.9 %	22.1 %	7.9 %

Source: ISE

Dividend yields of BIST displayed a rather volatile pattern over years, fluctuating with respect to changing regulations regarding to the dividend distributions, and the economic up or downturns, which have profound impacts on companies' earnings and dividend distribution motives. The economic crises may be denting the earning momentums of the companies or may be inducing losses for them, but this does not necessarily mean that they will be lowering or omitting earnings. Vanishing investment and growth opportunities may lead the firms to pay out more. The industry and company characteristics play a crucial role here, as well as exogenous factors do. The ownership factor is also pivotal in that subsidiaries of conglomerates or large pension funds tend to pay out more, which is also affected by the size or life cycle of the firms. The dividend yield based trading rules over buy and hold strategies have been more productive in some markets but Prather et al.²⁷⁵ study point out that this strategy has not worked out in the Turkish market.

Figure 9: Dividend Yields of BIST²⁷⁶ (%)



Source: BIST, Rasyonet, <http://borsaistanbul.com/>

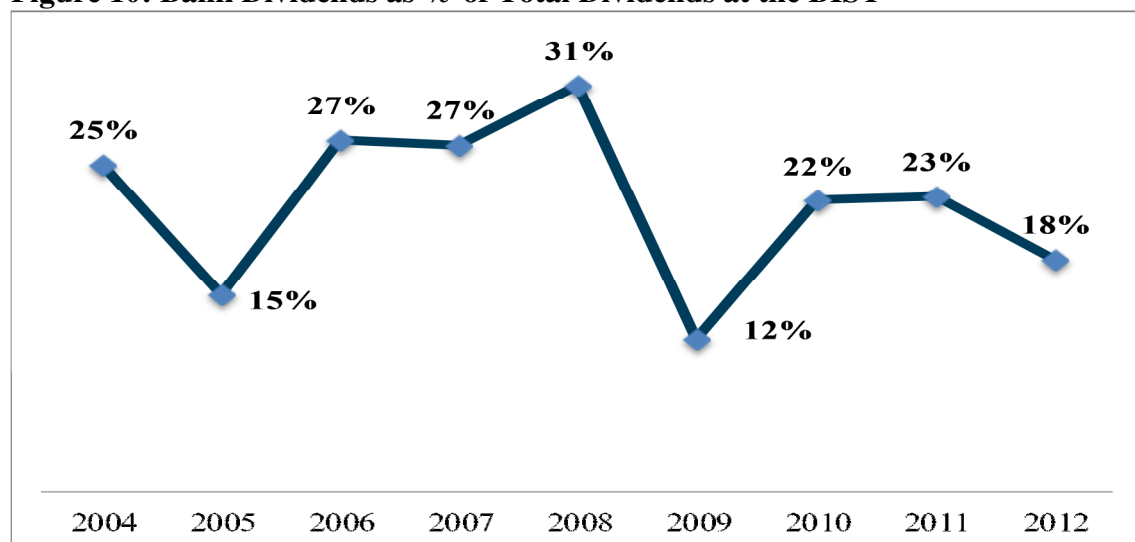
The share of bank dividends accounts for almost one fifth of the total dividends distributed in the BIST over years and on average basis despite the fact that there is a minimum cap imposed on banks to pay out their dividends in a financial year. The fact

²⁷⁵ Larry J. Prather, John C. Topuz and Cihan Uzmanoglu, **Dividend-Yield Based Trading Rules: The Turkish Evidence**, Working Paper, Southeastern Oklahoma State University, 2010, p:18 in p:1-31.

²⁷⁶ **Dividends of companies traded on the equity market**, Data/Equity Market Data/Companies Data, BIST, <http://borsaistanbul.com/en/data/data/equity-market-data/companies-data>, Istanbul, May 2013.

those banks' net earnings make up 41% of total earnings in 2011 points that banks have been generating a very significant portion of total net income attained at the BIST in a given year. Total net income of 16 listed banks equals 70% of all net income posted by over 300 non-bank listed firms.

Figure 10: Bank Dividends as % of Total Dividends at the BIST²⁷⁷



Source: BIST, Rasyonet, <http://borsaistanbul.com/>

The dividend- stock price interactions in the ISE were explored in several studies, where Yilmaz and Guzhan²⁷⁸ found significant effect of cash dividend payments on the Istanbul Stock Exchange. The authors analysed price-dividend relations at the ISE between 1995-2003. They found that there happens significant volume increase prior to ex-dates and at the dividend payment dates prices fall less than the dividend payment amounts. Hence, some profitable trading and arbitrage opportunities may exist in the dividend payment dates in the BIST (ISE at the time).

2.9. Turkish Banking Sector: A Glance at the Last Decade

In this section, we present a brief summary of the evolution of the Turkish Banking Sector with significant references to the evolution of growth, risk profile and

²⁷⁷ **Dividends of companies traded on the equity market**, Data/Equity Market Data/Companies Data, BIST, <http://borsaistanbul.com/en/data/data/equity-market-data/companies-data>, Istanbul, May 2013.

²⁷⁸ M. K. Yilmaz and G. Guzhan, "Dividend Policies and Price- Volume Reactions to Cash Dividends on the Stock Market: Evidence from the Istanbul Stock Exchange.", 2006, **Emerging Markets Finance and Trade**, v:42-4, p:19-49.

profitability. As we also analyse the same period, Turkish banking sector should be investigated post 2001 era as the system underwent a major restructuring process in terms of recapitalisation and rehabilitations of the sector as a whole. The introduction of the new regulatory and legal framework also differs wildly with pre-2001 period, making this comparison almost impossible for the researchers. Not only did the regulatory and legal framework changed but also the accounting and auditing principles were reintroduced to make the sector more compatible with the international standards, which later paved way for the system to get more access to global financial systems and it also helped to attract more foreign interest to Turkish Banks as the improved transparency, reliability and data efficiency augmented the outside world's confidence in the Turkish Banking System²⁷⁹.

2001 crises had devastating impacts on the Turkish banking sector, the whole economy and the country as well. The impacts were so overwhelming that not only were the economy and economic actors (mainly financial system) affected but also it had overriding effects on the country's political profile as well. The total cost of the banking crises is close to US\$50bn or roughly 32% of GDP based on 2001 figures²⁸⁰, which shows the magnitude of the crises on Turkey. More than 20 banks were taken over by the Savings and Deposit Insurance and a major recapitalisation program was launched for the state banks whose equities had been hampered by the heavy duty losses of the past and for the private banks of which balance sheets were largely destroyed by excessive existence of bad loans (mostly to group companies) and largely impaired interest sensitive assets.

²⁷⁹ The Banks Association of Turkey, **Recent Developments related to the Banking Sector and the Financial System**, Progress Report, 2002, P:3-6.

²⁸⁰ Bankacılık Düzenleme ve Denetleme Kurumu (BDDK, BRSA), **Krizden İstikrara Türkiye Tecrübesi**, Second version, Ankara, 2009, p:12-14.

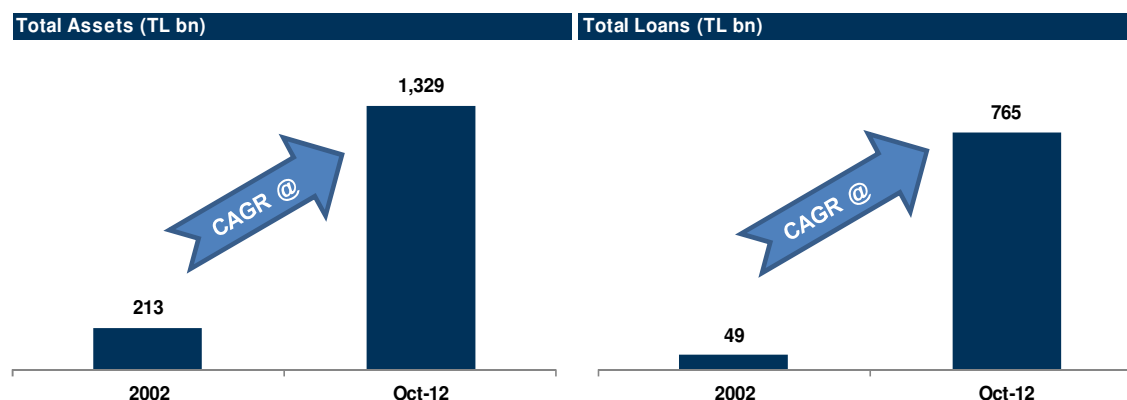
Figure 11: Cost of 2001 crises (US\$bn and as % of 2001 GDP)²⁸¹

	US\$ bn	as % of GDP
I.i. State banks' duty losses	19.0	12.8
Treasury	19.0	12.8
I.ii. Recapitalisation of state banks	2.9	2.0
Treasury	2.9	2.0
Subtotal	21.9	12.8
II. Cost of banks taken-over by the SDIF	22.5	15.2
Treasury	17.3	11.7
Private sector	5.2	3.5
III. Recapitalisation of private banks	2.8	1.9
Treasury (capital-like credits)	0.1	0.1
Private sector	2.7	1.8
Subtotal	25.3	17.1
IV. Total cost	47.2	31.9
Treasury	39.3	26.6
Private sector	7.9	5.3

Source: BRSA, TBA, www.bddk.org.tr, www.tbb.org.tr

The establishment of the BRSA (Banking regulation and Supervision Agency), the introduction of the new banking law and regulations right after the crises as well as the triple auditing process (BRSA, Treasury and the independent auditors), which lasted until 2006 led to a much healthier infrastructure for the Turkish Banking Sector to evolve in the following years.

Figure 12: Total Asset and Total Loan growth (CAGR, 2002-Oct 12)²⁸²

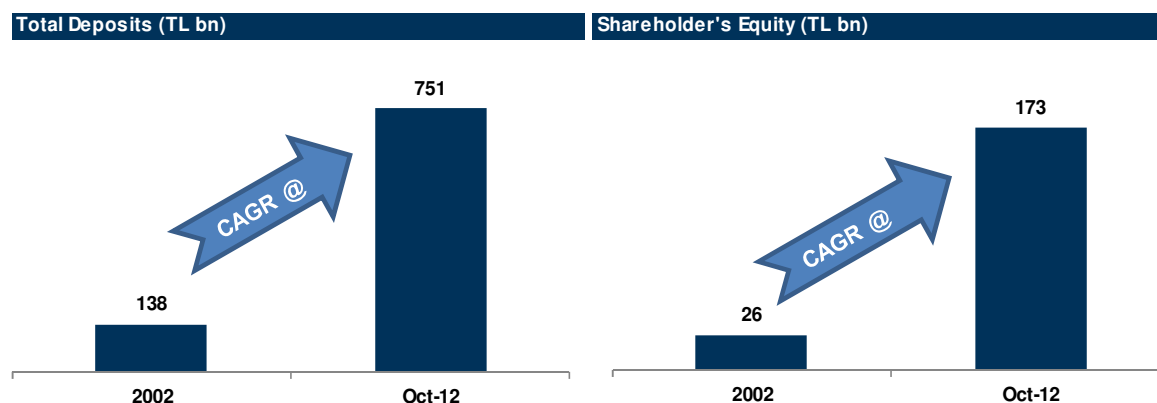


Source: BRSA

²⁸¹ Banking Sector Restructuring Program: Porgress Report, No:7, BRSA, October 2003, p:13, 28,73-99.

²⁸² Interactive Monthly Bulletins, BRSA, <http://ebulten.bddk.org.tr/AylikBulten/Basit.aspx?Dil=EN>
20 April 2013.

Figure 13: Total Deposits and Equity growth (CAGR, 2002-Oct 12)



Source: BRSA, www.bddk.org.tr

The growth pace of the Turkish banking sector since 2001 until now has been a remarkable success story with assets surged almost seven fold and loans soaring over 15x between 2002 and 2012. The average compounded annual growth for assets for the last decade is 20%, while this rate is 32% for loans and 19% and 21% for deposits and shareholders' equity respectively.

Figure 14 Turkish Banking Sector Basic Indicators (2006-12), (%)²⁸³

	2006	2007	2008	2009	2010	2011	2012
Loans to Assets	43.80	49.10	50.10	47.10	52.20	56.10	57.98
Annual Loan Growth	40.00	30.40	28.60	6.80	33.90	29.90	16.22
Securities to Assets	31.80	28.30	26.50	31.50	28.60	23.40	19.38
Deposits to Total Liabilities	61.60	61.40	62.10	61.70	61.30	57.10	56.32
Loan to Deposit	71.20	80.00	80.80	76.30	85.20	98.20	102.96
FX Loans to Total Loans	25.50	24.00	28.70	26.60	27.00	29.00	25.97
	2006	2007	2008	2009	2010	2011	2012
Liquidity Ratio (one-month)	157.40	155.10	141.00	144.00	137.10	115.80	124.39
Capital Adequacy ratio	21.90	18.90	18.00	20.60	19.00	16.50	17.87
Core Capital to Total Equity	96.90	96.20	95.60	90.50	89.90	90.70	91.16
NPL ratio	3.80	3.48	3.68	5.27	3.66	2.70	2.88
Net Interest Margin	4.70	4.90	4.80	5.40	4.30	3.46	4.07
ROA	2.52	2.83	2.00	2.61	2.50	1.70	1.84
ROE	20.00	21.70	16.80	20.20	18.10	14.30	15.72

²⁸³BRSA, **Financial Markets Report**, September 2012, p:9-12, www.bddk.org.tr.

As we see the evolution of the Banking Sector in Turkey since 2001 in terms of basic performance metrics, the progress has been quite visible in terms of growth rates as well as the strengthening capital base and controlling the basic banking risks. While the risk weighted asset growth basically measured by loans increased almost tenfold in the last decade, the capital adequacy ratio even now measured in accordance with Basel II rulings point to one of the best capitalisation ratios across the globe²⁸⁴. Turkish banks managed to increase and diversify their earning base remarkably in this period through penetrating new and previously less tapped lending areas, increasing non-interest revenue bases, increasing TL-assets in total mix and lowering security placements in lieu of loans. All these led to almost uninterrupted earnings momentum for Turkish banks in the last decade despite the overwhelming crises experienced in this period.

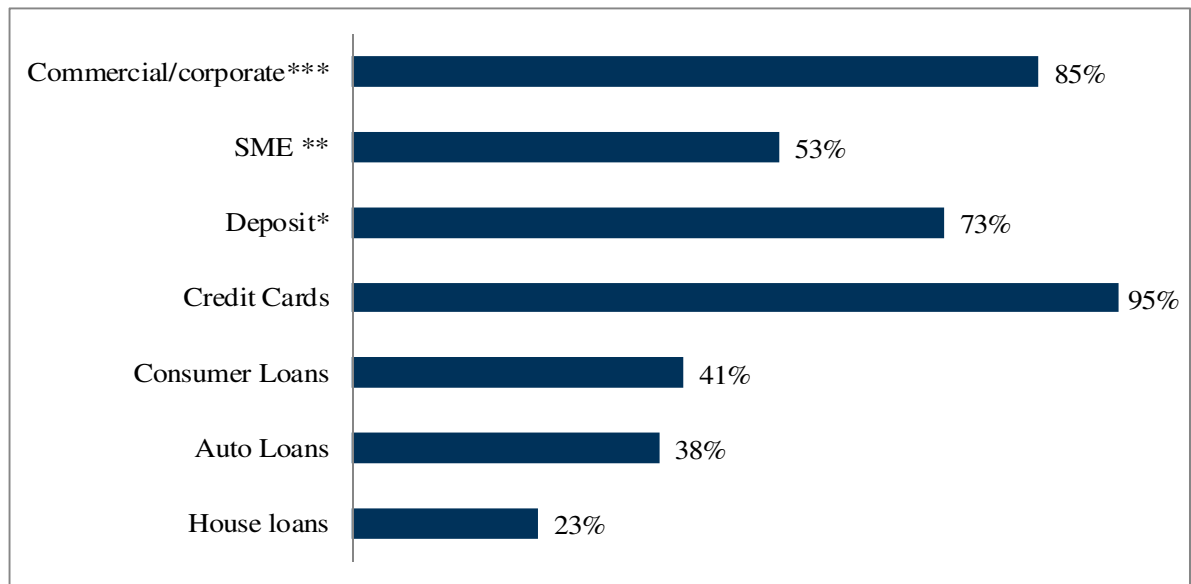
The lower interest rate environment and regulatory pressures have been dragging the banks to increase leverage for some time, hence starting from margins, basic profitability indicators have been on a declining trend but still they were able to attain a marked momentum growth. One of the culprits of the lower ROEs compared to the previous years has been the low dividend pay-out ratios, which have been capped by the regulator, despite the high internal generation rates.

Despite the remarkable growth attained over the last decade, Turkish Banking Sector has robust growth opportunities in the future periods as evidenced in some metrics like total loans to GDP or retail/SME (small and medium enterprises) loans to total loans metrics especially in comparison with the global standards²⁸⁵. Total loans in the system make up roughly 55% of the GDP, while penetration levels in basic retail banking products could be deemed at their infancy stages.

²⁸⁴ The Banks Association of Turkey, **The Banking Sector in Turkey 1960-2012**, ,presentation, p:71.

²⁸⁵ Aycan Yuksel, **SME Access to Bank Credits**, Proficiency Thesis, State Development Agency, 2011, p:82.

Figure 15: Banking penetration in Turkey (selected products, 2012)



* Total deposit accounts/population

** Number of SMEs having credit/Total SMEs (2009, Kosgeb)

*** Forecast, Is Investment

Consumer Loans: Data from Banking Association was used

2.9.1. Dividends, Accounting and Capital Rules in the Turkish Banking

To explore the relationship between the bank's reported earnings and dividend patterns with the existing accounting systems and regulatory constraints is an interesting topic to get a grasp on the framework or constraints ensued on banks. While these might seem to be constraint to bank managements most of the time, banks managers may opt to use the accounting loopholes or those constraints to manage their earnings from time to time for different purposes. The literature is wide in terms of covering the earnings management area in banking, where earnings smoothing/inflating through using various accounting methods are usually utilized by banks, which is inversely related with the degree of regulations and is also dependent upon ownership as put forth in Biurrun's study²⁸⁶. Goel and Thakor concluded that firms' earning volatility and diffuse ownership have positive relation with smoothing while institutional ownership has negative relation with earnings management²⁸⁷. MM Cornett et al.²⁸⁸ study refers to

²⁸⁶ Valeria Biurrun, **Mitigating Bank Earnings Management: The Role of Regulation and Supervision**, Otto Beisheim School of Management, Working Paper, 2010, p:24 in pp:1-30.

²⁸⁷ Anand Mohan Goel and Anjan V. Thakor, "Why Do Firms Smooth Earnings?", **Journal of Business**, v:76:1, 2003, p:179 in p:151-192.

earnings management in banks to inflate banks' earnings in bad times mostly using loan loss provisions and accruals, while smoothing over the good times. The incentive is to increase the management compensation, which calls for an agency problem per se.

While the accounting systems shape the extent of the agency problem in the banking services industry, it also forms an external constraint or framework that could affect the value of the bank assets and/or riskiness of banks especially in conjunction with the interaction of the capital rulings imposed by Basel Committee. A true reflection and reporting of banks' financials and compatibility of accounting systems with the capital regulations and rulings are one of the primary issues in this field and begs for further exploration for the researchers.

2.9.2. What are the Accounting Standards for Banks in Turkey?

Prior to 2002, Turkish accounting standards did not portray a compatibility with the International standards, though it is hard to find a uniform set of accounting standards globally before 2000s. TRGAAP had been officially in place but with small similarities with the World accounting standards. The introduction of the IFRS is a marked step towards the harmonization of accounting systems in the world, though the differences are still alive presently for instance differences between the US GAAP and IFRS and the different adaptability levels of IFRS in the World. It is not mandatory to use IFRS, nor can we give a timeline for the adoptability of the IFRS system. However, the number of countries accepting the IFRS has been increasing recently and the need to fully adopt or become compatible with the IFRS rulings is becoming more crucial each day. One critical point for IFRS is the acceptance of these rulings by the EU in 2005²⁸⁹. Today, over 100 countries are either using outright IFRS standards or their accounting systems with some degree of compatibility of IFRS.

Adaptability of IFRS and interaction between IFRS and regulatory rulings set forth by BIS (BASEL regulatory rulings) are critical and lower the variations between

²⁸⁸ Marcia Millon Cornett, Jamie John McNutt, Hassan Tehranian, "Corporate governance and earnings management at large U.S. bank holding companies", **Journal of Corporate Finance**, v:15, 2009, p:424 in pp:412-430.

²⁸⁹ Stephen A. Zeff, "The Evolution of the IASC into the IASB, and the Challenges it Faces", **The Accounting Review**, v:87:3, 2010, p:834 in pp:807-837.

those systems, the lower the information asymmetry in the underlying markets can be achieved.

With the inception of IFRS in EU countries back in 2005, the accounting applications within EU countries were unified and same rules and procedures became also applicable for the candidate countries.

The application of the IFRS accounting in Turkey dates back to 2002, when the BRSA (Banking Regulation and Supervision Agency) first introduced set of several accounting standards, totalling in 19 regulations, which were compatible with the IFRS accounting. Later, the CMB (the Capital Markets Board) issued a communiqué, Serial: X1, No:25, which included 33 chapters to adopt the companies that are subject to the CMB for the IFRS. The set of rules prepared by the CMB became effective on January 2005, though the application become confined merely to the companies subject to the CMB rulings. The widespread application of the IFRS will begin in the second half of 2012 with the New Commercial Code becoming effective, as the IFRS will become mandatory for the all companies operating in Turkey. The steps taken by the CMB and BRSA are important in the sense that these institutions set first legal infrastructure to adopt IFRS rulings in the country, which was also supported by the Turkish Accounting Standards Board, established in 1999, also contributed a lot to ensure the full adaptability of the IFRS in Turkey. Turkish GAAP prepared in accordance with IFRS standards was introduced and was aligned with CMB and BRSA applications. The application of IFRS in the banking sector gained more ground and approximated over 90% compliance when the New Commercial Code became effective in July 2012²⁹⁰.

2.8.3. Interactions With IFRS, Accounting Systems And Basel Rulings?

When we compare the IFRS and the interaction of the domestic accounting systems in global scale, what is observed is that differences between these systems mostly merge in fair value accounting, classification of financial assets, the accounting

²⁹⁰ Feyyaz Yildiz, Cemal Elitas and Mustafa Uc, "Classification of Turkish Accounting System", **International Journal of Business and Social Science**, v: 2:14,2011, p:113 in pp:108-118.

of derivatives, consolidation and netting²⁹¹. As for the financial systems and the banking sector in particular, fair value accounting, accounting of derivatives and different treatment related with provisions, particularly loan loss provisions stand out as the main discussion areas²⁹².

We find the adaptation level of the accounting system pertaining to banks is relatively high especially in conjunction with the compatibility of BASEL rulings as well.

The interaction between the IFRS and BIS rulings (BASEL rules) is of particular importance in the sense that the proximity between these two systems (should be complimentary each other) should ultimately lessen the information asymmetry in the markets, thus overall risk perception. Leventis et al²⁹³. found that adaptation of IFRS significantly lessened the loan loss provision usage as earnings management for EU banks.

The purpose of the IFRS or any other accounting systems is to accurately report banks' assets liabilities and equity in different reporting tables, whereas BASEL procedures focus on risks that may hinge upon banks' equity. Those risks can be classified as credit risk, operational risks and market risk and other relevant risks. It also classifies the assets by assigning risk weights on the assets depending on the source and collateral structure of the underlying assets. It measures the ability of equity absorbing these risks through setting minimum levels and thresholds. Basel II, for instance, has superior risk measuring performance over Basel I especially in conjunction with credit and operation risks²⁹⁴.

The extent of the IFRS is mostly confined to the listed companies in the countries where IFRS is being applied, though the utilization has been in a spreading

²⁹¹ Ian Michael, **IFRS and Basel II**, Accounting and Auditing Policy Department, Financial Services Authority, 2010, Presentation, p:5.

²⁹² Ian Michael, **IFRS and Basel II**, Accounting and Auditing Policy Department, Financial Services Authority, 2010, Presentation, p:12.

²⁹³ Stergios Leventis, Panagiotis E Dimitropoulos and Asokan Anandarajan, "Loan Loss Provisions, Earnings Management and Capital Manageemnt under IFRS: The Case of EU Commercial Banks", **Journal of Financial Services Research**, v:40, 2011, p:103 in pp:103-122.

²⁹⁴ James Franklin, "Operational Risk Under Basel II: A Model for Extreme Risk Evaluation", **Banking and Financial Services Policy Report**, v:27:10, 2008, pp:10-15.

trend for some time. Therefore interested parties, particularly, shareholders are the target audience for IFRS, yet BASEL merely targets the health of the banking system and banks in particular, focusing on the stance of the equity by setting prudential rulings. BASEL generally defines capital based on its quality of absorbing risk or classifying a bank's capital based on being core or supplemental while no classification is applicable in IFRS accounting. The valuation of assets is based on fair value in IFRS, however risk weightings are crucial in assigning value in BASEL rulings, this is standing out a different approach between the two systems. Note that the difference between the fair value accounting identified by IFRS widely differs from the accountings systems applying purely amortized or historical costs in valuing the assets. As a matter of fact, IFRS uses a mixed model in identifying

i-) Loans and deposits and held to maturity investments are generally accounted for at amortized costs using the effective interest method less any impairment losses

ii-) However, trading securities, financial assets designated at fair value are valued based on their respective market values. Any gain/loss accrued to those accounts following the fair value calculations is reflected in the income statements

iii-) Available for sale investments are generally treated the same way with the fair value methodology but the ensuing gain/losses are accrued under the equity. At this juncture, IFRS and BASEL systems interact and confirm each other²⁹⁵.

IASB (International Accounting and Supervision Board) has recently worked out a plan to bring more clarity in valuing a financial asset, which is currently being defined in IFRS 39, according to new IFRS 9, which will be applicable after 1 January 2013, there are two phases in measurement or valuing financial assets. The first one is to value the asset based on its fair value and in case no fair value is derived easily, the historical cost plus transaction costs and if no evidence is available in identifying the value, amortized cost principle may be applied. The second phase is related with the impairment of a financial asset. The IASB is proposing that entities should drift away

²⁹⁵ Ian Michael, **IFRS and Basel Accord: Main objectives and key priorities**, presentation, Financial Services Faculty, Chartered Accountants Worldwide, 2011, p:1-15.

from the incurred loss value concept to expected loss framework . This suggests that under the current system only incurred losses are written down or only when strong evidence is available, those losses are realized. However, the new system brings expected loss concept related with this particular financial asset. In building up impairment reserves at the initial phase (when the asset is obtained) actually builds up a buffer zone for this asset in case of distressed times. This is very crucial and this will bring a full conformity of the IFRS system with that of BASEL II in terms of embedding the risk factor in valuing the asset.

The procedures will be as follow;

- Determine the expected credit loss when the asset is obtained
- Recognise contractual interest revenue less the initial expected credit losses over the life of the asset
- Building up reserves over the life of the asset for the expected credit losses
- Reassess the expected credit loss and reserves each period
- Recognize immediately when there is a change in expected credit risk profile of the asset

In the current system, Turkish banks are applying different version of incurred accounting in recognizing losses related with their lending activities or valuing financial assets based on BRSA and TRGAAP. This refers to the fact that only when loss actually occurs, the impairment is activated and necessary reserve build up process starts. No expected loss concept is applied in valuing the asset, only general provision reserves are recorded based on a certain percentage of standard cash loans, sub-standard cash loans and non-cash loans²⁹⁶. This forms a basic differing area between the BRSA accounting and the new IFRS settings, which are also clearly defined in BASEL III rulings. BASEL II is based on a distinction between the expected losses and unexpected losses which capital is intended to be protected. Loan impairment based on expected rather than incurred losses would therefore bring greater consistency to the accounting and regulatory approaches.

²⁹⁶ Ayten Cetin and Ayca Akarcay Oguz, “Analysis of Provisions, Contingent Liabilities, and Contingent Assets”, **IIBF Dergisi (Journal)**, Marmara University, v:24:2, 2010, p:426-427.

In Basel II rulings, where the Turkish Banking System started to adopt from June 2012, banks partially began to use external and internal rating systems to value the counterparty risks related with their financial assets. Following the passage in to the internal ratings based system after the initial phase of using external credit ratings; banks will be calculating the counterparty risks based their quantified estimates of exposure at default and loss given defaults to come up with their credit risk capital. Based on the guidance we got from Turkish Banks that the full application of Basel II rules wiped out some 150-200bps from their capital adequacy ratios, which was later eased to a certain extent with the Investment grade that Turkey received, allowing banks to lower their risk weighting on Turkish Eurobonds to 0% risk weighting from the previous level of 100%. Note that, currently Turkish banking sector CAR hovers around 17% levels.

2.9.3.1. Interaction of BASELIII and IFRS

The minimum requirement for common equity will be raised to 4.5% from the current 2%. This will be phased in by 1 January 2015. The tier-1 capital requirement, which includes common equity and other qualifying financial instruments, will increase from 4% to 6% over the same period. A significant development in the new capital requirements is the inclusion of a non-risk based leverage ratio designed to supplement the risk adjusted capital ratios.

The possible impact of full harmonization of IFRS and BRSA reporting standards and the possible effects of BASELII and BASEL III in Turkey

As we glance through the financials reported in BRSA format and the IFRS reports presented by Turkish Banks, we see little differences between the figures presented by the BRSA reporting and IFRS reporting.

Nnadi and Tanna²⁹⁷ analysed different factors affecting dividend policies of the acquired banks . Watson and Head (2004) affirmed that firms such as banks tend to

²⁹⁷ Matthias Nnadi and Sailesh. K Tanna, **Multivariate Analysis of Factors Affecting Dividend Policy of Acquired Banks**, SSRN abstract JEL clas G14 G21 G24 34.

lower their pay-outs as they operate in high business risk ventures in order to avoid the risk of reducing dividend in the future.

Previous studies relating to the tax effect on dividend decisions have very conflicting outcomes. Casey and Dickens affirmed that taxes have significant effect on bank dividend in the U.S. Their findings concurred with that of Rozeff²⁹⁸. Conversely, Anil and Kapoor²⁹⁹ maintain that imposition of taxes on dividends has no significance for any type of organization.

Other studies; Brunarski, Harman and Kerr³⁰⁰ together with Pattenden and Twitte³⁰¹ have concluded that asset and equity compositions are very vital for dividend decisions. When equity to asset ratio pick up, dividend decisions are revised upward. When the number of shareholders increases in a bank, the bank's dividend policy is reviewed.

The size of the firm is perceived to be an important determinant of the firm's dividend policy. Large banks are likely to follow a high dividend paying strategies as the seminal works conducted by Reeding³⁰² and Fama&French³⁰³ put forward, claiming that large firms are likely to be consistent with their dividend payments. Given that, Chang and Rhee³⁰⁴ and Johnson et al³⁰⁵ find almost no support on the size issue. Their main argument was that large banks may not achieve operational efficiency at all times. Even small banks may be more efficient than large banks. Pattenden and Twitte³⁰⁶ also argue that large firms with high debt or equity pay more dividends.

²⁹⁸Michael S. Rozeff, "Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios", **The Journal of Financial Research**, vol:5/3, 1982, p:258 in p:249-259.

²⁹⁹Anil Kanwal and Sujata Kapoor, "Determinants of Dividend Payout Ratios:A study of Indian IT Sector" 2008 **International Research Journal of Finance and Economics**, v:15 p:63-71.

³⁰⁰K. Brunarski, Y. Harman, J.B. Kerr, "Agency Cost and Dividend Decision",2006, **Corporate Ownership and Control**, V:1-3, p:44-60.

³⁰¹K. Pattenden and G. Twite" Taxes and Dividend Policy under Alternative Tax Regimes",2008, **Journal of Corporate Finance**, v:14-1 p:1-16.

³⁰²Lee S. Reeding, "Firm Size and Dividend Payouts", 1997, **Journal of Financial Intermediation**, V:6, p:224-248

³⁰³Eugene F.Fama and Kenneth R. French, "Disappearing dividends: changing firm characteristics or lower propensity to pay?", **Journal of Financial Economics**, v:60-1, 2001, p:36 in pp:3-43.

³⁰⁴R.P. Chang and G Rhee, "The impact of pesonal taxes on corporate dividend policy and capital structure decisions" 1990, **Financial Management**, v:19, p:21-31.

³⁰⁵S.A Johnson, J. Lin and K.R. Song" Dividend Policy, Signalling and Discounts on Clsoed-end Funds", 2005, **Journal of Financial Economics**, v:81, p:539-562.

³⁰⁶Cited in footnote 300.

Dividend catering theories argue that managements cater for investors by paying dividends to shareholders who demand it and not paying when the investors do not require it. Baker and Wurgler³⁰⁷ argue that investors have uninformed and time varying demand for dividend. Management would pay dividends when investors place higher prices for the payers but avoid it when investors prefer non-payers.

This study finds that PE of the non-acquired banks to be negatively significant to the dividend policy, which is not the case for acquired banks. The significance of variable on non-bank banks could be explained that growth and bank investments exert more aggressive impact on banks that are not acquired or less likely to merge.

Goncharov and Van Thriest³⁰⁸ examined how the efforts to employ internationally accepted accounting rules worked against outsider investors in transition economies, though all actions of insiders are totally legal. The outcome of the newly accepted accounting rules may generate some unintended consequences as this accounting information is used in debt covenants, legal contracts, tax determination and required dividends, which could be controversial with the national regulations. Previous studies conclude that the use of accounting combined with its informational content may generate different outcomes for public and private companies.

The authors cite the dividend rules in Russia, where a minimum required dividend pay-out is assigned for preferred shareholders. A Russian energy company, UES, posted EUR 21.6bn net earnings following the adoption of the new accounting standards, which become compatible with IFRS rulings, Net profit surged as a result of marking to market the investments in subsidiaries. Eventually, the company set the dividend ratio at zero to avoid substantial dividend payment to preferred shareholders. This happened despite a long track record of dividend payment and practically redistributed the wealth from shareholders to insiders. They argue that dividend omissions can be seen as a reaction to a limitation of managerial flexibility to contract

³⁰⁷Malcolm Baker and Jeffrey Wurgler, "A Catering Theory of Dividends", *Journal of Finance*, v:59, 2004, p1126-1127 in p:1125-1166.

³⁰⁸Igor Goncharov and Sander Van Triest, **The Strange Case of the World Record Profit and the Missing Dividends Unintended Consequences of an Accounting Change**, Working Paper Amsterdam Business School, University of Amsterdam, November 2009, p:30.

around the unintended consequences. Marking to market the assets results in new level of accounting values, where the management loses flexibility in reporting earnings

Christensen et al.³⁰⁹ find that adoption of IFRS leads to lower earnings management and timely loss recognition for firms with incentives to adopt IFRS, however firms resisting to adopt IFRS have more insider characteristics and have closer connection with banks. Incentives to adopt IFRS raise the quality of accounting standards.

³⁰⁹H. Christensen, E. Lee and M. Walker, **Incentives or Standards: What Determines Accounting Quality Changes Around IFRS Adoption?** 2008 Working Paper, University of Manchester, p:27-28.

Part III

MODELLING FACTORS AFFECTING BANK DIVIDENDS IN TURKEY

3. Econometric Analysis

3.1 The Data Information

I have construed an econometric model to determine the factors aiming to explain the dividend behaviours of banks in Turkey. A panel data pool including 253 data was incorporated into the model, where data and variables covering 22 banks out of 49 for the period covering between 2002 and 2012 were utilised. The remaining 27 banks were mainly excluded from the data due to their very small scales and lack of representativeness for the underlying set of data. All bank types are represented in the analysis, ranging from commercial deposit banks whether it is state or private, participation banks to investment and development banks. The number of banks in the analysis represent a great majority of commercial banks as well as the participation banks in their respective sub-segments. Though the number of development banks in the analysis is rather limited, the size of the banks represented in the analysis makes up a great portion of the development banking segment in terms of their asset size. Major part of the excluded banks are investment and development banks with very little footprints in their segments and the sector. We have also included listed and non-listed banks into our sample in order both to observe the dividend behaviours of the listed banks vs. that of the non-listed ones and to broaden the sample base and capture the information available in non-listed space.

The data set concerning bank specific information was obtained from the database of the Turkish Banking Association and that of the Istanbul Stock Exchange, while some macro variables were obtained from different resources like the Central Bank of Turkey, Turkish Statistical Institute and some data vendors like Reuters and Bloomberg.

The main rationale in employing panel data analysis is the insufficiency of the data for building up a time series analysis as both horizontal (number of banks) and the vertical data (number of years) do not justify to use such an econometric methodology. Rather, I reckon that using a panel data analysis broadens the number of observations markedly, bolsters the explanatory power of the independent variable and makes it superior to other comparable analysis in this thesis. The data gives a broader number of degrees of freedom.

The data encompasses a period between 2002 and 2012, where both public and listed banks' data were gathered in construing the models. All different banks are being represented in the data set, which includes state, private, participation and investment& development banks. The rationale to analyse 2002-2012 periods is the major difference of the post 2001 era for the Turkish banking system, as the system underwent a major restructuring in that so many laws and regulations pertaining to the banking were modified and new and more internationally acceptable reporting standards were introduced. Therefore, comparing post and pre-2001 period would have substantially distorted the outcomes of the analysis since the operating environments in these two periods' paints a completely different picture.

Figure 16: The variables and data processed in the analysis

Variable	Mean	Median	Minimum	Maximum
divpayout	31.5854	7.34000	0.000000	435.430
ownership	0.30434	0.000000	0.000000	1.00000
roa	2.37585	2.04000	-17.9900	19.4000
ci	46.6487	43.5300	9.19000	186.250
npl	5.60949	3.36000	0.000000	94.6200
car	51.6479	20.2300	7.24000	979.400
lvg	7.20332	7.57000	1.29000	22.5500
incvol	1.27538	0.530000	-20.5500	38.8800
listed	0.60869	1.00000	0.000000	1.00000
rd2	0.45454	0.000000	0.000000	1.00000

rd1	0.63636	1.00000	0.000000	1.00000
assize	3.85274	3.91000	1.58000	5.23000

Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
divpayout	59.3495	1.87902	3.86331	19.3160
ownership	0.46104	1.51485	0.850420	-1.2767
roa	2.95287	1.24287	-0.35748	19.6011
ci	20.6022	0.441645	1.46475	7.27151
npl	8.92209	1.59054	5.51244	43.1448
car	113.041	2.18868	6.07491	40.1909
lvg	3.55401	0.493385	0.523045	1.58130
incvol	4.81332	3.77404	3.59794	27.0787
listed	0.48901	0.803373	-0.44543	-1.8015
rd2	0.49891	1.09762	0.182574	-1.9666
rd1	0.48199	0.757427	-0.56694	-1.6785
assize	0.81920	0.212630	-0.27491	-0.7252

We also looked at the correlation matrix of the variables subject to the analysis and as the matrix depicts the correlation coefficients of the variables are sufficiently low enough to increase the robustness of the analysis.

Figure 17: Summary Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
rd1	253	0.63636	0.48200	0	1
rd2	253	0.45455	0.49892	0	1
cds	253	344.09090	231.04660	169.2	876.1
libois	253	28.84545	28.33584	8.1	111.3
bench	253	16.08182	8.18596	8.1	36.7
rd1xcar	253	20.51909	29.36299	0	208.16
rd2xcar	253	12.89794	21.25288	0	142.8
bankid	253	12.00000	6.64640	1	23
roa	253	2.37585	2.95287	-17.99	19.4
ci	253	46.64866	20.60217	9.19	186.25
car	253	51.64791	113.04060	7.24	979.4
lvg	253	7.20332	3.55401	1.29	22.55
assize	253	8.87131	1.88659	3.64	12.04
income	253	2.12885	0.89174	-0.81	3.57
incprv	253	1.98455	0.93303	-0.81	3.57
listed	253	0.60870	0.48901	0	1
ownership	253	0.30435	0.46104	0	1
vix	253	21.45455	6.54990	12.6	31.8
incvol	253	1.27538	4.81332	-20.55	38.88
divpayout	253	31.58534	59.34951	0	435.43

Figure 18: Cross Correlation Matrix

roa	ci	npl	car	assize	
1.0000	-0.4484	-0.1508	0.3969	-0.1037	roa
	1.0000	0.0800	-0.2486	-0.0456	ci
		1.0000	-0.0438	0.0256	npl
			1.0000	-0.2442	car
				1.0000	assize
incvol	divpayout	ownership	listed	rd2	
0.0339	-0.0107	0.2203	-0.2048	-0.0905	roa
0.0383	-0.0927	-0.4088	0.1614	-0.0287	ci
-0.0412	0.0849	0.2067	0.1797	-0.1728	npl
-0.0064	0.0388	0.3567	-0.3104	-0.1875	car
-0.0072	-0.1802	0.0676	0.4744	0.3314	assize
1.0000	-0.0444	0.0023	0.0459	-0.1867	incvol
	1.0000	0.1913	-0.3970	-0.1324	divpayout
		1.0000	-0.2441	0.0000	ownership
			1.0000	0.0000	listed
				1.0000	rd2

3.2. The Methodology

Banks do have two options in determining their dividend policies; i-) they either pay out, or ii-) they retain their full earnings. This results in dividends with possible two outcomes. Dividends do take either zero values or have positive values. Dividends cannot be a negative value. Due to the nature of the dependent variable, employing Ordinary Least Square method will not yield satisfactory results given the fact that dependent variables are not observed in a regular fashion and occasionally can take zero values. The information pertaining to the dependent variable could only be attained for some observations; hence a non-linear distribution is valid for these observations. The sample is a censored one and it necessitates use of a non-linear model with a constraint in observing and clustering the depending variable. When observing data is restrained and limited, use of an OLS may give biased results on the whole sample and biased and inconsistent results on the unclustered portion of the sample data³¹⁰.

The standard Tobit Model can be simply summarised as;

$$y_i^* = x_i \beta + \varepsilon_i$$

where,

if $y_i^* > 0$ y_i^* is assumed to be observed, yet, if $y_i^* < 0$ this value is deemed to have not been observed. The estimation instrument of Tobit model is the maximum likelihood methodology, where error terms are assumed to have a normal distribution or under some maximum or other likelihood cases estimators with normal distribution can asymptotically and consistently be obtained especially when the distribution of error terms are known parametrically.

Tobit Model can be best used in cases where dependent variable can be observed in a censored way across the time series or when dependent variable act in that fashion. Dependent variable could appear, disappear or reappear throughout the time

³¹⁰ Jeffrey M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, Second edition, Boston MIT Press, 2002, p:524.

series examined³¹¹. While independent variables are regressed to explain dependent variables, they can also be used to estimate the dependent variables as well. Giving the flexibility to estimate while explaining the dependent variable through independent variables differs Tobit model from OLS and probit models. The effectiveness in reaching meaningful outcomes especially in the censored series is the most visible superiority of Tobit over other models³¹². Dividend policies of banks and financial firms may display a non-linear pattern to a great extent due to the existence of heavy regulations putting the capital as the main cushion to absorb any risk that might borne in the operating environments of the financial firms. Liquidity is another risk factor that the regulators put a great emphasis in measuring banks' overall risk absorption capacity. Since dividend decisions are greatly involved and affected by the level of capital and liquidity, any decision regarding dividends has overreaching consequences and meanings for bank managers let alone outright paying out to shareholders. As the dividend is a function or indicator of the cash flows pouring into the equity, it is an indispensable part of banks' capital management and it may potentially affect the degree of leverage, liquidity, investment plans and earnings structure of banks. We, therefore, identify Tobit Model as our econometrics model in identifying the factors affecting Turkish Banks' dividend decisions.

As a sanity check, we will be also running several interval regression models, which are also widely used in censored data samples. Provided that the outcomes we will be getting from Tobit model are also confirmed by Interval regression models, robustness of our chosen models will augment. We will be using Stata program to run our censored regressions.

Dependent Variable

Dividend Pay-out: We identify dividend pay-out ratio of banks as our dependent variable. Dividends distributed at t_0 (present year) divided by net earnings at t_{-1} (previous year). The main rationale we adopt dividend pay-out as our dependent variable is that it truly represents dividend policy of banks as it gives a clearer picture as

³¹¹ Takeshi Amemiya, **Advanced Econometrics**, First Edition, Harvard University Press, 1985, p:360.

³¹² John F. M Donald and Robert A Moffitt, "The Uses of Tobit Analysis", **The Review of Economics and Statistics**, v:62:2, 1980, p:318-321.

to what portion of earnings is allocated as dividends to shareholders each year. The nature of our sample with banks gathered from listed and non-listed banking populations necessitates the use of dividend pay-out as the main indicator of dividend policy. Dividend yields, which have also been widely employed as proxy of dividend policy in the finance literature, are restricted to the listed bank population.

Figure 19: Variable Snapshot

Name of variable	Description	Definition	Exp. sign	Expected relation
Dependent				
Divpayout	Dividend pay-out ratios	Dividends divided by earnings		
Independent				
RoA	Return on assets	Earnings divided by total assets	(+)	Positive
CI	Cost income ratio	Operating cost to total revenues	(-)	Negative
NPL	Non-performing loan ratio	Non-performing loans to total loans	(-)	Negative
CAR	Capital adequacy ratio	Equity to risk weighted assets	(+/-)	Positive/Negative
Assize	Logged total assets	Total assets	(+)	Positive
Incvol	Income volatility	Corr. coefficients of past five year income	(-)	Negative
Income	Present Year Income	Net Income at t	(+)	Positive
Incprv	Previous Year Income (nominal and change)	Net Income at t-1	(+)	Positive
Listed	Listed dummy	Listed or not	(+/-)	Positive/Negative
Ownership	Ownership dummy	State or private	(+/-)	Positive/Negative
rd1	Regulatory dummy 1	Minimum CAR @ 12% (2006)	(+/-)	Positive/Negative
rd2	Regulatory dummy 2	Max 20% payout cap (2008)	(-)	Negative
lvg_1	1 period lagged leverage	Equity to total assets (lagged)	(-)	Negative
Divpayout_1	1period lagged div payout	Lagged Dividend Payout	(+)	Positive
Vix	Macro variable	Volatility indicator	(+/-)	Positive/Negative

Rd1xCAR	Regulation factor	CAR times Rd1	(+/-)	Positive/Negative
Rd1xCAR	Regulation factor	CAR times Rd2	(+/-)	Positive/Negative
bench	Macro variable	Bench. bond rates	(+/-)	Positive/Negative
cds	Macro variable	Turkey CDS	(+/-)	Positive/Negative
libois	Macro variable	TR 10yr vs US 10yr	(+/-)	Positive/Negative

Independent Variables

Return on Assets (ROA): Return on assets can be identified as net earnings at t_0 divided by average total assets, calculated as the average assets at t_0 and $t-1$. The expected sign with the dependent variable is positive. Banks which are generating higher returns on their assets are expected to pay out more as the capacity to have a higher profitability and higher RoE conditions having a high return on assets. The level of leverage that the bank employs is another crucial factor determining the overall profitability but it all starts with return on assets. Higher RoEs can be attained through employing excessive leverage which potentially increases the earnings volatility and it may drag down the overall profitability when the underlying risks rise. ROA captures overall earning and efficiency power of banks; hence it enters as a powerful variable into our model equation. ROA is formed by the core banking margins identified as NIMs or adj. NIM (NIMs adjusted for FX and trading gains) and other non-interest income items like net fees and commissions, provision reversals, and other non-interest income items are filtered through ROAs. It also represents the costs and provision burden of banks. Return per asset metric is a buoyant variable as it encapsulates multi-dimensional factors pointing the overall profitability and efficiency of banks. Since ROEs are also largely affected by the level of leverage, it may fail to explain the core profitability of a bank. Signalling effect and life cycle hypothesis of dividend theory fits in the use of ROA as dependent variable in explaining bank dividend policies. Profitable banks with a sustained high ROAs or elevated ROAs may initiate or increase their pay-outs in order to signal their high profitability levels to their shareholders. As for theories supporting or seeking life cycle hypothesis, banks which reached a certain

size and generate higher ROAs are more prepared to initiate or increase their pay outs and/or buybacks³¹³.

Current Year Income: Net earnings of banks at period t or, presently, is expected to have an impact on setting bank dividend pay-out policies. The expected sign is positive as earnings make up the flux of dividends. Present net income evolution may impact the dividend payments if banks do not have strict dividend pay-out policies as the present conditions reflect the future expectations in terms of sustainability of earnings, growth potentials, and possible change in regulations and so on so forth. Net earnings at present may be treated as the future earnings expectations as banks pay-out previous year(s) earnings; hence it also contains significant future expectation information.

Previous Year Earnings: We will factor in this variable as the nominal amount of previous year earnings as it forms the source where dividends are distributed and we will also explore the impact of previous year earnings change as a determinant of dividends paid out at period t (at present year). The expected sign of the relationship with the dependent variable is positive.

Cost to Income Ratio: Cost to income ratio is calculated as operating costs at t_0 divided by total revenues at t_0 . The expected sign of the relation with the dependent variable is negative, as more efficient banks with lower cost income ratio may potentially pay higher dividends. Efficiency happens to be one of the most significant parts of bank profitability and it also stands as one of the leading indicator of earning sustainability. Therefore, efficient banks do have embedded strength to have a higher profitability and may set their dividend policies, if any, at higher levels *ceteris paribus*. Cost to income ratio is a bank specific feature, yet it is observed that larger scale banks tend to have higher efficiency and lower cost to income ratios. From this perspective, this variable also has some scale information, which we believe a crucial factor, in determining dividend policies of banks. As observed in the Turkish banking industry, some banking segment groups like investment and development banks may have lower

³¹³ V. Aivazian, L. Booth and S. Cleary, "Do Emerging Market Firms Follow Different Dividend Policies From U.S. Firms?", *Journal of Financial Research*, 2003, p:371-387

cost to income ratios due to their nature of doing business as they engage in wholesale banking, which does not necessitate a large branch network or extensive distribution channel as we encounter in commercial banking.

Non-performing Loan Ratio: Non-performing loan ratio is calculated as gross non-performing loans at t_0 divided by gross loans + provisions at t_0 . This is one of the key metrics affecting the bank's overall profitability and riskiness profile. The expected sign with the dependent variable is negative where banks with higher non-performing loans relative to their loans are normally expected to have higher tendency to retain their cash and earnings due may be to the regulatory burdens, having to set aside provision expenses for their aging non-performing loan book, or disruptions in their future cash flow expectations. Therefore, expectations of managements towards the asset quality of banks may potentially affect their investment and financing decisions, which, in turn, could have repercussions on their dividend policies. Credit risk is one of the major risks that banks have to face in carrying out their lending activities and it is one of the pillars of future cash flows. We factored in our NPL variable with 1 period lagged in our model, assuming that most recent NPL trends have more assertive strength in designing or determining the pay-outs, though admitting that future expectations also play a crucial role here. Since asset quality trends or cycles cover a relatively longer period of time, it takes a while to trace a visible trend which is linked to the overall macro and financial variables like real GDP growth, level of real interest rates, level of unemployment and so on.

Capital Adequacy Ratio: The Basel definition of capital adequacy ratio is not fully reflected into our model but we incorporated equity at t_0 to risk weighted assets at t_0 ratio as the proxy of CAR, which accounts for the major part of CARs defined in Basel. As known, Basel type capital adequacy ratio also includes market and operational risks along with the credit risks and there are some other items included in the definition of equity as deductions and additions. Still, equity and risk weighted assets make up the major portion banks' CARs. The intriguing part of using CAR in explaining banks' dividend policies is the uncertainty regarding the direction of the relationship with the dependent variable. The relation could be positive as envisaged in

several studies in the literature as banks with higher capital adequacy ratios are potentially the ones to increase their pay outs in the future. CAR variable can be associated with the agency theory of dividends and it can be argued that regulations can increase the mitigating impact of dividends on agencies, if relationship is positive.

Conversely, CARs might be seen as the indicator of the overall capital management and banks use their dividend pay-out policies to affect their capital adequacy levels. Therefore, banks aiming to have a relatively higher CAR may lower their pay-outs or set their dividend pay-out ratios at lower levels. This approach puts the regulatory pressures at the forefront of the explaining power of CARs in relation with their dividend policies. In those cases, one can expect the relation to be negative, meaning that banks with higher CARs do have lower dividend pay-out policies. As regulation effect mainly evidences itself in to the CAR metric, banks will strive to reach higher CAR levels at the given level of leverage, competitive environment and future investment plans. This is the attempt to optimise the capital use by the management and hence any impact affecting the capital will be treated carefully. Being a function of cash flow and earnings, dividend pay-out policies affect banks capital and their capital adequacy levels. Banks with growth ambitions may tend to set their pay-out levels at lower end of their policy range to be able to comply with the capital regulations, thus they try to maximise their CARs at the given level of expected RWA growth and the funding mix. The expected sign of the relationship between the dependent and independent variable could be in either way and we will be interpreting the results based on the model outcome. CAR variable can be associated with the agency theory of dividends and it can be argued that regulations can lower the mitigating impact of dividends on agencies, if relationship is an inverse one.

Asset Size: The natural logarithm of banks' total assets is another crucial metric we include in our econometric model to explain banks' dividend policies. Total asset variable in a panel data represents the size metric for a bank, which is widely elaborated in the dividend theory in finance. Life cycle theory for dividends is the most renowned one, which suggests that firms reaching their maturity stages after completing their growth cycle tend to pay out more relative to the ones in their growth phases. The

expected sign between the dependent and independent variable is a positive one, pointing that banks with higher total assets and scale tend to pay out more relative to banks with smaller scales.

Income Volatility: Income volatility is calculated as the correlation coefficient of past five year earnings of banks, as used in Dickens, Casey and Newman³¹⁴, and the expected relationship sign with the dependent variable is negative. Banks with higher earnings volatility are expected to pay out none or lower dividends compared to the ones with lower earnings volatility. The riskiness of earnings may hinge upon the overall liquidity and capital managements of banks, where managements may prefer to conserve cash and liquidity to bolster buffer zone against further culmination of risks. The low visibility in earnings and cash flow may potentially deter managements to set a definitive pay out policies. Mostly smaller scaled banks and banks with more risk exposures display higher earnings volatility, which leaves little room to share their ambiguous cash flow with the shareholders.

Listed Dummy: We add listed dummy in our model, where “1” stands for listed banks while “0” refers to non-listed banks. The expected sign of this relationship is a rather vague and it could be in either direction. We will be interpreting the results based on the model outcome. A positive relation may suggest that listed banks tend to pay out more or initiate dividends relative to those in non-listed banking space. The signalling effect, agency costs and catering theories may apply here as largely discussed in the literature. In case of a negative relation with the dependent variable if it is statistically significant, we may conclude that listed banks opt not to pay out dividends. The underlying reasons may differ wildly where it could arise from the inertia of not sharing the earnings with minorities or it could be tied to the assumption that shareholders would be indifferent on dividends as they first prioritize the capital gains or a possible M&A activity that will compensate the investment sufficient enough not to seek the dividends within the total return.

³¹⁴ Ross N. Dickens, Michael K. Casey and Joseph A. Newman. 2003. “Bank Dividend Policy: Explanatory Factors” *Quarterly Journal of Finance*, Winter 2003, p:55-58.

Ownership Dummy: We use state and private bank dummies to trace any dividend policy trends peculiar to these sub-segments. “1” represents state banks while “0” stands for the private banks. The ownership structure plays a crucial role in identifying investment and financing decisions as well as dividend pay-out policies. Here, we would like to prove if there is significance between the ownership structure and dividend pay-out behaviour of banks. Normally, holding ownership is taken as to measure the impact of holding structures and policies on banks’ dividend policies in the literature. The rationale that we prefer state/private ownership in our model is that state banking presence is still high in the Turkish banking system, comprising c. 25% of the total banking sector assets, while holding influence on bank managements has somehow been fading. It should be asserted that large conglomerates do have still significant presence and ownership in Turkish banks but, in recent years part or whole of these banks have been sold to foreign investors in the past, making the impact of this ownership class rather a blurry one to trace. A positive relation suggests that state banks have a tendency to pay out more as their dominant shareholder governments do exert power on these banks to pay out more or it could be argued that almost all state banks had undergone a significant restructuring process and they had been recapitalised at the end of the process, and now they have been repaying their debts to the government through dividends. A negative relationship may suggest that private banks are faring better in terms of overall pay outs and dividend policies.

Regulation Dummy 1 (rd1): Regulation dummies are one of the most important variables that we incorporate in our model. The relationship between the regulations and the dividend policies is especially delicate and intriguing and the information we will get from the model as to the degree of the explanatory power of the regulation variables for bank dividend policies will be of particular importance. The reason we construed separate regulation variables for our model apart from the capital adequacy variable is the unique features of the Turkish regulatory environment for bank, which was reshaped following 2001 massive banking crises. On comparative basis, Turkish banking regulatory environment is relatively more restrictive in comparison with those in many countries around the globe and this thesis will likely explore the dividend-regulations interaction in a more restrictive environment for the

first time to our knowledge. Our first regulatory dummy is related with a period, 2006, where the regulator imposed 12% minimum CAR threshold for banks to be able to open new branch. This means that banks aiming at growing through branch expansion should restore at least 12% minimum CAR threshold. The dummy is assigned to see the impact of this regulation by assigning “0” for pre 2006 period and “1” for post-2006 period. The expected sign could be in either direction, where positive relationship implies that banks with well above 12% threshold CAR feel comfortable to pay out or increase their dividends, while a negative relation suggests that banks become more cautious in maintaining a certain comfort zone above the 12% threshold to be able to maintain their growth targets and signal a healthy capitalisation levels. We are more skewed to negative sign due to the assumption that banks will be tending to conserve more capital to abide by the rules to maintain their growth targets in the Turkish case. This might be related with the agency cost theory, suggesting that mitigating power of dividends on agency costs are somehow moderated by the existence of strict capital rules, where managers can use them as pretext to conserve funds.

Regulation Dummy 2 (rd2): Our second regulation dummy is directly related with the dividends. Turkish Banking Watchdog, Banking Regulation and Supervision Agency (BRSA), determined to impose a cap on dividend payments of banks in 2008 following the Lehman crises in an attempt to defend capital better and to weather the devastating effects of the crises. The new decree required every dividend decision taken by bank managements to be approved by the Watchdog. The restriction is quite noteworthy and is still applicable today as well, even if Turkish Banking sector proved to be quite resilient in the Lehman crises and preceding European sovereign debt debacle, the regulator still requires a very strong capital base from bank. It also put this restriction in dividend payments to backstop any massive repatriation of funds to the headquarters of the foreign banks that have a presence in Turkey through subsidiaries or branches. The caps and restrictions are as follows;

Figure 20: Dividend Caps Imposed by the BRSA³¹⁵

	CAR>18%	16%<CAR<18%	13%<CAR<16%
Maximum Distribution	20%	15%	10%
Max allowable decrease in CAR after pay-out	100bps	70bps	40bps
General reserves for potential risks	Additional 15% general reserve	Additional 10% general reserve	

Source: BRSA, www.bddk.org.tr

These limits suggest that dividend payments or controlling dividends is an indispensable and significant part of the capital management and it directly impacts the soundness of the capital bases in the eyes of regulators. That is why we need to add a second regulation dummy variable to our model to see the degree of relationship even if the inception of this regulation merely dates back to 2008. We expect a negative relationship due to the nature of the regulation in that dividends are directly capped and are subject to the approval of the regulator. We assign “1” for 2008 and following years and give “0” for pre-2008 period to spot any change of dividend behaviours, if any, stemming from this regulation in particular.

Leverage: Leverage should be a significant variable in forming the dividend decisions and policies as more leveraged banks tend to be paying out comparably less or none and under levered banks may potentially pay out more. As inferred, the underlying relation between the independent and dependent variable is expected to be inversely related. We factored in this variable with a one period lag given that previous year leverage level is the most recent leverage information that the management commands, hence it should be pivotal to use the most recent realised data to spot the relationship. It would be easy to explain if the model gives a negative relationship, but a significant positive outcome would be a harder task to comment. Still, a more leveraged bank could be more profitable and hence it has more resources to share with the stakeholders as dividends.

³¹⁵ İhsan Ugur Delikanlı, **Road to Basel-III Strategies and Priorities of BDDK**, 2011, presentation, P:26.

Past Dividend Pay-outs: Past dividend pay-out ratios, represented as previous year dividend pay-out ratio, is also included in our model to trace dividend policy, if any. The relation should have a positive sign but the model can also yield no relationship given that the data displays a non-linear pattern. A positive relationship suggests a coherent dividend policy traced by banks and no relation means a non-consistent pattern in dividend policies or no general and attributable dividend policy could be determined for the banking system.

Following the detailed information presented about our variables above, we can now construct our equation of our econometric model to test the relationship between the dependent variable that is dividend pay-out with those of the independent variables mentioned.

Macro Variables: We intend to add a macro variable to our model to get more robust results and strengthen the explanatory power of independent variables. The macro variables we factor in are related with the measures of indicators of general riskiness in the operating environment and the economy. More comprehensive risk indicators are used so as to trace the level of riskiness or change in volatility has an explanatory variable on banks' dividend decisions. Normally, bank specific market risk indicators like stock beta may be employed here but since our data base also encompasses non-listed banks we opted for using a more general market risk indicators in our model.

The risk factor variables that we incorporate are Vix, Cds level of the country, the difference between the longer term treasury bonds Turkey and the U.S (Libois) and the benchmark bond rates (bench)

Vix (Volatility Index) : Vix is the ticker symbol for the Chicago Board Options Exchange Market (CBOE) Volatility Index (Wikipedia). This is also termed as the fear index and it represents the next 30 day volatility in the US equity index³¹⁶

³¹⁶Menachem Brenner, and Dan Galai. "New Financial Instruments for Hedging Changes in Volatility," **Financial Analysts Journal**, July/August 1989, p:23-24.

Brenner and Galai wrote the first essay on Vix, which was later developed by Whaley³¹⁷. As real time Vix index was introduced and used by CBOE as a tradable product. The index is deemed to measure the volatility or tensions in the markets and has been widely used by the academicians and practitioners as one of the market risk indicators. The higher the level of Vix, the higher is the overall risk perception in the equity markets.

CDS (Credit Default Swaps): CDS can be defined a financial swap agreement that the seller agrees to redeem the underlying assets in case of default (Wikipedia). It was first developed by JP Morgan in 1994. Turkey CDS represents the insurance premium paid on Turkey's sovereign bonds. CDS is factored in as another general risk indicator of the country and it indicates the relative riskiness of the country when it is compared with other countries' similar CDS levels.

Libois: This is another risk indicator and it is the difference between Libor rates and overnight interbank swap rates. The difference is generally observed by the market participants in measuring any risk and tension in the global system. Increasing discrepancy imply a reluctance among banks to lend each other and is mostly observed by the market participants and Central banks in setting liquidity and hence affecting interest rates. Therefore, this variable emerges as a benchmark for overall interest rate levels globally.

Bench: The term "bench" represents the yield of the benchmark Treasury bond of Turkey and it generally captures the overall riskiness in the country and the financial markets.

The below equation combines the expected relationship among the dependent and independent variables;

$$\text{Dividend Payout} = \alpha + \beta \text{ ROA} + \beta \text{ income} + \beta \text{ incprv} + \beta \text{ CI} + \beta \text{ NPL} (-/+) \beta \text{ CAR} + \beta \text{ Asssize} + \beta \text{ IncVol} (+/-) \beta \text{ lvg} (+/-) \beta \text{ Vix/Cds/Bench/Libois} (+/-) \beta \text{ Listed} (+/-) \beta \text{ Banktype} (+/-) \beta \text{ Regulation1} - \beta \text{ Regulation2} + \beta \text{ leverage} + \beta \text{ Divpayout}_1 + \varepsilon_i$$

³¹⁷Robert E. Whaley, 1993, "Derivatives on market volatility: Hedging tools long overdue," **Journal of Derivatives**, (Fall), p:77 in pp:71-84.

This is our main broad model that we factor in all independent variables into our model to test the relationship of explanatory power with Turkish Banks' dividend pay-out ratios or dividend policies. Any relationship whether it be significant or not will be explored and explained within the realm of different dividend theories.

To clarify the dividend patterns of Turkish Banks will pave way;

i-) to determine if bank managers generally follow predetermined dividend policies in the Turkish Banking Sector,

ii-) to determine the direction of regulations, if any, with banks' dividend policies and to assess this relationship, if any, within the context of dividend and finance theories, do regulations create value or destroy value of shareholders, looking at the dividend metrics and patterns?

iii-) to explain the interaction with regulations, one of the heaviest regulated industries not in Turkey but arguably in the global scale, and dividends paid by banks to their shareholders,

iv-) to spot, if any, dividend policies fulfil to mitigate in reducing the agency costs in Turkish Banking Industry or dividends are ignored by banks, which might result in the continuation of agency problems, if any,

v-) to spot any different dividend policies across different banking segments in terms of those that are state-owned or private and for those that are listed or not. If different patterns are traced, the outcomes will be discussed in relation with the finance and dividend theories.

vi-) to determine what bank-specific financial and operational metrics do have impact in shaping banks' dividend policies

vii-) to determine whether the general riskiness in the economy/global financial conditions/domestic financial markets have an impact on shaping dividend policies of banks.

3.3. The Results of the Model

We have selected 20 random effect Tobit regressions out of over 200 run models, where we have pencilled in various independent variable combinations from our selected variable population to find and explain the factors and drivers of bank dividend policies in the Turkish Banking sector. The first 12 run models include vix parameter as risk factor but the remaining 8 models have libois independent variable, representing interest rate and risk factors combined. Therefore, we tend to focus on models with libois independent variable to spot relation between dividend yields and interest rates. We chose and formed five different set of portfolio models to test the explanatory powers of independent variables to the dependent variable.

Also, we run several random effect Interval Regressions to provide a sanity check to our main Tobit models and identified 8 regressions out of over 50 to provide robustness of the outcomes. We present our twenty- sample run Tobit regressions in five different portfolios, containing different combinations of the independent variables.

Figure 21: Random effect Tobit Regressions – Portfolio I

	Model(1)	Model(2)	Model(3)	Model(4)
	divpayout	divpayout	divpayout	divpayout
DV: divpayout				
S.incprv	13.35*	13.07*	15.42*	10.36
	(2.22)	(2.1)	(2.52)	(1.65)
vix	1.278*	1.869***	1.035	1.526**
	(2.39)	(3.53)	(1.88)	(2.75)
rd2	-25.93**	-28.14**	-23.30**	31.63***
	(-3.10)	(-3.07)	(-2.75)	(-3.51)
listed	-42.63***	-35.42***	-40.88***	-44.79***
	(-5.26)	(-4.74)	(-5.02)	(-5.50)
banktype	25.43*	29.42**	25.07*	23.91*
	(2.51)	(3.00)	(2.48)	(2.34)
ownership	17.30*	33.66***	19.51*	20.33*
	(2.24)	(4.58)	(2.5)	(2.57)
incvol	-1.003	-1.035	-1.082	-0.973
	(-1.43)	(-1.47)	(-1.55)	(-1.40)
npl	-0.772	-1.258*	-0.913	-0.819
	(-1.39)	(-2.25)	(-1.63)	(-1.47)
assize	4.094**		6.815**	4.550**
	(2.67)		(2.98)	(2.91)
L.divpayout	0.00896	0.0129	0.011	-0.00367
	-0.17	-0.24	-0.21	(-0.07)
L.lvg	-2.399*	-2.000	-2.416*	-2.655*
	(-2.11)	(-1.79)	(-2.14)	(-2.34)
ci		0.308*		
		(2.25)		
car		-0.0468		-0.0619
		(-1.45)		(-1.86)
income			-9.7	
			(-1.60)	
roa				0.329
				(0.27)
sigma_u_cons	1.51E-15	5.17E-18	3.49E-16	2.77E-15
	(0.00)	(0.00)	(0.00)	(0.00)
sigma_e_cons	43.48***	43.51***	43.24***	43.16***
	(21.45)	(21.45)	(21.45)	(21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 22: Random effect Tobit Regressions – Portfolio II

	Model(5) divpayout	Model(6) divpayout	Model(7) divpayout	Model(8) divpayout
DV: divpayout				
S.incprv	12.99* (2.16)	13.36* (2.23)	13.22* (2.20)	13.36* (2.23)
vix	1.203* (2.23)	1.025 (1.85)	1.275* (2.39)	1.025 (1.85)
rd2	-26.18** (-3.13)	-21.35* (-2.53)	-28.45** (-3.03)	-21.35* (-2.53)
listed	-41.89*** (-5.14)	-40.57*** (-4.96)	-42.34*** (-5.22)	-40.57*** (-4.96)
banktype	27.16** (2.63)	26.41** (2.61)	26.14* (2.56)	26.41** (2.61)
ownership	16.08* (2.05)	18.84* (2.40)	17.44* (2.26)	18.84* (2.40)
incvol	-0.979 (-1.40)		-0.941 (-1.33)	
rd1xcar	0.0941 (0.84)			
npl	-0.755 (-1.36)	-1.04 (-1.87)	-0.732 (-1.31)	-1.04 (-1.87)
assize	3.829* (2.45)	6.614** (2.89)	3.782* (2.33)	6.614** (2.89)
L.divpayout	0.00965 (0.18)	0.0154 (0.29)	0.00919 (0.17)	0.0154 (0.29)
L.lvg	-2.305* (-2.02)	-2.705* (-2.42)	-2.450* (-2.15)	-2.705* (-2.42)
income		-9.04 (-1.49)		-9.04 (-1.49)
rd1			5.063 (0.59)	
sigma_u_cons	4.8E-18 (0.00)	2.42E-15 (0.00)	7.5E-16 (0.00)	2.52E-16 (0.00)
sigma_e_cons	43.41*** (21.45)	43.46*** (21.45)	43.45*** (21.45)	43.46*** (21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 23: Random effect Tobit Regressions – Portfolio III

	Model(9) divpayout	Model(10) divpayout	Model(11) divpayout	Model(12) divpayout
DV: divpayout				
S.incprv	12.30* (2.05)	13.36* (2.23)	12.11* (2.01)	13.36* (2.23)
vix	1.341* (2.51)	1.025 (1.85)	1.293* (2.32)	1.025 (1.85)
rd2	-22.01** (-2.58)	-21.35* (-2.53)	-21.20* (-2.37)	-21.35* (-2.53)
listed	-38.45*** (-4.68)	-40.57*** (-4.96)	-38.09*** (-4.58)	-40.57*** (-4.96)
banktype	27.92** (2.67)	26.41** (2.61)	28.50** (2.67)	26.41** (2.61)
ownership	24.74** (3.12)	18.84* (2.40)	24.71** (3.11)	18.84* (2.40)
income	5.562 (1.32)	-9.04 (-1.49)	5.057 (1.11)	-9.04 (-1.49)
ci	0.318* (2.25)		0.323* (2.26)	
npl	-1.149* (-2.03)	-1.04 (-1.87)	-1.133* (-2.00)	-1.04 (-1.87)
L.divpayout	0.0175 (0.30)	0.0154 (0.29)	0.0169 (0.29)	0.0154 (0.29)
L.lvg	-2.396* (-2.08)	-2.705* (-2.42)	-2.405* (-2.09)	-2.705* (-2.42)
assize		6.614** (2.89)		6.614** (2.89)
roa			0.382 (0.30)	
sigma_u_cons	1.325 (0.05)	4.88E-16 (0.00)	1.697 (0.08)	2.35E-16 (0.00)
sigma_e_cons	43.73*** (20.01)	43.46*** (21.45)	43.71*** (20.03)	43.46*** (21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 24: Random effect Tobit Regressions – Portfolio IV

	Model 13	Model 14	Model 15	Model16
	divpayout	divpayout	divpayout	divpayout
divpayout				
S.incprv	15.43** (2.96)	11.91* (2.57)	15.62** (3.00)	14.95** (2.96)
L.libois	0.284* (2.38)	0.261* (2.18)	0.286* (2.43)	0.245* (2.08)
L.income	-8.131 (-1.43)		-4.435 (-0.72)	-5.326 (-1.02)
income		-9.096 (-1.67)		
car	-0.0506 (-1.59)	-0.064 (-1.92)		
npl	-1.054 (-1.79)	-0.787 (-1.42)	-1.225* (-2.09)	
incvol	-0.981 (-1.41)	-1.03 (-1.50)	-1.051 (-1.54)	-1.227 (-1.79)
rd2	-25.17** (-3.09)	-25.48** (-3.14)	-25.97** (-3.26)	-24.22** (-3.01)
listed	-42.82*** (-5.19)	-42.54*** (-5.20)	-42.58*** (-5.22)	-48.16*** (-6.10)
banktype	19.78 (1.90)	19.97 (1.96)	17.93 (1.79)	18.22 (1.81)
ownership	22.31** (2.75)	21.14** (2.67)	27.36** (3.26)	18.50* (2.39)
assize	8.511*** (4.53)	8.303*** (4.54)	6.571** (2.72)	8.157*** (4.34)
L.divpayout	0.0224 -0.39	0.0195 -0.37	0.0168 -0.32	0.00234 -0.04
L.lvg	-2.423* (-2.06)	-2.139 (-1.90)	-2.429* (-2.14)	-2.417* (-2.11)
roa		1.652 (1.32)		
L.car			-0.0597* (-2.08)	-0.0498 (-1.73)
ci			0.26 (1.66)	
sigma_u_cons	1.05 (0.03)	1.14E-14 (0.00)	2.57E-15 (0.00)	2.09E-15 (0.00)
sigma_e_cons	43.20*** (19.89)	43.11*** (21.45)	42.83*** (21.45)	43.43*** (21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 25: Random effect Tobit Regressions – Portfolio V

	Model 17	Model 18	Model 19	Model 20
	divpayout	divpayout	divpayout	divpayout
divpayout				
S.incprv	12.74** (2.81)	11.68** (2.62)	11.16* (2.41)	12.21** (2.67)
L.libois	0.259* (2.18)	0.255* (2.14)	0.263* (2.21)	0.219 (1.85)
npl	-0.77 (-1.34)	-0.914 (-1.62)	-0.743 (-1.30)	
incvol	-0.88 (-1.27)		-0.866 (-1.25)	-1.151 (-1.69)
rd2	-22.74** (-2.88)	-21.09** (-2.71)	-25.18** (-3.06)	-19.22* (-2.43)
listed	-42.41*** (-5.00)	-42.04*** (-4.85)	-44.19*** (-5.11)	-43.69*** (-5.61)
banktype	22.42* (2.07)	23.97* (2.17)	21.78* (1.97)	21.89* (2.15)
ownership	17.22* (2.10)	17.18* (2.04)	19.02* (2.26)	17.69* (2.29)
assize	5.929*** (4.52)	5.894*** (4.40)	6.405*** (4.38)	4.112** (2.60)
L.divpayout	0.0251 (0.44)	0.0251 (0.44)	0.0159 (0.28)	0.00855 (0.16)
L.lvg	-2.158 (-1.80)	-2.443* (-2.06)	-2.387* (-2.00)	-2.088 (-1.85)
roa			0.878 (0.74)	1.205 (1.03)
car			-0.0503 (-1.54)	
ci				0.247 (1.77)
sigma_u_cons	5.082 (0.67)	6.152 (0.94)	5.666 (0.83)	5.39E-15 (0.00)
sigma_e_cons	43.31*** (19.97)	43.34*** (19.99)	43.00*** (19.99)	43.43*** (21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Below, we will interpret and assess the relationship between the dividend payouts of Turkish banks and the selected variables. As recalled, our equation of the model is;

$$\text{Dividend Payout} = \alpha + \beta \text{ ROA} + \beta \text{ income} + \beta \text{ incprv} - \beta \text{ CI} - \beta \text{ NPL} (-/+) \beta \text{ CAR} + \beta \text{ Asssize} - \beta \text{ IncVol} (+/-) \beta \text{ lvg} (+/-) \beta \text{ Vix/Cds/Bench/Libois} (+/-) \beta \text{ Listed dummy} (+/-) \beta \text{ Banktypedummy} (+/-) \beta \text{ Regulation dummy1} - \beta \text{ Regulation dummy2} - \beta \text{ leverage} + \beta \text{ Ownership dummy} + \beta \text{ Divpayout}_1 + \varepsilon_i$$

Based on the outcomes of our selected Tobit regressions, our equation with independent variables yielding significant relations and findings are listed below;

$\text{Dividend Payout} = \alpha + \beta \text{ incprv (chg.)} + \beta \text{ Asssize} - \beta \text{ Listed dummy} + \beta \text{ Banktype dummy} - \beta \text{ Regulation dummy2} - \beta \text{ (lagged) leverage} + \beta \text{ Ownership dummy} + \beta \text{ Libois (vix)} + \varepsilon_i$
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From our 20 model portfolios, we identified the below one to be our model explaining the factors for dividend yields of Turkish Banks

$\text{Dividend Payout (model 19)} = 11.6 \text{ incprv} + 6.405 \text{ Asssize} - 44.19 \text{ Listed dummy} + 21.78 \text{ Banktype dummy} - 25.18 \text{ Regulation dummy2} - 2.37 \text{ (lagged) leverage} + 19.02 \text{ Ownership dummy} + 0.263 \text{ Libois} + \varepsilon_i$

A. Dividend Policy And Regulations

The level, density and characteristics of the regulations have a significant impact on banks' dividend pay-out decisions in the Turkish Banking Sector. We posit that special characteristics of the regulations, regulating banks' dividend pay-outs linking the pay-outs to capital adequacy ratios, which were imposed by the Turkish Watchdog after the Lehman crises, have significant explanatory power in banks' dividend pay-out ratios. One of our regulation dummies, described as RD2, which points to the direct dividend regulations imposed to bring constraints on dividends to bolster banks' capital bases post-Lehman crises, yielded significant statistical significance with our dependent variable, dividend pay-outs. The pay-outs and the RD2 are inversely significantly related. The existence of the specific regulations results in lessening impact on our other regulatory variables. Our models point out that dividend-capped regulation put back in 2008 lowered the banks' dividend pay outs by 21-31% compared to pre-2008 period *ceteris paribus*.

We find significant, inverse yet not robust relationship between banks' dividend pay-outs and their capital adequacy levels. The sign of the relationship is negative, contrasting to numerous studies conducted before i.e Casey and Dickens³¹⁸, yet confirming several studies like Forti and Schiozier's³¹⁹. The mechanics of the relationship can be described as banks maintain lower dividend pay-outs to foster their capital adequacy levels. The nature of the relationship reinforces the idea that regulatory forces have vigorous repercussions on management to increase their capitalization at the expense of several other options including dividend payments. The results show that higher CARs are in fact outcomes rather than the driving forces of the dividend pay-outs. Due to higher regulatory ceilings, banks take several measures, where paying out less dividends is one of them to bolster their CARs. In Turkey, the regulatory constraints on bank capital are quite straightforward and strict, for instance banks need to maintain at least 12% CAR to be able to open a new branch. Therefore, implicitly and practically the minimum capital requirement is 12% in Turkey rather than the

³¹⁸ Michael K. Casey and Ross N. Dickens, "The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy", 2000, *Quarterly Review of Economics and Finance*, v:2:2, p:247-248.

³¹⁹ Cristiano A.B. Forti, Rafael F Schiozer, *Informed Depositors and Bank Dividends*, 2011, Working Paper, Midwest Finance Association, p:30.

standard regulatory level of 8%. Maintaining a high capital base almost any time is crucial in sustaining growth targets for banks. We can conclude that regulations led the dividend pay-out policies for bank managements in Turkey to become a capital strengthening instrument rather than capital management instrument.

No statistically significant relation exists between dividend policy and 12% minimum capital rule (maintaining minimum level to open a new bank branch), which was imposed back in 2006 and is represented as our first regulatory dummy, Rd1. This was the first interim extra capital requirement introduced by the Watchdog. Since this coincided with the already rich CARs maintained by the banks, our model does not give a significance for this variable. The authority took this as a measure to make the banks' capitals more resilient against external shocks but the CARs of the banks had already been cruising well above 12%, therefore, as our model confirms, no significance dividend pay-out changes occurred after the inception of this rule.

Interpretation relative to the literature: The regulation dummy 2, which describes the capping the dividend payments to capital adequacy ratios have statistically explanatory power in banks' dividend pay-out policies according to our findings, yet this lessens the would-be higher impact of capital adequacy ratios in defining banks' dividend pay-out ratios. Our other regulatory dummy (rd1), 12% minimum capital requirement to open a new branch, has no statistical significance. Our findings reinforce the findings that regulatory boundaries have significant impact in shaping banks' dividend policies in Turkey. As regulatory forces control dividend payments and as our findings suggest, the higher the regulations imposed on banks' capitals, the lower dividend payments will be the likely outcome. This contradicts with the agency cost theory of dividends, which advocates that dividends are mainly used to mitigate costs like Mercado-Mendez and Willey³²⁰ study, yet in the banking industry the controlled dividends may not fulfil this task efficiently. Other though of school defend the idea that regulations replace the dividends in mitigating agency costs and fulfil this task even

³²⁰ Jose Mercado-Mendez, and Thomas Willey, "Agency Cost in the Banking Industry: An Examination of Ownership Behaviour, Leverage, and Dividend Policies", 1995, **Journal of Economics and Finance**, v:15:2, 469-480.

more sternly compared to that of dividends. Our findings confirm the negative relationship between the dividends and the regulations. This may also be inferred from these results that there happens further ambiguity and lack of testing the agency costs in banks dues to existence of heavy regulations and this suggests that further sanity checks should be needed to control the agency costs in the banking industry.

B. Dividend Policy And Scale

Our findings suggest that there is a significant positive relationship between the scale of banks and banks' dividend policies. We have two variables in our model identifying the scale factor in banks. The first one is the asset size and the other one is the cost to income ratios, though the latter has more indirect scale interpretation relative to the first one. In our regressions, we find that as scale gets higher, banks tend to pay out more, which is consistent with the life cycle theory. There is a significant positive relationship between the asset size (assize, as factored in our regressions) and the dividend pay-out ratios of banks. The higher scale banks pay out at least six times more than the lower scale banks or younger banks in the Turkish Banking Universe. Our model points that larger scale banks, on average, pay out 4-6% more compared to smaller-scaled banks ceteris paribus.

Our second scale factor, cost to income ratios (ci in the model) also display a significant positive relationship with the dividend pay-out ratios. This variable has also some more direct inference related to the banks' efficiency levels and their dividend policies but higher efficiency can generally be captured at higher scales for banks and this is no exception for the banks in Turkey. Several exceptions could be traced is some more niche banking segments like investment and development banking sub-segment.

Interpretation relative to the literature: Our findings are in conformity with the findings of Mayne 1980³²¹ and Moh'd, Perry and Rimbey³²², Barclay, Smith and Watts³²³, which indicate that firm size is a significant factor explaining the dividends.

³²¹Lucille S. Mayne, "Bank Dividend Policy and Holding Company Affiliation", **Journal of Financial and Quantitative Analysis**, v:15:2 p:469-480.

C. Dividend Policy and Being Public or Private

We find a significant statistical relationship that publicly traded banks have lower pay-out ratios than their private (non-listed) peers do. This is one of the most robust outcomes of the model and is repeatedly found to be quite significant in differently set regressions and in the robustness tests that listed banks tend to pay much less. Our listed dummy variable yielded a robust negative relation with our dependent variable. We assigned “1” for the listed banks and “0” for the non-listed names. There are several drivers of this outcome as outlined below. The model points that non-listed banks have 35-40 percentage points higher dividend pay-out ratios compared to those of the listed banks *ceteris paribus*.

Mitigating agency costs through dividends seem to be more critical for non-listed banks and it appears signalling need lessens once banks become publicly traded. Non listed banks have more restricted instruments and regulatory proxies to audit the agency cost in the banking firms, therefore shareholders of non-listed banks use dividends more often to mitigate the agency costs and signalling mechanism. Listed banks do not need to convey information regarding their financial strength as they become more scrutinised and analysed once they become listed by the market participants especially investors, analysts, portfolio managers and alike. However, non-listed banks need to signal their financial health more often through dividends to their depositors, as they are more convenient instrument to do so. Another explanation is that non-listed banks are not subject to closer scrutiny and major shareholders do not need to share their dividends with numerous minority investors. This partially confirms the signalling effect hypothesis of the dividend theory as described in several papers like in Boldin and Lagett³²⁴,^s if the first proposition is correct.

Investor catering theory does not hold for Turkish banks. The need to cater investors through dividends seems much less for Turkish banks. One explanation is the

³²²M. Moh'd, A. Perry, J.N. Rimbey, “An Investigation of the Dynamic Relationship between Agency Theory and Dividend Policy”, 1995, **The Financial Review**, May, p: 384.

³²³Michael J. Barclay, Clifford W. Smith and Ross L. Watts, “The Determinants of Corporate Leverage and Dividend Policies”, 1995, **Journal of Applied Corporate Finance**, v:7:5, v:1007-1034.

³²⁴Robert Boldin and Keith Leggett. “Bank Dividend Policy as a Signal of Bank Quality”, **Financial Services Review**, Vol: 4 No:1, 1995, p: 6-7 in pp: 1-8.

continuation of strong drive to Turkish assets in the M&A market where Turkish banks have taken the pivotal role in terms of attracting foreign investment to the country for the past eight years period. Therefore, bank managers put more emphasis on growing banks and not remaining behind in the growth race rather than catering the investors, who, in turn, seemingly give credit to growth. Once a bank become listed, it is perceived that it is more suitable to M&As or further SPOs, hence growth targets appear to be more prioritised by the bank managers. Also, the information flow in the equity market and capital market regulations make the bank more and often comparable to its peers and the growth performance is perceived to be one of the key stock price performance metrics in the stock market.

Bank main shareholders and managers may tend to refrain from sharing the profit with the minorities. Though the corporate governance rules have been rather developing in the country, this assumption needs to be explored more in conjunction with the corporate governance and dividend interaction and further study needs to be done to find more support for this hypothesis. This contradicts with the findings of Rozeff³²⁵, who found that increased number of common shareholders is positively correlated with dividends.

Interpretation relative to the literature: Our findings suggest that closely held banks use dividends more intensely either to fully utilise the earnings of the banks without sharing with the minorities or shareholders need dividends to control agency costs. If the latter holds true, we can conclude that shareholders shift the mitigating task of dividends to capital market regulations and closer scrutiny of the markets. The outcome this variable paves way the need to make further research on this area especially in conjunction with the agency cost. Investor catering, agency costs and signalling effect of the dividend theory finds explanations in this variable. This contrasts with catering theory, yet it may pave the way for the need to make further research on agency cost problem in Turkish Banking Sector.

³²⁵ Michael S. Rozeff, "Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios", **The Journal of Financial Research**, vol:5/3, 1982, p:257-8 in p:249-259.

D. Dividend Policy And Ownership Structure

State owned banks have higher dividend pay-out ratios compared to those of the private banking segment, hence, control and ownership plays a pivotal role in dividends in the Turkish Banking Sector. We included an ownership variable into our model to trace different dividend policy treatments, if any, between state and private banks. We assigned “1” for state banks and “0” for private banks. The outcome of the model shows that state banks have significantly higher dividend pay outs compared to the private banks, which are consistent with Gugler³²⁶,s findings but contrasts to the findings in Forti and Schiozer³²⁷ study. In Turkey, the evolution of state banks since the 2001 crises has been noteworthy as major state banks had been overwhelmingly restructured at the time through direct recapitalisation and/or injecting longer term government bonds into their assets in lieu of bad assets. Also, the state banks have been the main vehicles of the subsidized loans rendered to the agricultural sector as well as artisans, craftsmen and other micro enterprises, where these state banks have been cultivating a significant amount business and profitability. Due to the massive restructuring and state banks’ role in channelling subsidised loans, state banks have been paying out a good portion of their earnings to the government, and these dividends have become a significant budget item since 2004. In this context, arguably, ownership and control factors have been the overriding inertia for the state banks in devising their dividend pay-outs and dividend policies. Our models point that state banks have 16-33% higher pay-out ratios compared to those in private banks.

E. Dividend Policy And Bank Type

Deposit banks have inherently higher dividend pay-out ratios compared to those in non-deposits banks. We have also added a bank type dummy to our model to trace different dividend treatments, if any, from these banking sub-segments. Commercial deposit banks have higher pay-out ratios in comparison to development and investment banks as well as those in participation banking segments. The latter two

³²⁶ Klaus Gugler, “Corporate Governance, Dividend Payout Policy, and the Interaction Between Dividends and Capital Investment”, 2003, *Journal of Banking and Finance*, v:27-7, p:1318.

³²⁷ Cristiano A.B. Forti, Rafael F Schiozer, *Informed Depositors and Bank Dividends* ,2011, Working Paper, Midwest Finance Association, p:30.

might be seen as two banking segments at the earlier stages of their life cycles; therefore low dividend pay-out ratios are not unexpected. Our models points that deposit banks have 25-29% higher dividend pay-out ratios compared to those for non-deposit banks.

F. Dividend Policy And Past Dividends

We find that past dividends or pay-outs have no statistical significance for explaining the current dividend pay-outs in the Turkish Banking System. Previous year dividend pay-out ratios do not have an explanatory power in setting current year pay-outs and are found to be statistically insignificant in determining current year dividend pay-outs. This rupture and lack of sustainability suggests that Turkish banks do not follow traceable and discernible dividend pay-out policies due to several reasons outlined below;

The existence of heavy regulations and regulatory changes often foster banks to alter their pay-out ratios, which does not create a sustainable pattern in the dividend policies. A regulatory-driven change in dividend policies may curtail the existence of the traceable dividend pay-out policies.

The growth opportunities have been vast for the Turkish Banking Sector within the last decade, which was accompanied by the intensified M&A activities, both of which created a volatile ground for dividends paid by banks. Apart from regulatory constraints, banks tend to conserve their funds to invest more in branching, technology, hiring and inorganic growth opportunities so as to enhance value to the shareholders. In this period, dividends were easily be sacrificed or lowered, where shareholders have been more or less in agreement if the growth plans sketched by the mangers were convincing enough to create further value.

Interpretation relative to the literature: Past dividends are not explanatory in the Turkish Banking case, which points that Turkish Banks do not follow a sustainable dividend policy pattern. Although Turkish banks are also subject to the Capital Market Regulations, which, until the recently and at least for the major part of the period covered in our model, required the firms, especially the publicly traded ones to pay out a certain amount of their earnings in cash or as stock dividends, the dividend

cap imposed by the BRSA, the Watchdog, back in 2008 made a huge impact on banks' dividend behaviours, even curtailing the impact of the capital market regulations on banks. Note that, the Capital Market Board recently lifted up the minimum dividend payment conditions for firms in the new law. Past dividends being not explanatory for the current dividends was also confirmed by several studies in the literature. This contrasts with the findings of Kennedy and Nunnally³²⁸.

G. Dividend Policy And Previous Year Earnings

We find the change in previous year earnings have a significant explanatory power in current year dividend pay-outs for banks in Turkey. We factored in the change in the previous year earnings rather than taking the previous year nominal earnings, which proved to be insignificant. Dividend pay-outs and the change in previous year dividends are positively correlated, suggesting that dividend pay-outs reflect the direction of change in previous year earnings. The significance of this variable also confirms that banks dividend pay-outs are rather volatile, making a hard case for the existence of the sustainable dividend policy, and are linked to the changes of the most recent earnings, which are the basis for current year dividends. Based on our model outcomes, positive or negative change in previous year earnings could have 12-15 percentage point impact on dividend pay-outs in the same direction *ceteris paribus*.

H. Dividend Policy And Current Year Earnings

Our current year variable in our regression does not point to a significant and robust relationship with the current year dividend pay outs. The relation is much stronger in comparison with the past year dividend pay-out ratios but remain weaker than the previous year earnings changes. We factored in this model assuming that present year earnings become the most immediate forecast of the dividends paid out at the present year as a portion of the previous year earnings. The relation is not as

³²⁸William F. Kennedy and Bennie H. Nunnally, Jr., "An Emprical Examination of Large Bank Dividend Payout Ratios, 1982-1983", *Financial Review*, v:21:3, 1986, p: 37 in pp:38-48.

robust as we found in the change in the previous year earnings. The sign of the relation is positive. This contrasts with what Gupta and Walker³²⁹ found in their study.

I. Dividend Policy and Income Volatility

Earning volatility has no statistical significance in explaining bank dividend pay-outs. We add this variable to test the repercussions of the earning volatility on banks' dividend policy, which was also incorporated by Dickens, Casey and Newman³³⁰. We calculated the earnings volatility as correlation of coefficients of the past five year earnings, which brings a time dimension in explaining the dividend pay-outs. The relationship is not significant and it fails to explain the dividend behaviour of banks. This actually confirms our hypothesis that bank dividend pay-outs are mostly affected by the recent earning movements rather than a volatility factor stemming from over a relatively longer time span. The period for which we construed our panel data also reflects a very volatile era with full of global-scale crises, therefore earning volatility in every part of financial markets including bank earnings became almost an ordinary event. Hence, it is rational that bank managers do not set bank dividend policies or pay-outs via looking at the earnings volatility. That said, this variable may need to be explored more in the periods to come.

J. Dividend Policy and Leverage (Growth opportunities)

We find significant statistical relationship between past year leverage of banks and banks' dividend pay-out ratios. The sign of the relation is negative, suggesting that banks that increase leverage will likely lower their pay-out ratios. The growth opportunities lying ahead of banks are captured by this variable and bank managers intend to lower their pay-out ratios in order to conserve funds to use their growth plans that mostly necessitate leverage increases. Most recent leverage, pencilled in as the lag of the leverage in our model, explains this relationship better and it even results in lessening impact of the CAR variable when used together, suggesting that growth opportunities play a more pivotal in determining dividend pay-outs especially

³²⁹Manak. C. Gupta and David A. Walker, "Dividend Disbursal Practices in Commercial Banking", 1975, **Journal of Financial and Quantitative Analysis**, v:10:3, p:524.

³³⁰Ross N. Dickens, Michael K. Casey and Joseph A. Newman. 2003."Bank Dividend Policy: Explanatory Factors" **Quarterly Journal of Finance**, Winter 2003, p:55.

when other more direct regulatory forces available in the regulatory environment as prescribed in Kania and Bacon's³³¹ study. Based on the outcomes of our models, a shift in previous year leverage has a negative 2.3-2.8% impact on banks' dividend policies *ceteris paribus*.

K. Dividend Policy And NPLs (Credit Risk)

We find no significant relationship between banks' NPL ratios (non-performing loan to loans ratio) and banks' dividend pay-out ratios. This variable turned out to be significant in several regressions, yet we have not been able to observe a steady path to name this variable as a significant and explanatory independent variable for dividend pay-outs. The sign is negative as expected in that bank managers tend to pay out less and conserve cash when the credit risk picks up on bank basis or sector wide, which makes the future cash flow more uncertain and volatile. Still, NPLs might be deemed as one of the secondary important factors affecting banks' dividend decisions, given its relatively low P value on average across the regressions. NPL ratios were chosen to measure credit risks in banks' balance sheets, one of the vital factors affecting banks' earnings momentum, composition of assets, leverage and other crucial metrics; hence it affects the earnings quality and volatility markedly.

The measure of NPL may not be a perfect indicator for credit risk, where cost of risk (provisions to loans) could have been factored in and would have yielded better results instead. One important note regarding with the NPL ratios of the systems is the fact that there has been a steady improvement in the asset quality almost across all banks for the last decade except for a few blips, i.e. during the Lehman crises system' NPL ratio doubled to c. 5%. Except for several crises periods, the average NPL ratio has been hovering around 3% levels for some time in the Turkish Banking Industry, possibly putting the credit quality into backburner in the eyes of the managers in setting out their dividend pay-out policies. The authority can also relax the loan restructuring rules at the times when the external financial shock is imminent or possible, contributing the banks to manage their loan books more easily without facing a sudden

³³¹Sharon L. Kania, Frank W. Bacon, "What Factors Motivate The Corporate Dividend Decision" 2005, **ASBBS E-Journal**, v:1, n:1 p:97-108.

and major NPL influx. An example would be a Lehman crises period when the authority increased the number of restructurings that a bank can for its problematic loans. This confirms with Forti and Schiozer³³² study.

L. Dividend Policy And Macro Indicators (Interest rate and volatility)

We find significant positive relation with our Libois (interest rate and volatility indicator) variable and banks' dividend pay-outs. Libois stands for the difference between Libor rate and overnight interbank swap rates, which potentially measure risk and interest rate (at global scale), When this difference gets widen, it means banks are less willing to lend each other, a true barometer to measure risk and interest rate levels.

The positive relation suggests that banks tend to increase their dividend pay-outs when interest rate levels rise. To be able to do a sanity check with the literature, we looked at the studies concentrating on interest rates and profitability of banks, which form the basis for dividends and dividend pay-out ratios. One of our findings is the positive interaction between dividend pay-outs and change in previous year earnings, therefore a bridge could easily be built between dividends pay-outs and interest rates through earnings channel.

In Demirguc-Kunt and Huizinga's study³³³, the positive interaction between banks' net interest margins and profit before tax figures and real interest rates was construed, though the same study also assert the inverse relation between real interest rates and per capita GDP. The study used the data of 80 countries covering a period between 1988 and 1995. Similarly, Alper and Anbar's study³³⁴, which explored determinants of commercial bank profitability in Turkey, pointed that higher real interest rates cause bank profitability to rise.

³³²Cristiano A.B. Forti, Rafael F Schiozer, **Informed Depositors and Bank Dividends** ,2011, Working Paper, Midwest Finance Association, p:30-32.

³³³ Asli-Demirguc Kunt and Harry Huizinga, "Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence" **The World Bank Economic Review**, v:13:2, 1999, p:399 in pp:379-408.

³³⁴ Deger Alper and Adem Anbar, "Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability:Emprical Evidence from Turkey", **Business and Economic Research Journal**, v:2:2, 2011, p:149 in pp:139-152.

We argue that rising interest rates are deemed as rising future profitability for bank managers, which positively affect the dividend pay-out ratio decisions. Higher interest rates also suggest lower growth opportunities and risen need for signalling regarding the financial health of the bank. **Therefore, our macro indicator, libois, which represents interest rates and risk, points that Turkish banks tend to use dividends as signalling mechanism in bad times.**

We find a significant positive relationship between banks' dividend pay outs and VIX (another risk indicator). We factored in four different macro risk indicators to assess the sensitivity of bank dividends to macro risk in the financial markets and overall economy. Those are namely;

- VIX, which is known as the fear index,
- CDS of Turkey is used to measure the country's bonds insurance risk premium. This is generally compared with other countries Cds levels to assess the relative riskiness, yet a time series analysis also yields significant information for the country's risk profile over a time span
- Libois; this is the term we used for the difference between Libor and overnight interbank swap rate
- Bench is the benchmark bond yield in Turkey

We found VIX as one the most significant macro risk variables affecting banks' dividend decisions among other macro risk indicators. The significance is robust and this variable emerged as a robust explanatory factor in our models. One can find quite surprising that the sign of the relation is positive as a riskier environment should normally end up declining pay outs for banks. This may not hold true all the time. Based on the outcome we got from the model bank dividend pay outs tend to increase when the global scale financial riskiness, as measured by the Vix, rises. It could be argued that bank managers tend to pay out more when the overall riskiness and risk perception rises in the financial markets and/or economy, where growth opportunities get weakened and new investment plans get trimmed, as uncertainty unfolds. In these instances, bank managers may be inclined to signal the financial strength of their banks

to their deposit holders and shareholders, therefore **this variable completely aligns with the signalling theory of dividends.**

3.4. Robustness Check

Any outcome obtained from an econometrics model should undergo robustness and sanity check(s) to determine the reached outcomes make a sound and viable propositions to the literature and the overall audience. We first tested our data for unit root, correlations and collinearity tests and find that no unit root, correlations or collinearity problems exist for our data set. Below, we present our collinearity tests for our variables and all variables stand well below 10, which is the statistical threshold to assign a collinearity problems. Recall that in our data section, we presented our correlation matrix for our data set, which displays no correlation problem for the panel data set.

Figure 26: Collinearity Test

Variance Inflation Factors

Minimum possible value = 1

Values > 10 may indicate a collinearity problem

roa	1.475
ci	1.572
npl	1.335
car	1.473
lvgl_1	1.527
assize	1.857
rd1	1.99
rd2	1.89
listed	2.006
ownership	1.656
incvol	1.173
divpayout_1	1.3

VIF(j) = $1/(1 - R(j)^2)$ where R(j) is the multiple correlation coefficient between variable j and the other independent variables

Source: Stata

We have run 20 random effect Tobit regressions in five different batches, combining different set of variables. Our statistically significant variables yielded the

same sign and relationship with the dependent variable in each model and in each run. Although the significance of a few independent variables gets affected from the combination sets, the overall statistical significance is generally preserved for the most of the time. This, per se, gives a comfort in terms of checking the variable relationships in different combinations. Our χ^2 figures in each model and underlying p values point to statistical significance for the regressions. Also, the average level of degrees of freedom is sufficient for all models.

We, also below, run a set of interval regression, which is also widely used for the censored data to provide a sanity check to our Tobit results with different combinations. Our results show that our significant independent variables obtained in our Tobit models remain also significant in our interval regressions.

Figure 27: Random Effect Interval Regression (run with Vix)

Random effect Interval Regression				
	Model int (1)	Model int (2)	Model int (3)	Model int (4)
	divpayout	divpayout	divpayout	divpayout
divpayout				
assize	6.751** (2.94)	4.939** (3.2)	7.471** (3.1)	7.932*** (3.42)
rd2	-21.90** (-2.58)	-29.91*** (-3.37)	-29.65** (-3.04)	-29.75*** (-3.33)
listed	-45.06*** (-5.80)	-48.42*** (-6.18)	-47.08*** (-5.98)	-43.13*** (-5.31)
banktype	23.64* (2.34)	22.23* (2.19)	22.15* (2.17)	22.80* (2.27)
ownership	15.92* (2.11)	17.29* (2.27)	19.44* (2.53)	23.63** (2.96)
vix	0.909 (1.65)	1.376* (2.54)	1.131* (2.03)	1.299* (2.32)
L.lvg	-2.380* (-2.10)	-2.595* (-2.28)	-2.669* (-2.35)	-2.696* (-2.39)
L.divpayout	-0.00414 (-0.08)	-0.0162 (-0.30)	-0.0166 (-0.31)	-0.00218 (-0.04)
D.incprv	14.66* (2.39)	10.48 (1.7)	12.18* (1.96)	12.80* (2.07)
incvol	-1.249 (-1.80)	-1.149 (-1.66)	-1.195 (-1.71)	-1.068 (-1.54)
income	-8.135 (-1.35)		-9.666 (-1.61)	-11.55 (-1.90)
car		-0.0565 (-1.73)	-0.0609 (-1.84)	-0.0690* (-2.11)
rd1			4.304 -0.5	
npl				-1.021 (-1.84)
sigma_u_cons	7.41E-17 (0.00)	4.05E-17 (0.00)	3.58E-18 (0.00)	7.05E-16 (0.00)
sigma_e_cons	43.49*** (21.45)	43.38*** (21.45)	43.12*** (21.45)	42.83*** (21.45)
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 28: Random Effect Interval Regression (run with Libois)

	Model 5	Model 6	Model 7	Model 8
	divpayout	divpayout	divpayout	divpayout
divpayout				
npl	-0.944 (-1.68)	-0.991 (-1.76)	-1.052 (-1.93)	
L.lvg	-2.608* (-2.20)	-2.726* (-2.28)	-3.263** (-2.84)	-2.336 (-1.95)
assize	6.650*** -4.59	6.868*** -4.66	8.174*** -5.65	6.903*** -4.84
S.incprv	10.71* -2.39	11.79** -2.66		
D.incprv			11.92** -2.71	12.56** -2.77
rd2	-24.39** (-3.01)	-24.79** (-3.07)	-28.51*** (-3.56)	-24.86** (-3.06)
banktype	22.05* -1.97	21.85 -1.95	32.49** -2.92	18.82 -1.76
listed	-44.05*** (-4.98)	-44.67*** (-5.01)	-44.74*** (-5.46)	-48.34*** (-5.87)
ownership	19.52* -2.25	20.39* -2.33	23.15** -2.89	17.11* -2.15
L.libois	0.269* -2.27	0.266* -2.25	0.257* -2.19	0.244* -2.07
L.divpayout	0.0179 -0.32	0.0146 -0.26	0.00961 -0.17	0.0043 -0.08
car	-0.0458 (-1.42)			
L.car	-0.0487 (-1.66)	-0.0706* (-2.41)	-0.0458 (-1.58)	
mshare			-23.46** (-2.87)	
incvol				-1.11 (-1.63)
sigma_u_cons	6.773 -1.12	7.029 -1.19	2.755 -0.23	4.217 -0.49
sigma_e_cons	43.07*** -20.01	42.96*** -20	42.64*** -20.12	43.33*** -20.02
N	230	230	230	230

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

The significance level, the composition and the name coupled with the signs of the independent variables that turned out to be explanatory in our Tobit regressions yielded almost same results with a bit more robustness in some variables i.e asset size, listed dummy etc. in interval regressions.

Part IV

CONCLUSION AND A MODEL PROPOSAL

4.1. Conclusion

In this thesis, we investigate and explore the factors affecting and explaining the banks' dividend decisions in Turkey. It is specifically important to reach conclusions in this area as no previous study, to our best knowledge, explored the factors affecting dividend policies of the Turkish Banking Sector, nor have dividend trends of the Turkish banking sector been specifically and in depth searched. Previous dividend studies so far completed in Turkey was confined to searches about the aggregate dividend trends in the BIST. This thesis focuses a significant single sector to trace down the dividend trends in depth and suggest some conclusions that might shed lights for overall corporate world or other main sectors (specifically regulated) in the country. This thesis also sheds some lights about the dividend trends in non-listed corporate space, which requires an extensive study in the periods to come in our view.

Not only did we explore the factors affecting banks' dividend decisions in Turkey, but also, we tried to relate our conclusions with the existing main dividend theories to test whether Turkish banking sector specifically, or Turkey as a whole, display similar or different trends in accordance with those obtained in general dividend theories.

We can easily argue that Turkish Banking Sector is one of the most heavily regulated banking sectors in the World. This preposition is not only fostered by the existing almost full compliance of the banking rules and regulations to the most recent Basel, BIS, IFRS and other internationally accepted standards, but also, some rules and regulations put forward in the past and quite specific to Turkish practice have lifted up the regulation barrier one level higher for Turkish banks in comparison with those to their foreign partners. Basel II implementation was recently fully introduced in the system and initial drafts for implementing Basel III transition has recently started. We can posit that high dose and efficient regulations have been the main culprit for the

banking system to remain unscratched from the devastating global crises in the World with the last decade. Dividend policies of the banks have always been one of the top agendas for both bank managers and regulators as its close ties and overriding effects on capital cannot be overlooked.

With this perspective, we have run our model and our findings are outlined below;

We find that there is a dramatic change in dividend policies when a bank becomes a publicly-traded company in Turkey. **Listed banks pay-out substantially less dividends compared to those of non-listed banks.** Several explanations and outcome could be inferred here;

- a. Banks' main shareholders see higher performance thresholds for the managers when a bank becomes listed, as market scrutiny, comparisons, and analysts' reports and alike will foster managers to run the bank more efficiently and profitably, hence shareholders shift the monitoring role of dividends in auditing agency costs to market forces. Thus, believing that agency costs are softened when the bank becomes publicly traded, dividend pay-out pressure eases. A sanity check should be provided here to assess the level of agency costs after becoming public for Turkish Banks.
- b. It could also be argued that dividends could be seen an effective tool by closely held banks to signal their ability to generate cash flow in the future to their large depositors as similar preposition set forth in Forti and Schiozer³³⁵, study. This area needs further research and exploration.
- c. The need for signalling eases when a bank becomes a publicly traded entity as market examines the bank more closely.
- d. Intense M&A activity especially in the banking sector for the last decade also stands out as a sweetener for the shareholders to lower their dividend demand as new investments, market share gains and other growth opportunities increases the chance for a possible M&A attraction.

³³⁵ Cristiano A.B. Forti, Rafael F Schiozer, **Informed Depositors and Bank Dividends** ,2011, Working Paper, Midwest Finance Association, p:30.

- e. Due to weaker corporate governance applications and lack of sufficient capital market rules until recently, banks' main shareholders avoid sharing part of the earnings with minorities as the industry has been generating sizable revenues. This should be further investigated and current applicability or non-applicability of corporate governance rules for Turkish banks should be in depth searched.

We find that **state banks pay substantially have higher dividend pay-out ratios compared to those of private banks**. The rationale of this would be due to;

- a. Some major state banks have been intensely paying back the funds they received when they got recapitalised back in 2002. This is even so when these banks become public.
- b. State control plays a crucial role in shaping state banks' dividends. The government sees the dividends from state banks as a significant budget revenue item.
- c. There are some privileges assigned to these state banks, in fulfilling these duties, state banks cultivate a significant deal of volume, earnings and client data base, which often spurs earnings. In return of these privileges, state banks set higher dividend payout ratios.
- d. Subjecting a state bank to M&A deal is a harder task in comparison with a private bank, therefore private banks do retain more earnings to invest and allure outside investors.

We find that deposit banks pay out significantly higher dividends relative to their earnings in comparison with those of non-deposit banks. The inference we get from this result is that deposit banks do need to inform their deposit holders about their financial status and deposits happen to be one of the most effective and extensive tool available. Therefore, this outcome fits in signalling theory of dividend.

We find regulation is a significant factor as an explanatory to banks' dividend pay-out policies but characteristics, specifications, instruments and direction of the regulations play a more crucial role in shaping banks' dividends. We pencilled in a three-stage regulatory effect analysis in our models through our

capital and regulation dummy variables and the summary of the results are outlined below;

- a. Capital regulations are significant to bank dividends but the fact that the system already sets the minimum capital requirements at substantially higher levels in comparison with the World standards has been compelling banks to maintain a large cushion between their current capitalisation levels and the minimum required levels, therefore almost all the banks in the system operates with high capital adequacy ratios. This makes the CARs a less significant variable in affecting banks' dividends when compared to another regulatory dummy. We also find CARs and dividend pay-outs inversely related to each other, suggesting that high levered banks do need to signal their ability to generate profitability as also found in Forti and Schiozer³³⁶'s study.
- b. **We posit that our regulation dummy 2, which represents direct cap on dividends imposed back in 2008, substantially impacted the dividend behaviours of banks and, lowering the dividend pay-out ratios significantly in comparison with pre-2008 period.**
- c. Our first regulation dummy 1, which stands for maintaining minimum CAR level of 12% to open a new bank branch (imposed back in 2006), generated no meaningful relation with dividend pay-outs, as our other regulation dummy became much more dominant in explaining the relationship.

Our findings suggest that scale is a very significant factor in explaining banks' dividend pay-outs in Turkish Banking Sector. The larger the bank gets, the higher the dividend ratio will likely be in comparison with those of the smaller-scaled banks. These findings are in compliance with results found in many studies.

Leverage is another determining factor for dividend pay-out ratios of Turkish Banks. Leverage represents the growth opportunities and banks are inclined to retain their earnings to be able to capitalise growth, hence higher leverage means lower

³³⁶ Cristiano A.B. Forti, Rafael F Schiozer, **Informed Depositors and Bank Dividends** ,2011, Working Paper, Midwest Finance Association, p:22.

dividend pay-out ratios for the banks in Turkey, which is in line with the findings of numerous studies including Forti and Schiozier's.

Turkish Banks tend to increase pay-out when interest rates and the overall risk levels increase. Our two risk indicators, which were run separately in two different variable sets, yielded the similar results. Our libois indicator, which is the difference between Libor and overnight interbank swap rates, is a risk and interest rate indicator. When the banks refrain from lending overnight (in international markets) among themselves this discrepancy tends to increase, hence the discrepancy rises. Therefore, the positive relation between dividend pay-out and our interest rate and risk indicators suggest that banks need to signal the market especially when the tension in the financial markets rises. Lower growth and M&A opportunities in bad times may also fuel bank dividend pay-outs.

Our findings confirm the life cycle and signalling theories of dividends but remain distant to investor catering theory though a separate dividend premium study and accompanying variable interaction was not tested for the Turkish Banking Sector.

We consider that our thesis paves way for further research areas for the dividend trends in other regulated sectors as well as dividend dynamics of non-listed companies. The ownership structure should be further explored where dividend treatments in conglomerate ownership structure should be explored. Further in depth analysis is needed to spot the degree of agency cost problem, if any, in the Turkish Banking Sector, of which scale could well be extended to non-financial firms as well. The level of corporate governance applications, interaction of dividends and corporate governance in Turkish Banking Sector and the Istanbul Stock Exchange could be other areas that require further investigation.

4.1. A Minskien Proposal for Dividend Payments in Banking under Basel III

The introduction of Basel III dates back to December 2010, where the Basel Committee finalised the last version of the new Basel rulings, which will gradually be implemented by the members following the commencement on January 1st, 2013. The decisions of Basel III rulings were also endorsed by G-20 countries, in which Turkey is a member. The completion date is scheduled to be in 2019. The U.S and UK immediately agreed the implementation of Basel III. Prior to the inception of the new system and through the transition period, banks will be required to prepare and sketch their new plans to fully adopt Basel III rulings.

The need to sketch a new capital ruling was evidenced in the last global crises, where the existence of Basel I and Basel II remained broadly insufficient to diagnose and treat the pre and post crises problems for the banking systems in the developed world. For instance, risk exposures of banks borne by derivatives, securitizations and other off-balance sheet transactions as well as problems related with the build-up of excessive leverage were not adequately spotted by the existing systems³³⁷. The new system also focuses on liquidity, which the existing Basel I and II almost ignored to develop standards for.

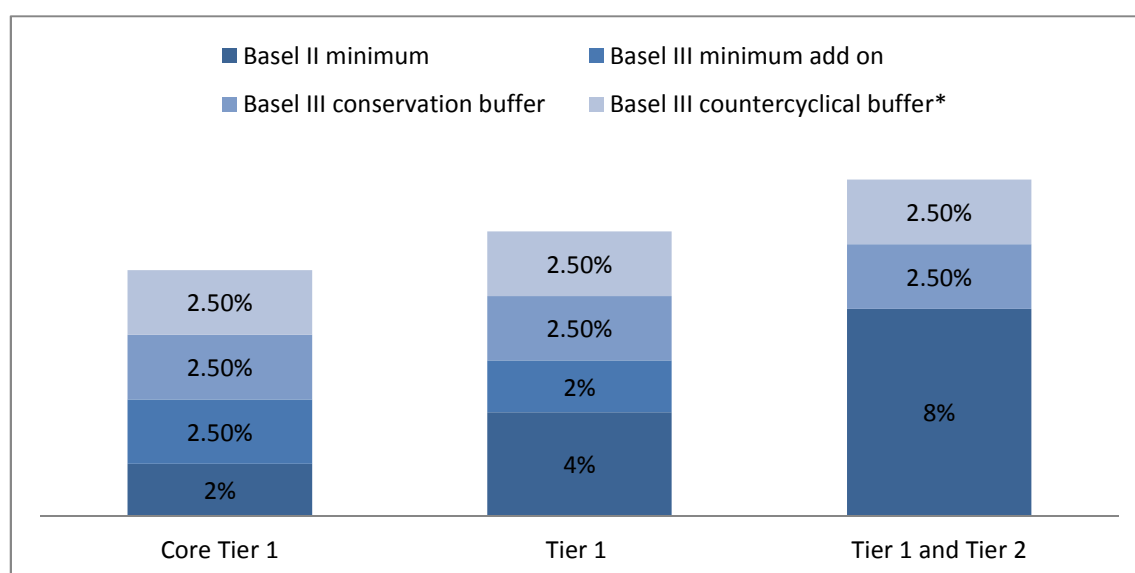
The main components of the Basel III associated with capital are;

- Core solvency ratio is retained at 8%, however the minimum core equity capital (Tier I common equity requirement) is defined as 4.5% of the RWAs (risk weighted assets), starting from 3.5% in 2013 and gradually rising to 4.5% in 2014. Tier I component of the core capital base will be raised to 6% from the current level of 4%.
- A new capital conservation buffer will be formed by banks, which are equivalent of 2.5% of RWAs and will be composed of purely equity capital. Hence, the total common equity capital will rise to 7% of RWAs. Any bank falling below 7% will be partially or wholly deprived of paying dividend, buybacks and bonuses.

³³⁷Financial Institutions Advisory and Financial Regulatory, Client Publication, Sherman and Sterling LLP, 2011, p:2.

- A countercyclical buffer will be added to the core and capital conservation buffer. This will be 0-2.5% of RWAs and will be made up of common equity or other fully loss absorbing common-equity like capital.
- Tier 2 will be composed of convertible debts
- Tier 3 will be abolished
- Deductions will be from the Tier 1 capital and will not be applied to the whole equity

Figure 29: Basel III transition from Basel II³³⁸



Source: Moody's

Basel III also introduces two important liquidity ratio criteria, one is the liquidity coverage ratio, which is composed of short term assets calibrated to test 30 day liquidity gridlock period. Secondly, net stable funding ratio, which is requirement of holding core funding to address funding needs over a stressed one year period.

A leverage ratio is introduced in Basel III to be able to curb banks to engage in excessive leverage. Banks' excessive leverage applications are the main culprits behind recent financial crises. To bring a standard and control over excessive leverage applications, the committee decided to impose leverage ratio standards within the context of Basel III rulings. The ratio of Tier I capital to leverage context is the main

³³⁸ Moody's Analytics, **Basel III New Capital and Liquidity Standards-FAQs**, Risk report, 2012, p:2.

calculation methodology for the leverage ratio in that leverage context includes assets (on balance sheet items), securitization (if unfunded or de-recognised based on the accounting standards), net repo transactions, net derivatives (based on fair value accounting), off balance sheet items (10% risk weighting for commitments, all other items have 100% risk weighting³³⁹.

After summarising the general framework of the Basel III rulings, we, now, turn our attention to the interaction of bank dividends and Basel III, which will be fully implemented by the Turkish Banking Sector within the time path to be set forth by the BRSA. According to Basel III, banks are required to hold capital buffers above the regulatory capital limits in normal times and when buffers are drawn down or capital ratios drop from the minimum levels of buffers, dividend payments, share buy-backs or staff bonuses might be reduced or cancelled for the next period³⁴⁰. The similar clauses and applications were also drafted by the BRSA in its draft legislation in transition to Basel II and were shared with banks to exchange views and give the final shape. The draft regulation points that a buffer capital to regulatory capital ratio will be traced by banks and the regulator and corresponding dividend ceasing measures might be imposed.

Figure 30: Buffer to regulatory capital ratio and dividend payments in Basel III³⁴¹

If buffer capital to regulatory capital	Max Dividend pay-out ratio allowed
falls below 25% or less	0%
is between 25% and 50%	20%
is between 50% and 75%	40%
is between 75% and 100%	60%

Source: BRSA

³³⁹Slaughter and May, **Basel III: A New Capital Adequacy and Liquidity Framework for Banks**, 2011

³⁴⁰Basel Committee on Banking Supervision, **Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems**, BIS Publications, 2011 p:2-8.

³⁴¹BRSA, **Regulatory Draft for Capital Conservation and Buffers**, First Chapter, 2013, p:1-12.

This approach is at least in line with the current applications of the BRSA, where dividend payments of banks are subject to the regulatory approval and are tied to the banks' current capital adequacy ratios. As recalled, maximum allowable dividend pay-out ratio for banks has been 20% in the Turkish Banking Sector since 2008 despite the fact that the average CAR of the system hovers around 17% presently, some 500bps higher than the minimum regulatory capital of 12%, which, per se, is higher than the global minimum standard of 8%.

Though the system builds up a solid protection units to maintain a robust capital base for banks and ensures a delicate risk checking mechanisms that prudently precursor the risks beforehand, Basel III like previous Basel capital rulings do not postulate any standard for bank overcapitalisation that hide some future risks for excessive leverage. It might be argued that regulators do tend to overlook bank overcapitalisations and do not see a systemic risk factor.

We propose a time variant and capitalisation-driven dividend payment scheme for the Turkish Banking Sector, which will be non-static and work in both directions depending upon the capitalisation levels. We refer to Mynsky's instability theorem in which robust financial system at the initial phases turns into a weaker and systemic risk generating one as the agents take on more leverage and riskier activities. The regulators should take necessary action in order to prevent asset bubbles that might pave for overall instability in the financial system thus the economy. Minsky³⁴² states that "Control over the capital asset ratio and the pay-out ratio are powerful weapons for guiding the development of banking. Once set, the uniform capital-asset ratio should not be changed routinely, but the authorities regulating banking should be granted the power to vary the pay-out ratio if the growth of bank equity is too fast or too slow".

Minsky also asserts that banks are profit seeking institutions, frequently innovating new products and services to cultivate profit opportunities. He adds that It is essential to control the growth banks' assets and equity in order to contain the destabilising effect of the banking. Minsky suggests a control over the asset growth, which has been largely sustained through capital controls and regulatory capital

³⁴²H.P. Minsky, **Stabilising an Unstable Economy**, 1986, Mc Graw Hill Press, p:357.

applications, as well as control over equity growth. But control of capital growth has been approached with a crisis treatment by the regulators, and regulators always look at the capital floors (stress-testing the equity bases for possible crises scenarios) rather than dealing with excess capitals and their potential problems.

In good times, overcapitalised banks should be given incentives and may be even compelled to increase their pay outs so as to lower the capitalisation band towards averages and to the efficient zone. By efficient zone, regulatory minimum capital level plus buffers as defined by Basel III and the bank's own cushion (not excessive) could be taken as benchmark. The potential instability stems from a potential danger of sudden jump in leverage ratios or asset growth rates through equity channel and if more and more banks are overcapitalised in the system, aggressive move probability by banks may rise.

Let;

$E_0 = \text{Initial equity of the bank}$

$E_1 = \text{Equity of the bank at } t_1$

$RE_0 = \text{Retained earnings at } t_0, NI_0 = \text{Net income at } t_0, p_{out} = \text{payout ratio}$

$$E_1 = E_0 + RE_0 \quad (1.1)$$

$$RE_0 = NI_0 \times rr \text{ or } NI_0 \times (1 - p_{out}) \quad (1.2)$$

$$\Delta E = RE_0 \div E_0 \quad (1.3)$$

if $\Delta E > g$, bank equity accumulates and potentially new leverage can inflate by $\Delta E - g$

where g is the long term growth rate of economy for stable period and could be inflation over a shorter term haul;

$$L_1 = L_0 \times (1 + (\Delta E - g)) \quad (1.4)$$

$L_1 = L_0$ if $\Delta E = g$ or management can stick to L_0

but the bank still can grow its assets even if leverage remains same;

Now suppose that management or regulators targets the bank's CAR to remain same, in this case either leverage should be reduced in an amount corresponding to the increase in equity base or equity base should be reduced equivalent by $\Delta E - g$ with higher pay-outs; therefore new pay-out ratio should be calculated as;

$$\text{Change in Payout } (g_{p1}) = E_0 \times (1 + (\Delta E - g)) \quad (1.5)$$

$$\text{Payout}_0 \times (1 + g_{p1}) = E_0 \times (1 + (\Delta E - g)) \quad (1.6)$$

$$NI_0 \times (1 - rr) \times (1 + g_{p1}) = E_0 \times (1 + (\Delta E - g)) \quad (1.7)$$

$$g_{p1} = \frac{E_0 \times (1 + (\Delta E - g))}{NI_0 \times (1 - rr)} - 1 \quad (1.8)$$

Let $E_0 = TL 12,000$, $NI_0 = TL800$, $rr = 80\%$ and

real growth $(\Delta E - g)$ on equity 2%, solving the equation

$g_{p1} = 15.3\%$, meaning that g_{p0} should increase by 15.3% to absorb the equity growth

$\text{Payout}_0 = 20\%$, new payout, $\text{Payout}_1 = 20\% \times 1.153 = 23.6\%$

Overcapitalised banks that are securing strong capital buffers within the context of Basel II and III rulings should distribute dividend in a standard set forth by the regulators. We deem that through dividend payments of the overcapitalised banks may be able to achieve multi-purposes.

Control over overcapitalisation in the Turkish Banking Sector will also seem compliant with the current monetary and financial macro measures set forth by the economic administration and the CBRT (Central Bank of Turkey), where controlling the loan growth rate to curb the ailing and chronic current account deficit problem in Turkey has been prioritised. Controlling overcapitalisations through dividend payments

will also contribute to these policies let alone the other merits that might be accrued to the system.

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