DIVIDEND PAYOUT. ITS IMPACT ON FIRM VALUE

by

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Abstract

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This paper considers corporate finance as a major source for company's welfare. We reckon dividend policy as a crucial factor in formation of corporate value. Different dividend payout strategies employed by various enterprises across three countries (Ukraine, Russia, Croatia) lead to various performances. Thus, we regard the effects spurred by paid dividend as a core of our study. Therefore, our aim is to identify the link connecting preferred strategy and final outcome in monetary terms. Our task is to point out the consequent benefits of prudent dividend policy. We model the profitability of the firm and endeavour to relate it to dividend policy, relying on ideas suggested by Fama and French (1995). We find a statistical evidence of positive dependence between portfolio return and income distributed among shareholders.

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Chapter 1

INTRODUCTION

Does Dividend Policy matter? Almost each Academic will say without any doubt "Yes" and of course will cite many classic and contemporary examples of how dividend policy plays out in the marketplace. Dividend Policy cuts to the quick of such interesting and old questions like "Why do corporations pay out dividends?" and also "Why should investors care?". In this paper would be considered some problems of irrelevance of dividend policy in Ukraine with perfect capital markets and how market imperfections such as imperfect information, taxes, agency issues can alter the dividend irrelevance conclusion. We can also say that Dividend Policy is "a must-have recourse for all financial managers, finance students, institutional investors, boards of directors, and finance and economics academics".

Each operating enterprise is interested in running a profitable business. This might be achieved only by means of exploiting a complex of different factors. Dividend policy among other factors can be regarded as a cause of variations in firm value. Discretely introduced strategy may contribute significantly to the firm value. There are a lot of joint stock companies in Ukraine. Each of them has to decide whether to pay out dividends or reinvest them into the business. It is one option to pay out dividends and in this way attract potential shareholders. The second option is to promote your business by reinvesting the undistributed profits into it. Both strategies may be favourable depending on preferences of the managers of the company. We have to consider both potential increase in enterprise's value and influence on its reputation.

Before considering the topic we have to make an assumption that managers' work is to maximize the wealth of the firm's shareholders. In turn, shareholders and also managers of an enterprise elect the board of directors that, in turn again, promotes, hires and fires managers. Thus looking at this turnover we can say that at least in theory managers work on behalf of shareholders.

In the process of running business managers have always keep in mind that the decisions impact their firm's shares. That's why share price is critical determinant of shareholders wealth.

In this paper I will try to focus on how manager's dividend policy decisions affect common stock share price and, therefore, the wealth of shareholders. When we say "Dividend policy", we should think about how payout policy that management follows in determining the size and pattern of cash distribution to shareholders over time.

Chapter 2

LITERATURE REVIEW

Before starting the discussion, let's review the origin and evolution of corporate dividends provided an example from history. The authors note that in early sixteenth century captains of sailing ships in Great Britain and Holland began selling to investors claims to the financial payoffs of the voyages. At the conclusion of the voyages, proceeds from the sale of the cargo and shipping assets, if any were divided among the participants proportionate to ownership in the enterprise. These distributions were in fact nothing more like payments that effectively liquidated the venture, or liquidating dividends. By the end of the century, these claims on voyage outcomes began trading in the open market. These claims to outcomes were later replaced by share ownership.

Even before the modern capital theory developed alongside with the statistical measurement of the impact of diversification on portfolio risk, investors in these sailing ventures regularly purchased shares from more than one captain to diversify the risk in these endeavours. Also, like in the modern corporation, investors provided capital for these ventures, while the captains offered their skills – for instance, seafaring and managerial skills.

Frankfurter and Wood (1997) concluded their survey with a next observation:
"Our conclusion, based on study, is that dividend-payment patterns (or what is often referred to as "dividend policy") of firms are a cultural phenomenon, influenced by customs, beliefs, regulations, public opinion, perceptions and hysteria, general economic conditions and several other factors, all in perpetual

change, impacting different firms differently. Accordingly, it cannot be modelled mathematically and uniformly for all firms at all times ".

In this paper we'll try to make a model which will help to describe the most acceptable policy or, at least, to show what strategy is better…

Now let's look at the modern economy. There are many firms in the market and each of them has its own value, some of them become extremely expensive and some of them become bankrupt. What are the reasons which determine and can affect the firm's value? There are many approaches in this area but I would like to mention some of them. They are: managerial "style", ownership structure, Political stability, Dividend payout under the influence of different factors (taxes for instance).

What are the "instruments" using which the top-management (and owners of course) can increase the market value of the firm? Firstly, let's think about exactly this top-management. Each owner tries to hire the best manager. Consequently this manager has to be proposed by the competitive conditions and of course one of them is wage (we can also include here a *social package* which is very popular in Ukraine now). Therefore, the salary can be distinguished like a separate unit of expenditures. Moreover, summarizing, we find out the term as a managerial "style". Without any doubt the performance of the firm is dependent of the management. The better management the more profit will firm get. Thus we can evaluate the costs which are connected with reorganization and restructurisings. To prolong, the connection between high salary and performance was studied by the Segunin 1996. In his article he separated general and administrative expenses in two groups: non-discretionary (structural) and discretionary expenses.

The question arises is it really profitable to hire well-paid managers? How do the expenses of the firm influences the firm value? The result was rather unexpected – if we increase the volume of general and administrative expenses as the component of managerial styles - this step will not be associated with significantly levels of firm value. In contrast, it was found that "higher levels of the structural component are significantly negatively related to firm value".

Therefore, the owner of the company should think carefully about paying high salary increasing in such a way G&A expenses. That's sounds easy when we have to deal only with one person who makes a decision.

After salary, the next problem which we can face is shareholders. To be more precise we're more interested in the blockholders or people who can "block" the any decision which is undertaken. This is a crucial point in the management because other shareholders always have to keep in mind the possibility of rejection and even an injunction.

The result of the existence of big shareholders (here big means that that shareholder can directly influence the decision-making thus we get the controlling interest of an enterprise) can lead to the serious problem of making a decision. One big shareholder can present with a fait accompli the board of directs and forces to do only his decision. That is why some authors tried to investigate the optimal value of shareholder's power to reduce the probability of opportunism by a single shareholder (Gomez and Novaes (2005)). Throughout this topic McConnel and Servais (1990) investigated the relationship between the structure of ownership of the company and Tobin's Q. They found out that there exists a relation between Q and a part of the stock which belongs to the corporate insiders.

Thus, we can say that ownership and control structure of the enterprise is a significant determinant of its dividend payout policy that influences the firm's value. We can look at this case on the example of state-controlled firms in Austria. They "smooth" dividends, have large target payout rations and are the most unwilling to cut dividends even taking into account big amount of potentials costs of shareholders. But the decisions differ when we have a deal with a family –controlled firms have completely different dividend policy, they are more likely to cut the dividends. In addition the owners (and often the most "important" shareholders) can adjust dividend policy and investment priority pretty fast. This result was received by Gugler (2001). Another conclusion was that dividends significantly negatively influence capital investment.

Then the shareholders, in turn, have to pay taxes because they get profit (dividends) from their shares. Consequently, the value of the tax directly influences profoundly on the preferences of the shareholders whether to have deposits or shares. This explains the interest of researches which devoted their papers to this question. Harris and Kemsley (1999)(HK) investigated how taxes on dividends affect the relative value of retained earnings versus contributed capital. Furthermore, Collins and Kemsley (2000)(CK) observed the effect of dividend and capital gains on firm value. Then Harris (2000)(H) showed the effect of dividend taxes and imputation credit on firm value. The crucial point here is that all the authors (HK, CK, H) gave an interpretation of their evidence as consistent with dividend taxes being fully capitalized.

Let us talk about the results of the Harris and Kemsley test: they found out that the coefficient on retained earnings as compared to book value was negative (to be more precise -0.47) and they interpreted it in the following way: "an estimate of the dividend tax rate capitalized into prices, so our results suggest the marginal

investor faces an average dividend tax rate of 47%" and they even stated that dividend taxes are capitalized in the values of the shares.

However, this question was expanded and the aim was to investigate not only the problem of capitalization but also *how* taxes are capitalized and to what extent are they capitalized in the market values of the shares. That actually did Hanlon (2003) and disproved the result that was received using the model by Harris and Kemsley.

We talked about shareholders and their profits, about the managers of the firm but there is a crucial point which is left – why some firms prefer to pay dividends rather than repurchase shares? Sometimes institutional investors are less taxed then the private (individual) investors this fact can lead to the "ownership clientele" effects. However, each firm has to decide the strategy of paying dividends which can be separated into two parts: the optimal amount for paying and the optimal times. Cadenillas A. et al (2004) modelled this as stochastic impulse control problem and found the analytical solution. The result was that as the dividend tax rate goes down it becomes optimal for the shareholders to receive smaller but more frequent dividend payments.

The firms which pay out the dividends usually attract more institutions than those which do not pay. This, in turn, presents the possibility of detecting the level of management (quality) and the "top" firms. If we consider such a situation when we do not have any transaction costs and taxes then share repurchasing and dividends are equivalent. As in many countries dividends are taxed much higher than the capital gains, then logically to conclude that the share repurchasing is more attractive and preferable. However, dividends stay of one of the major and essential types of income. It should be pointed that during last years 1973-1983 dividends of the largest 1000 US firms averaged 44 % at the same time the

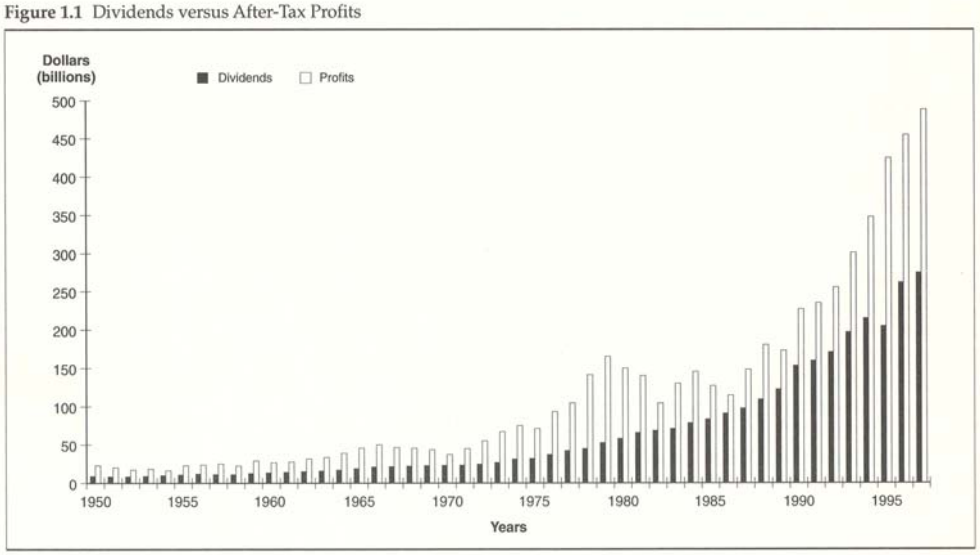
repurchasing was only 6 percent. Then in 1984 repurchasing increased significantly and kept its position rather constant but did not become a substitute for the dividends. Throughout, looking at the period of 1984-1988 the picture changed significantly: repurchasing increased from 6 up to 38% of earnings, dividends also went up from 44 to 51% [1]. That is to say Allen and Bernardo (Dec. 2000) constructed the model which explains the preferences of an enterprise: whether to pay dividends rather than to repurchase shares or to incline to smooth dividends. Their model was based on the two assumptions: there are groups of investors who are taxed differently and another one is that dividends are one way of attracting institutions. Looking at these assumptions it can be concluded that firms attract more institutions as shareholders by paying out the dividends and moreover these firms (which pay dividends) perform better than otherwise equal non-dividend-paying firms. The results of their research proved these assumptions - dividend-paying firms perform better.

We can also talk about Profits, Dividends and Capital Expenditures (or CAPEX). Looking on the sample of US enterprises we can find out that during last 50 years after-tax profits increased at a compound annual rate of 6.6 percent, dividends grew at 7.3 percent, and plant and equipment expenditures grew at 7.9 percent. The average payout rate over this period was 52 percent.

Clearly, dividend payments are significant relative to the corporate earnings and investment. Figures 1 and 2 describe the pattern of dividends versus after-tax profits and investments, respectively. Looking at the pictures we can conclude that managers, at least in aggregate, appear to continue to smooth dividend payments relative to earnings and capital expenditures.

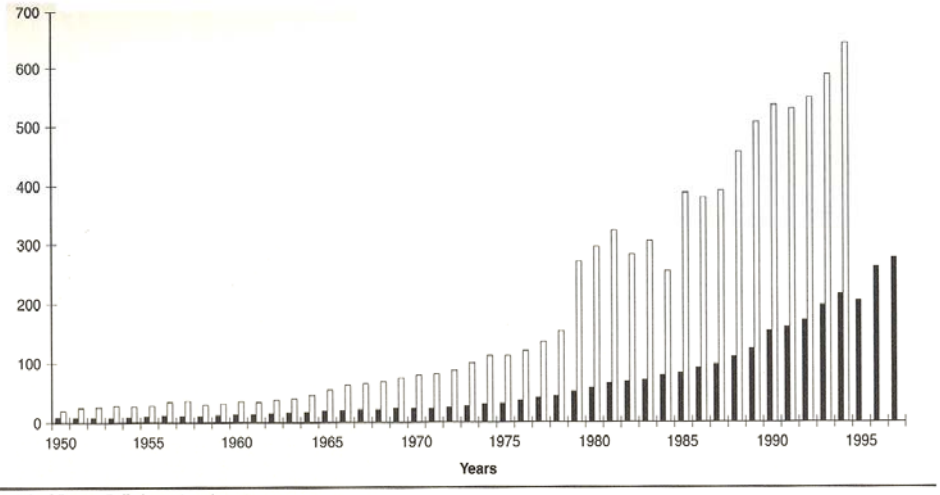
[1] Allen and Michaeli (1995)

Figure 1.1 Dividends versus After-Tax Profits



Source: Federal Reserve Bulletin, various issues.

Figure 1.2 Dividends versus New Investments



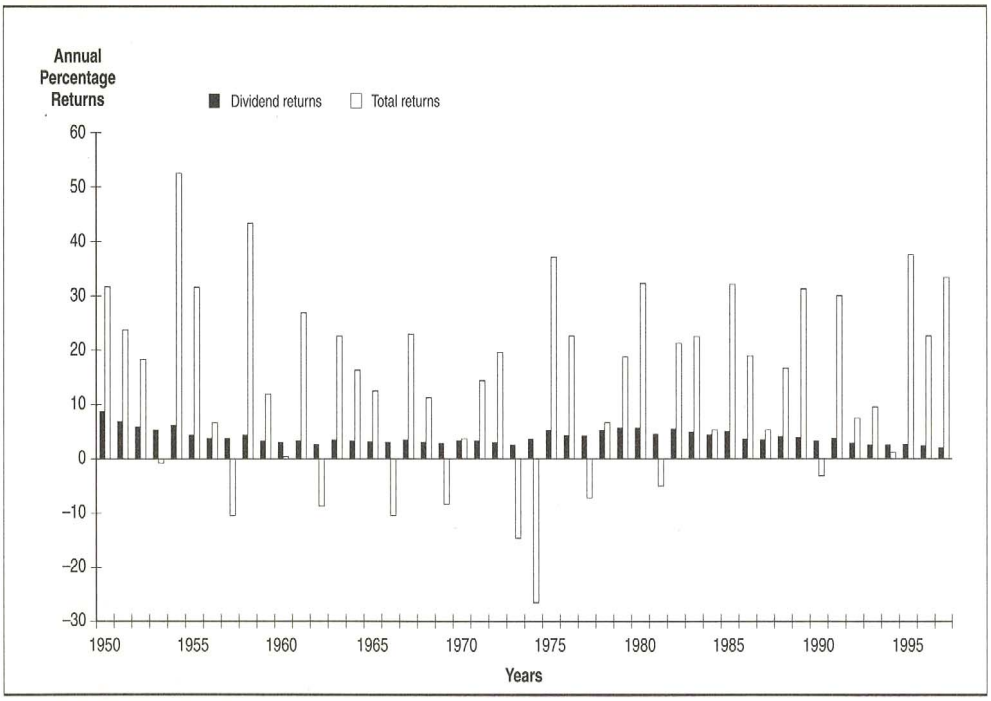
Source: Federal Reserve Bulletin, various issues.

To say in other words, the data suggests that managers are "managing" dividends and that dividends are less volatile than earnings. Consequently, we get that

management's attempt to achieve a specific pattern of dividend payments nothing but – a managed dividend policy. Alternatively, we call a management policy of simply paying out the amount "left over" after the deduction of CAPEX from internally generated cash flows a residual dividend policy.

Dividend returns also have been a significant component of total stock returns, or dividends plus capital gains. Starting from 1950, total stock returns on the S&P 500 have averaged 14.14 per year percent without the reinvestment of dividends. In turn, dividend returns have been 4.11 percent or 29.07 percent of the total returns. Figure 1.3 describes the annual relationship of dividend returns to total returns. It can be seen that while total returns have been erratic from year-to-year, dividend returns have been rather stable. An interesting article from the famous Wall Street Journal written by Dorfman (1996) stated the next:

Figure 1.3 Dividend and Total Returns



Source: Ibbotson and Associates (1998).

"Dividends get very little respect these days, and no wonder. For the past couple of years, they have accounted for only about 10% of stock-market investors' total returns. Capital gains are sexier, and et better tax treatment to boot…"

Based on the preceding discussion of the dividend payments relative to investments and the importance of dividends like the part of total stock returns we can say that quote by Black (1976) may seem a bit paradoxical. In his article he discussed why the companies should pay dividends and why investors should pay attention to dividends. He told that "perhaps the answers to these questions are obvious. Perhaps dividends represent the return to the investor who put his money at risk in the corporation. Perhaps corporations pay dividends to reward existing shareholders …" further he told that the aim of paying the dividends was the attraction of new shareholders to encourage others to by the new issues at a higher price. He assumed that investors pay attention to the dividends because only thought dividends do they receive a return on their investment or the possibility to sell their shares at a higher price in future. Then he talks about the other side of a coin - what if this is not so easy to explain and all these assumptions are violated? For instance that corporation pays dividends just to show the confidence that it has attractive investment opportunities. Moreover, if it made these investments, it could increase the value of shares by more than the amount of the lost dividends. Because if this happens than shareholders will double their wealth. They will be also taxed at lower effective rates on capital appreciation than on dividends. Then Black concluded: "In fact, I claim that the answers to these questions are not obvious at all. The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together." Although Professor Black's conclusions were made more than two decades ago, financial economists still are wrestling with the "dividend puzzle."

Another very important factor which directly influences the Firm Value is taxation. For instance, market value can be determined by discounted expected after-tax cash flows. Hence, any differential tax treatment of capital gains relative to the dividends can influence after-tax returns of investor and, therefore, affect their demand for dividends. Whereas, taxes may affect the managers' decision whether in what way to pay out dividends and, in turn, influencing the supply of dividends. Furthermore, financial economists came to the conclusion that taxes have important influence on both personal investment decisions and corporate dividend decisions. Next point in taxation will be Dividend Yields and Risk-Adjusted Returns. The first who investigated this relationship was Brennan (1970). He stated that using capital asset pricing model (CAPM) a security's pre-tax excess return is linearly and positively related to its systematic risk and to its dividend yield. In other words, a higher pre-tax return compensates investors for the tax disadvantage of dividends. The two known empirical tests of the Brennan model are those of Black and Scholes (1974) and (1979) – presents conflicting results. Black and Scholes did not found the evidence of tax effect, in contrary Litzenberger and Ramaswamy concluded that returns are positively related to dividend yield. Ross, Westerfield and Jaffe told the next : "It is surprising that the results of such uniformly high-quality research can be so contradictory. One can only hope that the ambiguities will be cleared up in the future."

On the whole, long-term capital gains are taxed at a lower rate than dividend income for many investors. Moreover, capital gains are not taxed until the gains are realized. Accordingly, theory suggests that long-term investors should require a pre-tax rate of return premium to induce them to hold stocks paying dividends. Nevertheless, the question remains: Why do stocks experiences higher pre-tax risk adjusted returns during ex-dividend periods? There was not found an exact

answer to this question using CAPM framework. Thus, there is a good reason to believe that the time series return variation is linked to taxes.

Now let us look at this problem from the angle of Corporate Dividend Policy Decisions. It's important to know whether managers as though believe that the dividend policy decision is important. If they do so the next question is how do they go about making dividend policy decision and whether follow a consistent strategy in making these decisions. Lintner (1956) did a classic study on how managers in USA go about making dividend decisions. He constructed a model which included such variables like firm size, plant and equipment expenditures, willingness to use external financing, use of stock dividends, earnings stability, and ownership by control groups. Then he used a sample of 600 listed companies which were involved in industrial sector. After interviewing managers of firms (not all of course) he concluded that in a process of deciding on a dividend change, managers looked at current earnings and applied their internal target level of payout to those earnings. Current earnings times the target payout level less last period's dividend determined the potential change in dividends. Furthermore, this potential change in dividends was then multiplied by the speed of adjustment factor to determine the actual dividend change. The overall result was that firms preferred to keep dividend changes in multiples of $0.05.

We can also talk about impact of Dividend Policy on Investment. Following the basic law of corporate finance decision making is that al firms should take all positive NPV projects. On the other hand, if there is a situation when dividend policy dominates investment policy in management's hierarchy of priorities, could it be that value-enhancing projects are being cancelled or postponed?

The answer to this question can be given using investigation of Fama (1974). He examined the extent to which dividend decisions and investment decisions are related. He found out that dividend and investment decisions of managers are

independent. In other words, investments are not a function of the level of dividends paid. To prolong, it's interesting to look at the annual dividend yield in the European industrial countries, such as Germany, France, Italy and Switzerland. This yield is less than the 4 percent average annual dividend yield in Canada and the United States.

There exist an alternative to the Dividends – this is a Common Stock Repurchase. In a common stock repurchase, the corporation pays out cash in return for all or part of the shares owned by individual shareholders. Thus, we observe that the outstanding equity of the company is reduced in a share repurchase. When we talk about common stock repurchase and dividend payments we should keep in mind that it could be spurred by motives that have both similarities and differences.

The academic research identifies numerous motives for share repurchase. Alongside with dividend payout, a corporation can choose to declare a stock repurchase for lack of profitable investment opportunities. Management of the company can also use an "announcement effect" – the announcement of a repurchase plan may reflect management's expectation about the firm's future prospects. Moreover, like cash dividends, there exists a possibility of future conflict of interest between the corporation's shareholders and other claimants. At last, repurchasing of shares can create serious changes in capital structure of a corporation. If we implement this practice to the Ukrainian (or even Russian) Stock Market that will be the major factor in deciding of whether to make a repurchase of shares or not. The point here is indeed the change in capital structure. Owners of the company are afraid to loose the control over the enterprise that's why they try to increase their share holdings in any possible way. There are many examples on the Ukrainian Stock Market when the competitors tried to become the block holders of an enterprise (well-known brewery

companies Obolon' and Rogan'). Therefore, when the shares are repurchased, owners are in safety as they control their enterprise and, moreover, they can issue more stock. That is also a good practice in such cases and it is widespread in CIS countries. Doing that, the firm will increase its shareholder's equity and significantly change its ownership structure simultaneously.

We can also look at the problem of evaluation from the angle of Information Economics. Thus, we can determine the principal and the agent in this case. Principal will definitely be an Enterprise which will determine the details of the contract and decide the dividend policy of the company. In turn, the principal would be a customer of bonds. The point here is the problem of imperfect information and how it influences the value of an enterprise (Stiglitz and Rothschild M. (1976)).

The problem of imperfect information can also touch the dividend payout policy. We can consider this problem like the set of effects on the dividend policy which are cited below.

. The first one is *Earning Announcement Effect* – this is crucial point in deciding whether we should invest money or not, indeed, this effect shows the market value of the firm at the beginning of the future period, immediately after previous period's investment (financing) dividend decisions are announced to the public. Thus, if we do not know something for sure we can loose money and efficiency of investing falls extremely. The next one is *Dividend Announcement Effect*[2] – as stock prices are used to describe the firm's earnings and opportunities, the presumption has been that dividend announcements convey information about

[2] We can also talk here about *Moral Hazard problem*, as the party which has an information will try to use it to his benefit (managers can change the dividend payout policy to achieve their own goals) and the behavior of managers (Agent's) is not verifiable and cannot be included in the contract.

the firm's future earnings prospects. "But no consensus yet exists as to what this information is, whether it adds anything beyond what is conveyed by the firm's earning statements, especially why firms choose to communicate information via their dividend declarations". Also we can loose efficiency in the management. Miller and Rock (185) investigated this problem.

Let us look at the experience of Hong Kong firms. Zhilan Chen et al (2002) analysed the sample of 412 firms. He tried to answer several questions and one of them was "does concentrated family ownership affect firm operating performance and value? Does it affect dividend policy?". The result was that there is no correlation between family ownership and return on assets, return on equity and on the book-to-market ratio. Moreover, there is a negative relationship between CEO duality and performance; here it has to be mentioned that CEO duality is more likely to appear in the family-controlled firms. There was a little relationship between family ownership and dividend policy.

While considering small firms the author showed little sensitivity to performance.

Coming closer, we have to determine the performance of the firm and this is one of the most important tasks. Fama and French (1995) proposed to use two variables: market equity (ME) and book equity (BE). The reason for providing these variables was constructing the ratio BE/ME known as book-to-market-equity. It was stated that if stocks were priced rationally, systematic differences in average returns were due to differences in risk. Thus, BE/ME ratio must proxy for sensivity to common risk factors in returns. The next problem is that this return test can't describe the whole economic picture. This happens because BE/ME remains arbitrary indicator variables that is related to risk factors in returns. Therefore, the aim here is to fill this "economic gap".

Summing up, we have two strategies: Dividends versus Repurchases of Equity. On the one hand they appear to be alternatives to return the cash to original

shareholders. But on the other hand, they are not perfect substitutes and this can be explained by the fact that sometimes dividends pay out may be preferred and in other situations reinvestment may be desired means to pay out excess cash to shareholders.

Benefits of stock repurchases are the following:

1. Capital gains tax associated with a repurchase can be delayed.

2. Repurchases are not a long-term commitment or do not create expectations of reoccurring on a regular basis.

Chapter 3

METHODOLOGY

Doing the analysis, the crucial point that we have to keep in mind is that each owner or manager of a firm can decide what type of enterprise to establish. This happens almost every time when an enterprise is established, whether it would be a JSC or not. As it was mentioned above, there are different factors that can influence the firm value and in turn, the decision whether to pay out the dividends or reinvest also affects the value of an enterprise.

But alongside with those factors, there exist other ones, let's say some subjective reasons such as individual preferences of an owner etc. Also we have to keep in mind whether principal and agent is risk lover or risk averse. Another important fact is tax escape. Since the implicit tax on dividends is greater than on capital gains (taxes can be deferred), therefore investors have an aversion towards dividend paying companies.

Furthermore, if we take Ukrainian Stock Market we'll see that only 12 enterprises are included into the construction of the Market index and most of them are concerned with the Energy (Fuel) or Steel Industry. Therefore the problem of correlation will influence our results, particularly there is strong correlation between SMB and HML[3] returns on portfolios.

[3] The description of these variables will be in the next paragraph

The main problem we have to overcome is how to measure the performance of the company or how we can say whether this company is better than that one. Answer to this question can be given using results of Fama and French (1995). They focused on six portfolios, which were formed from the sample into two groups on ME and another one ones into three groups on BE/ME.

Then we just use the median to divide these enterprises into two groups, small or big (S or B). Then we also break the sample into three book-to-market groups based on the breakpoints for the bottom 30% (Low), middle 40 % (Medium), and top 30 percent (High) of the ranked values of BE/ME. BE/ME – is book common equity at the end of year ending in calendar year t-1 (in annual reports of the enterprises we can often find this value like "shareholder's equity"), divided by market equity at the end of December of year t-1.

At the end we will receive six interactions of the two ME and three BE/ME groups: S/L, S/M, S/H, B/L, B/M and B/H. For instance, if we take S/L this will be portfolio that contains the stocks in the small- ME group and also in the low-BE/ME group, another example is B/H portfolio: it includes the big stocks that also are in the group of high BE/ME.

The dependent variable in the regression is value-weighted excess return on six size BE/ME portfolio minus the one year Treasury bill rate (RF) observed at the end of the year. The explanatory variables are the following: excess return on value-weighted market portfolio, RM-RF, returns HML and SMB (HML-high minus low, SMB-small minus big) on the portfolios. Again, SMB – is the difference, each month, between the average of the returns on the three small-stock portfolios (S/L, S/M, S/H) and the average of the returns on the three big-stock portfolios (B/L, B/M and B/H). As there were taken different amount of shares in formation of the portfolios thus the SMB can be calculated into two

ways: the first one is like the simple average; the second one is obtained as the value-weighted average. Therefore, doing the regression analysis we will use two SMB variables in order two compare the results. HML[4] is the difference between the average of the returns on the two low-BE/ME portfolios (S/L and B/L).

Then the regression is:

$R(t) - RF(t) = a + b\,[RM(t) - RF(t)] + s\,SMB(t) + h\,HML(t) + D(t) + Constant$

Where D(t) is a dummy variable which is equal to 1 or 0. This is decided like whether the amount of enterprises which pay out dividends in each portfolio is more than those which reinvested money. In other words, if the amount of enterprises which payed out is more then other ones then the Dummy is equal to 1 otherwise 0.

The point here is that there are only 6 enterprises in Ukraine who payed out dividends in 2004 while in Russia and especially in Croatia almost all firms payed out dividends. Why do Ukrainian enterprises not pay out? The answer to this question can be given if we think about the tax burden. Each enterprise in Ukraine tries to escape from the taxation and therefore tries to invest money hiding the profit in such a way.

In other countries such practice also exists but not so widespread like in Ukraine. That's why most zeros in dummy variable were received thanks to Ukrainian Enterprises and Croatian enterprises pay out dividends, Russia is like the middle between Ukraine and Croatia – some firms pay and some reinvest money.

[4] $HML = \overline{(hightB - MEportfolios)} - \overline{(lowB - MEportfolios)}$

In addition, the value of the constant will tell us that ceteris paribus the difference between portfolio and market return will always take place as the market portfolio includes all possible stock while the particular portfolio does not.

Doing the regression analysis we run usual OLS estimation following Fama and French (1995).

Chapter 4

DATA DESCRIPTION

All necessary (such like paying out of dividends, amount of issued stocks etc) data is available for public use. According to our legislation, all Ukrainian enterprises have to render their annual report without fail. As a result it's possible to find the data on the next government sites: *www.istock.com.ua* and *www.smida.gov.ua*

But as there are not sufficient number of enterprises on the Ukrainian Stock Market (we can use only top enterprises which shares are the most tradable) it was decided to take another countries such as Russia and Croatia. The total amount of enterprises is 60. The data has been collected for 3 year.

Almost all data was taken from the annual reports of the enterprises. We can find from the balance sheet the capitalization (by multiplying stock price on the number of shares issued), the amount of issued stocks and at last the shareholder's equity which is crucial in calculating the book value of the firm. It was collected the monthly data for 20 Ukrainian largest enterprises which published reports about their performance from 2002 to 2004. The problem is that only six enterprises paid dividends in 2004 and they did not put their reports for public use. That's why we have decided to consider Croatia and Russia. The main problem we face with is that Ukrainian Stock Market is not developed well. Thus this leads to the problem that not all firms trade with their stocks on

"PFTS" not talking about daily results but even monthly ones. In this connection the list of "blue cheeps[5]" was also included into the list.

The dependent variables in the regression are the value-weighted excess returns on the six size-BE/ME portfolios. Where BE – book equity and ME – market equity of enterprise. The explanatory variables are the excess return on our value-weighted market portfolio.

To receive the final results of dependent and explanatory variables we have to do several calculations. Firstly, we need to divide the whole sample of enterprises into the six-size portfolios like it was described in the methodology. The next step will be returns on these stocks, the annual capitalization and weights of each portfolio. After that we'll be able to calculate the average weighted rate of returns on the portfolios for the 3 years, separately for Big and Small enterprises. Here are the results:

Table 4.1. Returns on the Big and Small portfolios

	Big			**Small**		
	2002	2003	2004	2002	2003	2004
high	-0.152	0.115	0.286	0.1	0.163	0.585
medium	0.303	0.642	0.181	-0.084	0.267	0.323
low	0.267	0.877	0.3251	0.0541	0.235	0.218

Table 4.2. Returns on the six-size portfolios

	S/L	**S/M**	**S/H**	**B/L**	**B/M**	**B/H**
2002	0.080	0.004	0.020	0.0226	0.025	-0.012
2003	0.019	0.022	0.013	0.073	0.051	0.009
2004	0.018	0.029	0.048	0.108	0.015	0.045

[5] The top companies which shares are the most tradeable on the Exchanges

Moving further, using the weights of these portfolios we can obtain the monthly returns of the portfolios and at last find weighted average monthly rates of return on each portfolio.

Finally, we make last steps to obtain needed variables.

Table 4.3. Variables

Portfolio	Market	SMB1	SMB2	HML
-1.62703	0.2023	-0.15725	-0.18196	-0.01525
-1.62695	0.0398	0.263323	0.254514	-0.0474
-1.72496	0.06357	-0.10328	-0.09657	0.027242
-1.68199	0.10356	0.104528	0.130647	-0.08811
-1.77836	-0.14603	0.087508	0.086599	-0.09283
-1.81766	-0.25851	0.072874	0.077308	-0.05522
-1.82063	-0.38345	-0.02639	-0.02957	0.053412
-1.72445	-0.38685	-0.07726	-0.07481	0.025984
-1.65719	-0.51963	0.019188	0.022919	0.023798
-1.54675	-0.30188	-0.14321	-0.15306	0.02419
-1.40079	0.03734	-0.00453	-0.01123	-0.06545
-1.22263	0.07425	0.247501	0.204949	-0.36201
-1.24814	0.13973	-0.0494	-0.02876	0.233184
-1.16176	0.17636	-0.23158	-0.2279	0.04389
-1.09772	0.13997	0.140082	0.109747	-0.11857
-0.81301	0.29314	-0.75639	-0.72739	-0.99611
-1.06334	0.50482	0.002506	0.010707	-0.03756
-1.35797	0.45163	0.499068	0.420044	0.908391
-0.64805	0.84413	-0.54869	-0.48911	-1.02704
-1.12855	0.89954	0.506152	0.445234	1.004205
-0.96394	0.80596	0.084819	0.104335	0.020155
-0.78487	1.05133	0.024626	0.033189	-0.30077
-1.0403	0.98929	0.128556	0.131755	0.1236
-0.86616	1.04241	-0.11549	-0.10116	-0.26994
-0.83298	1.18527	0.056829	0.074712	0.276031
-0.68891	1.15895	-0.60152	-0.5978	-0.23802
-0.91777	1.02325	-0.14051	-0.12216	-0.05967
-1.02273	0.9692	0.054179	0.079381	0.034926
-0.75442	1.15591	-0.06788	-0.0799	-0.03537
-0.92113	1.07682	-0.10753	-0.10701	-0.07402
-1.05366	0.87635	0.107579	0.114221	-0.1179
-1.27728	0.55682	0.102081	0.105312	0.079176
-1.31291	0.46541	-0.10255	-0.11447	-0.06256
-1.54003	0.45347	0.284253	0.31058	0.052926
-1.77716	0.30502	0.064523	0.052552	-0.07841
-1.98313	0.09336	-0.11905	-0.12381	0.031125

But the crucial point id that the data which is published by the firms is not always truthful. The problem is that almost all Ukrainian enterprises try to escape from paying taxes as a consequence, they do not show "real numbers" and show advisedly the profit which is much lower than the actual one. It's possible to solve this problem taking the data from only the largest enterprises which are examined by the independent auditing services.

The market price of the share can be found on the exchanges sites, one of them is: www.pfts.com

The additional source is EERC library. We can find there the data formed on the base of 'istock' observations.

Chapter 5

STATISTICAL RESULTS

We have assembled a model completely comprising with the above described methodology. This time, following the pattern described by Fama and French we assess the coefficients adjoining to every single variable in our model. The estimated coefficients are summarized in the table below.

Table 5.1. Estimated coefficients (1)

Portfolio	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
					R-squared	= 0.7939
Market	0.612	0.061	10.03	0	0.488	0.737
SMB1	-0.074	0.192	-0.39	0.701	-0.468	0.318
HML	-0.366	0.155	-2.36	0.025	-0.683	-0.050
Dividend	0.160	0.076	2.11	0.043	0.005	0.315
_cons	-1.609	0.053	-30.29	0	-1.717	-1.501

Results received from STATA suggest that almost all coefficients, except for SMB1, are statistically significant at conventional 5% level. That implies a number of conclusions. The difference between market return and market based risk-free rate has a positive impact on the size of portfolio return when compared to the same risk-free rate. It seems quite logical – the better performs the market, so relatively better perform most enterprises. In our case a 1% of market return going ahead of risk-free rate will spur enterprises under study to advance their

portfolio return by 0.61%, according to given results. Further on, we conclude that the average discrepancy of returns between different portfolios within one group is meaningful as well. Bigger gap between enterprises with small and high book to market value will cause an average portfolio return to decrease by 0.37%.

Another interesting conclusion derived from the estimation regards the dividend payout policy. Statistically significant coefficient gives us a hint on what benefit can an enterprise extract from a prudent dividend policy. Those enterprises adhering to the payout rather than reinvestment policy were given "1" and "0" if otherwise. Obviously, those preferring to distribute net profit among shareholders contribute this way to the firm value. To be specific, the fact of paying out dividends attracts various investors thus making the stock more popular, which leads to improved performance. In our case we witness a return on portfolio increased by 0.16% for enterprises paying dividends.

We run an alternative regression substituting SMB1 for SMB2. Different calculation methods may spur different results and we are about to check this.

Table 5.2. Estimated coefficients (2)

Portfolio	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
					R-squared	= 0.7951
Market	0.612	0.060	10.07	0	0.488	0.736
SMB2	-0.113	0.193	-0.59	0.563	-0.507	0.281
HML	-0.349	0.147	-2.38	0.024	-0.650	-0.049
Dividend	0.157	0.075	2.1	0.044	0.004	0.311
_cons	-1.608	0.052	-30.62	0	-1.715	-1.501

No drastic changes are observed from the result of regression. Thus we conclude that it does not matter whether we use a simple average or weighted average of returns compared across two groups. They constantly fall out of equation and therefore provide little assistance in explaining variability of portfolio return of a particular enterprise.

Another predefined step runs over three separate regressions. Since we are inclined to analyse the singled impacts of different return averages we exclude SMB1, SMB2 and HML one by one. This way assuring the true meaning of the relative proportion of returns between two groups of enterprises and between three kinds of portfolios within one group.

Table 5.3. Estimated coefficients (3)

Portfolio	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
					R-squared	= 0.7567
Market	0.599	0.065	9.21	0	0.467	0.732
SMB1	-0.417	0.136	-3.06	0.004	-0.694	-0.139
Dividend	0.064	0.068	0.93	0.357	-0.075	0.204
_cons	-1.556	0.051	-30.21	0	-1.661	-1.451

Table 5.4. Estimated coefficients (4)

Portfolio	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
					R-squared	= 0.7578
Market	0.601	0.064	9.28	0	0.469	0.734
SMB2	-0.443	0.143	-3.09	0.004	-0.736	-0.151
Dividend	0.064	0.068	0.94	0.354	-0.075	0.204
_cons	-1.557	0.051	-30.27	0	-1.662	-1.453

Table 5.5. Estimated coefficients (5)

Portfolio	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
					R-squared	= 0.7929
Market	0.615	0.0598	10.29	0	0.493	0.737
HML	-0.411	0.101	-4.07	0	-0.617	-0.205
Dividend	0.168	0.072	2.35	0.025	0.022	0.315
_cons	-1.614	0.050	-31.8	0	-1.718	-1.511

The first and foremost outcome – those two variables (meaning SMB and HML) should not actually enter the same equation due to their explicable relationship. While separately they are significant, the former dies out when comprised into the model along with the latter one.

Since both SMB1 and SMB2 proved to be insignificant in first to regressions, we assume that their meaning is eroded. Therefore it would be a nice idea to concentrate on the analysis of the impact of HML. That is, the difference in returns fostered within one group embracing the enterprises of the same scale will have more impact on the resulting factor than the same difference between the groups might have had. This seems quite reasonable, since book to market equity ratio is more comparable between peers than it is between different scale groups. In our case HML is significant, though this time its negative impact over particular portfolio is stronger. Decrease equal to 0.41% in portfolio return will be a result of growing gap between peers' BE/ME ratio.

Chapter 6

CONCLUSIONS AND POLICY IMPLICATIONS

This paper was devoted to the issue of utmost importance to present day business environment – dividend policy and its impact on firm value. Combined with a number of other factors dividend policy was positioned as a crucial element for determining the return on portfolio of a particular enterprise. By modeling the behavior of the enterprise value we tried to reveal the most crucial factors, to assess their contribution and to perceive the nature of their influence. By doing so we obtained several interesting results.

The first and the most desirable conclusion basically concerns the payout policy itself. Enterprises which preferred to distribute the spare part of an income between its shareholders on average increases it value. The mechanism is quite simple – reinvesting the dividends is a vague and obscure treatment to the income which may appreciated by professionals, while paying a dividend may attract a regular agent. This way the stock becomes more popular and its price reacts accordingly.

Though, this strategy is not popular among Ukrainian enterprises. Mostly they retain their income and it is a seldom case when the profit is actually divided on a per-share basis. Meanwhile our neighbors in Croatia and Russia do pay dividends, probably apprehending the benefits concealed in this strategy. The most plausible explanation available to us is that Ukrainians are afraid of excess income taxes. Understating net income or even claiming a loss is a time-honored tradition among Ukrainian businessman. Such environment provides mal incentives to

entrepreneurs to adhere to a prudent strategy of dividend payout and forces them to retain accumulated funds.

Another valuable conclusion drawn from this research is that peer pressure is a powerful incentive for improving your own performance. While we witness almost no relation between the portfolio return for enterprises of different scales, the same inequality in peers' performance drastically influences your own growth potential. Thus, book-to-market equity ratio has to be comparably equal within one group in order to assure stable portfolio return.

We may also stress a few factors disturbing our conclusions. Among them is a lame FSTS[6] index, which comprises a lot of enterprises from a single industry, thus, being sometimes biased. Another example would be the "shadow economy". Profits amassed by the businesses and not reported to the government complicate our task a lot and make conclusions rather intuitive.

Though, there is a way to ensure the proper functioning of the system:

- ✓ do not tax income paid out as dividends
- ✓ make the economy transparent
- ✓ develop special government programs to support investment climate

It is very important to attract foreign investments in the country as this will increase the volume of trading on the Stock Market that, in turn, will positively influence on the stock market. Consequently, the Stock Market Index will reflect the true state of affairs on the market.

[6] First Stock Trade System (or PFTS in Ukrainian)

Further research of the field may be conducted with respect to changing business environment. Altering taxation schemes will immediately cause some changes in the behavior of management, which in its turn directly affects the firm value. We may bind political, fiscal and legislative changes to the performance of the company. This way will better understand the insights of this connection. Statistically, our model may improved by adding some crucial performance measures, e.g. return on equity, return on capital, return on assets. Including wider range of variables lessens the possibility of omitted variables problem. Unfortunately, we have had no such data at our disposal at the time of main research.

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