

# The Dividend Puzzle: A Summary Review of Explanations

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## Abstract

Academics like to raise what-when-whether-why-how questions on interested topics. Nearly sixty years ago, J. Lintner has developed his model to explain how dividends are determined. Twenty years later, F. Black has asked why some firms pay dividends while others do not, and has written his famous paper “The Dividend Puzzle.” And in-between, we have the dividend irrelevancy theory developed by Miller and Modigliani. After several decades with relentless effort by economists researching on the topic, the puzzle still seems to be here. Lots of theories or hypotheses have been developed to help understand the puzzle and what factors determining the distribution policy of a firm. This paper gives a summary review of those major explanations.

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## 1 Introduction

Distribution policy has been one of the hottest research topics in corporate finance. Brigham and Ehrhardt (2014) define a firm’s choice of distribution policy as determining “(1) the *level* of distributions, (2) the *form* of distributions (cash dividends versus stock repurchases), and (3) the *stability* of distributions.”<sup>2</sup> All of the three items can be categorized under “dividend (payout) policy” by focusing only on dividends. Over the past several decades, financial economists have been investigating why some firms pay dividends while others do not. F. Black (1976) described it as “the dividend puzzle.” Nearly forty years later, the puzzle still remains unresolved.

## 2 Aims

Amongst the voluminous academic literature, there have been many theories and hypotheses developed to explain the dividend puzzle, some of which are inextricably intertwined and questionable under empirical testing. This paper aims to provide a summary review of those major explanations on not only the dividend puzzle, but also the choice of the form of distribution (regular versus special dividends versus stock repurchases), and with necessary literature review.

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<sup>2</sup> Brigham and Ehrhardt (2014), p. 548.

### **3 Major Theories and Hypotheses**

#### **3.1. Dividend Irrelevancy Theory**

In their famous paper, Miller and Modigliani (“MM”) (1961) show that whether a firm pays dividend or not simply does not affect the firm’s value, under the strict assumptions that all investors are rational and markets are perfectly efficient, without transaction costs or taxes. If the firm pays no dividend, an investor can simply make a “homemade” dividend himself by selling his shares. Hence, his total investment return would be unaffected by the firm’s dividend policy.

#### **3.2. Dividend Preference Theory**

In the real world, transaction costs or taxes cannot be zero, which casts serious doubt on the relevancy of the dividend irrelevancy theory. Even in their absence, Shefrin and Statman (1984) suggest that dividends and “homemade” dividends cannot be perfect substitutes, because of some psychological factors better explained by the self-control theory. Under the self-control theory, an investor would like to avoid any capital loss and consume only out of dividends. In order to avoid regret for selling his shares at too low the prices, the investor would prefer to follow strictly the “standard procedure” of receiving dividends [Thaler and Shefrin (1981)]. A recent research by Fuller and Goldstein (2011) also finds that investors do have preference for dividend-paying stocks.

#### **3.3. Stakeholder Theory**

A firm’s dividend decision could be influenced by both investors and non-investors, all of whom belong to “stakeholders” of the firm. Firms with fewer and related business lines would face greater spillover effects due to potential claims from non-investors (so-called “implicit claims”). Such firms tend to keep more cash for the sake of fulfilling those implicit claims, and pay less dividends as a result [Holder, Langrehr and Hexter (1998)].

#### **3.4. Agency Cost (Excess Cash or Free Cash Flow) Hypothesis**

(Principal-) Agency problems exist due to the potential conflict of interests between the managers and shareholders of firms. Without any performance-linked incentives, managers tend to be risk-averse and prefer low-risk-low-return investments; but shareholders tend to be risk-taking. The costs of monitoring managers can be huge. One way of reducing the monitoring costs is to disburse the excess cash or free cash flow in some form to shareholders. It is believed that paying dividends (especially those large special or regular dividends) can keep managers’ interests more aligned with that of the shareholders, since firms have to raise money constantly under the scrutiny of the capital markets.<sup>3</sup> This hypothesis is closely related to the life cycle hypothesis [see Section 3.7] as firms become more mature, they might face fewer investment opportunities and have more excess cash [Denis and Osobov (2008)].

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<sup>3</sup> Easterbrook (1984), Lie (2000), Grullon et al. (2002), Blau and Fuller (2008)

### **3.5. Catering Hypothesis**

Developed by Baker and Wurgler (2004), catering hypothesis adopts a rather dynamic and flexible view of dividends, and seems to be a combination of some other hypotheses. This just cater to investors' different needs for dividends during different time. Their findings show that firms tend to initiate dividends when investors want them, and simply omit dividends when investors do not want them. But this hypothesis has been challenged by Denis and Osobov (2008), which find that in reality, few firms are willing to switch their dividend status (payer versus non-payer) frequently according to the needs of investors.

### **3.6. Clientele Hypothesis**

Different groups of investors, or clienteles, have different preferences for dividend-paying stocks and non-dividend-paying stocks because of different life cycle stages [see Section 3.7] or tax brackets [see Section 3.9.4]. Investors just search for what they prefer and rebalance their portfolios if necessary. However, some findings show that a very large proportion of the stock market capitalization has been accounted for by dividend-payers and the aggregate dividends in many countries are just concentrated among those largest and most profitable dividend-payers [DeAngelo et al. (2004); Denis and Osobov (2008)]. Whether the needs of different clienteles can be satisfied under such circumstances is highly questionable.

### **3.7. Life Cycle (Maturity) Hypothesis**

This can refer to the life cycle of investors or firms. As investors get older and move from the saving stage to dissaving stage, they would prefer dividend-paying stocks [Shefrin and Statman (1984)]. Similarly, as firms become more mature and face fewer investment opportunities, they are more willing to pay dividends [Grullon et al. (2002); Denis and Osobov (2008)].

### **3.8. Signaling Hypothesis**

According to Lintner (1956), most firms prefer stable dividends, in order to avoid adverse reactions from shareholders. His model suggests that changes in earnings be the most important single factor in making dividend decision. A firm's dividend policy is generally believed to convey some information or "signals" regarding its future earnings or business prospects. Contrary to MM (1961), empirical evidence is not overwhelming supportive of the signaling effect, mainly because dividends are often paid by those well-established companies that should have least need to signal their profitability, and there are probably some other cheaper ways (for example, auditors' reports and management earnings forecasts) to perform the same function.<sup>4</sup>

### **3.9. Substitution Hypothesis**

Consistent with the dividend irrelevancy theory, there are quite a lot of proponents supporting the

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<sup>4</sup> Penman (1983), Easterbrook (1984), Bagwell and Shoven (1989), Grullon et al. (2002), DeAngelo et al. (2004), Blau and Fuller (2008), and Denis and Osobov (2008).

idea of close (if not perfect) substitution between dividends and stock repurchases.<sup>5</sup> According to the agency cost hypothesis [see Section 3.4], whether the excess cash is paid by dividends or repurchases does not matter. But with taxes [see Section 3.9.4], investors might have preference for repurchases instead of dividends.

Opponents just find that repurchases cannot replace dividends.<sup>6</sup> The *percent* of dividend payers is found to be declining. Some academics attribute it not to stock repurchases, but to lower brokerage costs and more common use of stock option programs [see Section 3.9.5]. Meanwhile, others assert that the decline is primarily due to business acquisitions or financial distress [Fama and French (2001) and DeAngelo et al. (2004)].

The following are some of the factors raised by Jagannathan, Stephens and Weisback (2000):

### **3.9.1. Financial Flexibility**

Consistent with what Lintner (1956) suggests, dividends will be paid for operating cash flows that are more permanent in nature, while repurchases are for non-operating cash flows that are unlikely to be sustainable. Compared with dividends, repurchases do give firms more financial flexibility without future commitment.

### **3.9.2. Stock Market Performance**

Firms tend to increase repurchases relative to dividends when the shares are undervalued during poor stock market performance.<sup>7</sup> But more recent findings [like Blau and Fuller (2008) and Fuller and Goldstein (2011)] get the opposite results: the stronger the stock markets are declining, the higher will be the preferences of investors for dividend-payers over non-dividend-payers.<sup>8</sup>

### **3.9.3. Institutional Ownership**

Institutional investors have better expertise and lower monitoring costs. Firms that wish to attract more institutional investors tend to choose dividends (instead of repurchases) and regular dividends (instead of special dividends) as their forms of distribution due to lower payout volatility [see Section 4].

### **3.9.4. Taxes**

The dividend irrelevancy theory predicts that the total return to an investor will be the same irrespective of the form or level of distribution. But in the real world with taxes, if capital gains are

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<sup>5</sup> Easterbrook (1984), Bagwell and Shoven (1989), Grullon and Michaely (2002).

<sup>6</sup> Jagannathan, Stephens and Weisback (2000), Fama and French (2001), Denis and Osobov (2008).

<sup>7</sup> Ikenberry, Lakonishok and Vermaelen (1995), DeAngelo et al. (2000), Kahle (2002).

<sup>8</sup> Fuller and Goldstein (2011) find that dividend-payers generally outperform non-dividend-payers by one more percentage point per month in declining markets than in rising markets. And there seems to be a positive relationship between the extent of outperformance and the decline.

taxed more favorably than income, investors would prefer non-dividend-paying stocks. This might also partly explain the growing popularity of repurchases [Bagwell and Shoven (1989); Grullon and Michaely (2002)]. Of course, the preference of investors would depend on the tax bracket where they fall.

### **3.9.5. Stock Option Programs**

More companies are rewarding their employees with stock options. As stock or option price usually drop when the stock goes ex-dividend, the prevalent use of stock option programs would encourage more firms to use repurchases (rather than dividends), because repurchases themselves do not affect the stock or option prices. Kahle (2002) has found similar evidence on this.

### **3.10. Other Factors**

There are some other factors that are generally accepted to affect dividend payouts: firm size, growth opportunities, and profitability. Generally speaking, firms that are larger-sized, more profitable and with fewer growth opportunities tend to have more excess cash and better access to different sources of financing (external and internal), and therefore tend to pay more dividends.

## **4 Dividends: Regular versus Special**

As mentioned by Shefrin and Statman (1984), the preference of investors for both regular dividends (“regulars”) and special dividends (“specials”) can be explained by the prospect theory. Under the prospect theory, gains would be treated non-symmetrically from losses by investors, even if they are in the same amount [Kahneman and Tversky (1979)]. For gains, investors prefer receiving them in a separated way, in order to take more pleasure “piece by piece”. But for losses, they prefer facing them in a lump sum, in order to relieve the psychological pain involved.

Kahneman and Tversky further view that investors would evaluate their gains and losses according to some certain reference levels. If there are only regulars, investors would raise their reference levels every time the companies increase the payout rates due to better business prospects and higher earnings. They would feel painful by lowering their reference levels once the companies have to cut the dividend payouts in future. This kind of pain could be relieved by segregating dividends into regular and special components, because there is no need to adjust the reference levels for the regulars and the loss involved seems less. The prospect theory explains why, to some extent, certain investors would like a “regular plus special” dividend policy.

Empirically, specials are found to be rare now. Although some studies show that specials do give some signaling effect of good news, it is found to be small (but significant) and that specials are being replaced by regulars because of higher levels of institutional ownership (see Section 3.9.3) or replaced by repurchases because of tax advantages [DeAngelo et al. (2000)].<sup>9</sup> Lie (2000) finds that

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<sup>9</sup> It was found that as long as the special dividends are positive, there are significant and positive abnormal returns of about 1% at their announcements no matter whether the specials are raised, kept unchanged, or even cut, while holding

the sources of dividends are indeed quite different: compared with regulars, specials come from those excess cash that are more “recurring.”

## 5 Conclusion

The dividend puzzle still remains unresolved after several decades and one of the hottest research topics in corporate finance. This paper has presented a summary review of those prominent theories or hypotheses explaining a firm’s distribution policy. None of them is perfect and can stand alone. Some of them have evolved from the field of psychology (and thus under the category of so-called behavioral finance). Some of them even seem contradictory to empirical findings and remain controversial. But at least, to some extent, they help readers understand not only the dividend puzzle, but also those factors affecting the *level* (more-or-less), the *form* (regulars or specials or repurchases), and the *stability* (initiation or omission; rise or drop) of distribution. More academic researches on related topics (with elements from different countries) are expected.

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