

The Residual Decision: Dividend Payments or Outside Financing?

Students and observers of financial management practice are often puzzled by firms that raise outside funds while paying dividends. In 1986, for instance, IBM increased its total debt by about \$330 million while distributing almost \$2.7 billion in dividends, Johnson & Johnson raised its long-term debt by approximately \$500 million and paid more than \$240 million in dividends, and Baltimore Gas and Electric increased its debt by almost \$140 million but chose to pay out almost \$170 million in dividends. What policies are managers pursuing that lead them to pay dividends out of borrowed funds [1]? The purpose of this paper is both to investigate the pervasiveness of this phenomenon among U.S. firms and to put it in a more general context by analyzing the dividend and financing policies that suggest it. Two simple scenarios are explored. It could be that firms pursue specific payout targets and raise whatever funds are necessary to finance investment and dividend outlays. Alternatively, it could be that firms pursue specific leverage targets and pay out any residual funds not required for investment.

The paper is organized as follows. The first section discusses dividend and financing patterns in the U.S. The second section examines the target-dividend-payout and target-leverage scenarios as explanations for the patterns observed. The third

section discusses the results and their implications. The fourth section investigates whether similar observations apply to Switzerland, and the last section provides conclusions.

1. Dividend and Financing Decisions

Table 1 and figure 1 show dividend-payout and capital-structure patterns between 1968 and 1986 for a comprehensive sample of U.S. corporations reported on the COMPUSTAT industrial annual tapes. All major publicly traded corporations listed on the New York Stock Exchange and the American Stock Exchange are included [2]. The median dividend payout, computed as the ratio of annual dividends on common stock to income available for common, was fairly stable in the middle of the period, whereas it declined sharply at the beginning and the end. By comparison, firms' leverage has remained remarkably stable. The median debt ratio, defined as the sum of short- and long-term debt [3] divided by the value of total assets (all measured in book values), has fluctuated between a maximum of 29% in 1974 and a minimum of 22% in 1983 [4]. According to these figures, the median firm pays out one-fourth of net income to its common stockholders every year, and finances one-fourth of its assets with borrowed money. There are, however, noticeable differences across industry classifications, as reported in table 2 for the subperiod of

*I have benefited from the comments of William Kracaw, John McConnell, Dennis Sheehan and Charlene Sullivan.

Table 1: Median dividend payout and debt ratios for U.S. firms on COMPUSTAT data tapes. Sample period: 1968-1986.

	Total Sample			Industrial Firms			Utilities		
	Div. Payout	Debt Ratio	# Observ.	Div. Payout	Debt Ratio	# Observ.	Div. Payout	Debt Ratio	# Observ.
1968	0.35	0.26	1157	0.31	0.23	959	0.67	0.49	198
1969	0.34	0.27	1207	0.29	0.23	1005	0.64	0.50	202
1970	0.35	0.29	1220	0.28	0.25	1019	0.65	0.51	201
1971	0.29	0.28	1267	0.23	0.25	1061	0.62	0.50	206
1972	0.26	0.28	1322	0.21	0.24	1112	0.59	0.50	210
1973	0.22	0.28	1377	0.18	0.25	1155	0.59	0.49	222
1974	0.21	0.29	1415	0.18	0.26	1189	0.61	0.50	226
1975	0.22	0.27	1438	0.18	0.24	1207	0.59	0.48	232
1976	0.23	0.25	1459	0.20	0.22	1225	0.58	0.45	234
1977	0.25	0.26	1469	0.21	0.23	1216	0.60	0.44	253
1978	0.25	0.27	1490	0.22	0.24	1236	0.59	0.42	254
1979	0.25	0.26	1505	0.22	0.23	1254	0.60	0.42	251
1980	0.25	0.25	1537	0.22	0.22	1284	0.62	0.41	253
1981	0.25	0.24	1545	0.22	0.22	1294	0.62	0.41	251
1982	0.28	0.25	1544	0.23	0.21	1282	0.64	0.40	262
1983	0.23	0.22	1602	0.18	0.19	1336	0.60	0.38	266
1984	0.22	0.24	1667	0.18	0.20	1386	0.56	0.36	281
1985	0.21	0.25	1709	0.17	0.22	1432	0.58	0.37	277
1986	0.17	0.27	1764	0.12	0.24	1482	0.63	0.37	282
Overall	0.25	0.26	—	0.21	0.23	—	0.61	0.44	—

Notes:

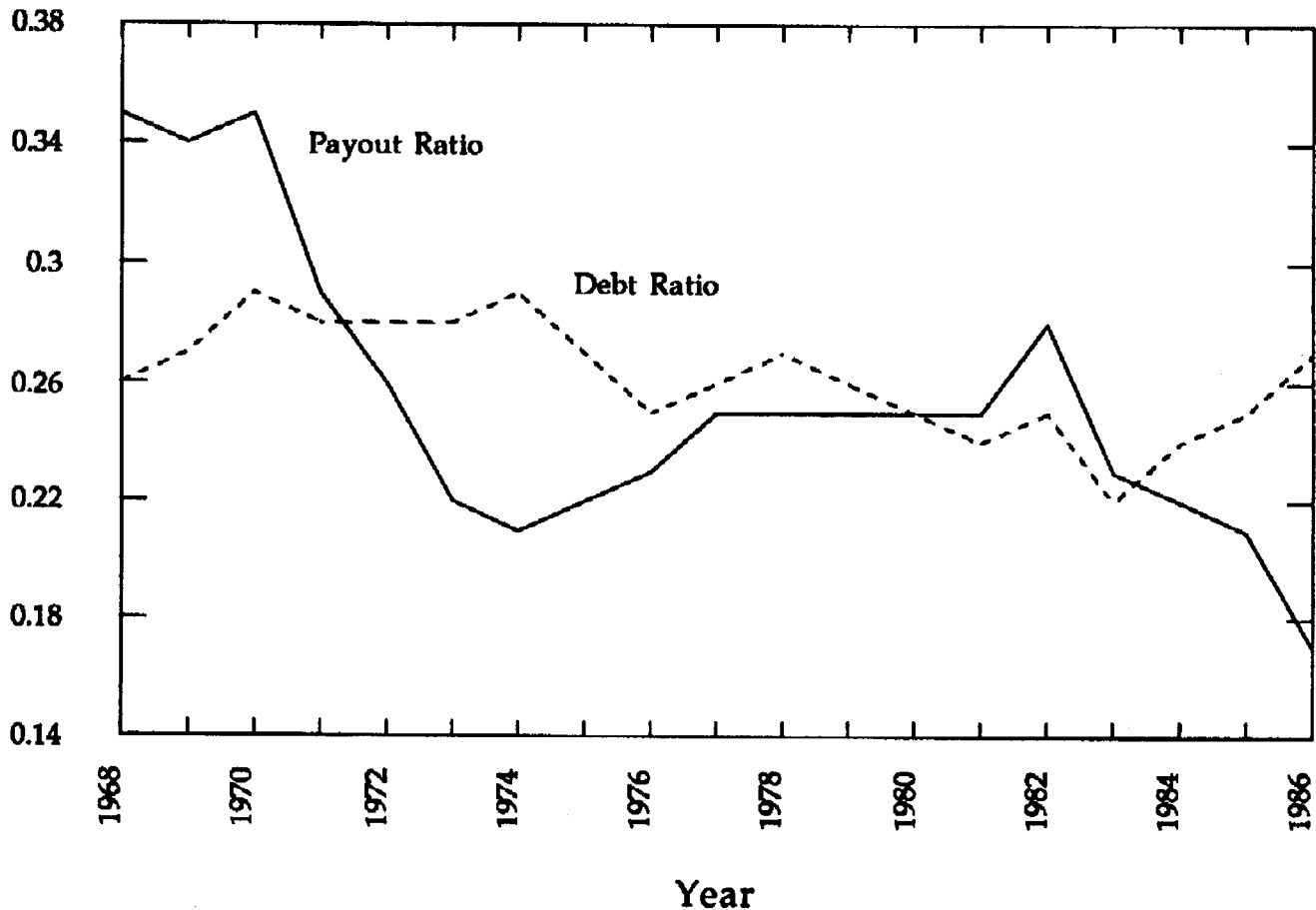
Dividend payout ratio is defined as the ratio of common dividends divided by income available for common; debt ratio is the ratio of short- and long-term debt divided by total assets. Debt and assets are book values. Debt does not include trade credit.

1980-1986. (All subsequent analysis refers to this period.) Public utilities, for instance, are heavy borrowers and generous dividend payers: the median firm in the electric, gas and sanitary services industry has a debt ratio of almost 40% and a payout ratio three times that of the median firm in the full sample. Some firms, of course, pay low dividends or are reluctant to borrow. For firms in electronics, textiles and apparel, the median payout ratio during the years in question is less than 10%. Parsimonious borrowers are in printing and publishing, electronics, metal mining, transportation, chemicals, and rubber and plastics; their median debt ratios are all less than 20%. As it turns out, payout and debt ratios

appear to be inversely related: higher payouts are observed in firms with lower leverage.

Dividends can be fairly substantial in comparison with outside financing (table 3). The median firm in the full sample has a ratio of dividends to current borrowings of 10%, and 25% of the sample firms have a ratio larger than 47%. New debt can involve substantial amounts of money, too. Measured as a fraction of capital expenditures, it has a median value larger than 50% [5]. Table 3 also shows that sales of common and preferred stocks, measured as the change in the corresponding balance-sheet position, are only 1% of capital expenditures. This indicates that equity financing is a negligible frac-

Figure 1: Median debt and payout ratios. U.S. firms, 1968-1986. (Source COMPUSTAT Industrial annual files).



tion of outside financing [6]. Consistent with that, KALAY and SHIMRAT (1986) estimate that the typical publicly traded industrial corporation issues equity only about once every 50 years.

The question, of course, is whether there is a widespread tendency for borrowing firms also to pay dividends. For an answer, table 4 looks at the frequency with which firms engage in these two activities. There are 11'794 annual observations of sample firms engaging in either activity (panel A). Of these, 75% involve firms that borrow money and 70% firms that pay dividends. The vast majority of firms that borrow money also pay dividends: of the 8'870 observations of firms that borrow money,

68% involve firms that simultaneously pay dividends. Interestingly, 24% of firms that do not borrow money do not pay dividends, either. Regulated and unregulated firms follow a similar dividend and borrowing pattern. For instance, 67% of unregulated firms that borrow money also pay dividends, compared with 71% of regulated firms (panels B and C of the table).

2. Dividend and Borrowing Policy Patterns

Three possible explanations have been advanced for the practice of simultaneous cash payout and

Table 2: Cross-sectional dividend payout and debt ratios by industry. Sample period: 1980-1986.

	Dividend Payout Ratio			Debt Ratio		
	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile
Full Sample	0.0	0.23	0.46	0.13	0.25	0.38
Electronics	0.0	0.07	0.29	0.07	0.16	0.27
Textiles	0.0	0.09	0.25	0.17	0.30	0.41
Apparel	0.0	0.09	0.32	0.13	0.23	0.35
Metal mining	0.0	0.20	0.44	0.01	0.17	0.38
Transportation equipment	0.0	0.21	0.37	0.11	0.19	0.29
Rubber and plastics	0.0	0.22	0.33	0.13	0.19	0.27
Primary metals	0.0	0.22	0.44	0.17	0.25	0.34
Machinery	0.0	0.23	0.44	0.13	0.22	0.31
Printing and publishing	0.14	0.26	0.36	0.07	0.15	0.26
Fabricated metal products	0.01	0.30	0.46	0.13	0.22	0.34
Food	0.13	0.32	0.42	0.16	0.22	0.31
Paper	0.24	0.35	0.52	0.17	0.22	0.30
Petroleum refining	0.25	0.38	0.54	0.15	0.22	0.31
Chemicals	0.21	0.36	0.48	0.09	0.19	0.26
Electric, gas and sanitary services	0.51	0.67	0.79	0.33	0.39	0.44

Notes:

Dividend payout ratios are defined as the ratio of common dividends divided by income available for common; debt ratios are the ratio of short- and long-term debt divided by total assets. Debt and assets are book values. Debt does not include trade credit.

Table 3: Dividend and financing policy. Descriptive statistics. Sample period: 1980-1986.

	First Quartile	Median	Third Quartile
<u>Dividends</u>			
Current Borrowings	0.0	0.101	0.474
<u>Dividends</u>			
Capital Expenditures	0.0	0.155	0.350
<u>Current Borrowings</u>			
Capital Expenditures	0.005	0.514	1.555
<u>Equity Financing</u>			
Capital Expenditures	0.0	0.010	0.122

Notes:

Current borrowings are defined as current issues of long- and short-term debt (increases in trade credit are not included). Equity financing is defined as the change in the balance-sheet value of common and preferred stock.

outside financing. According to the first (KALAY, 1982), firms pay debt-financed dividends to prevent a wealth transfer from stockholders to bondholders. If the outstanding debt was originally priced under the assumption of a certain dividend payout, firms may have to maintain that payout (even if it means having to borrow money) to prevent an increase in the value of debt at the expense of stockholders. According to the second explanation (JOHN and WILLIAMS, 1985), firms pay dividends to support stock prices and thereby obtain better terms when selling risky securities. According to the third explanation (ROZEFF, 1982), dividends are paid to prevent managers from wasting resources on worthless projects. The way this

mechanism works is that, by paying dividends, firms are forced to go to the capital market to raise funds, and to do so they have to disclose information about their projects. Having to disclose information makes it less likely that managers will choose wasteful projects.

Unfortunately, none of the three explanations is fully convincing. The first cannot explain why firms that borrow little are those that pay out more dividends. All else being equal, it should rather be firms that borrow a lot that pay more dividends, since those are the firms in which debt is riskier and the potential for a wealth transfer from stockholders to bondholders is correspondingly larger. The available evidence does not seem to support the second

Table 4: The relation between contemporaneous dividend payout and borrowing decisions. Sample period: 1980-1986.

Panel A. Full Sample: 11'794 observations (firm-years).

	Proportion of firms that pay no dividends	Proportion of firms that pay dividends	Total
Cases of nonborrowing firms: 2'924	24.2%	75.8%	100.0%
Cases of borrowing firms: 8'870	32.4%	67.6%	100.0%

Panel B. Industrial Sample: 9'878 observations (firm-years).

	Proportion of firms that pay no dividends	Proportion of firms that pay dividends	Total
Cases of nonborrowing firms: 1'624	38.2%	61.8%	100.0%
Cases of borrowing firms: 8'254	32.7%	67.3%	100.0%

Panel C. Utilities Sample: 1'916 observations (firm-years).

	Proportion of firms that pay no dividends	Proportion of firms that pay dividends	Total
Cases of nonborrowing firms: 1'300	6.8%	93.2%	100.0%
Cases of borrowing firms: 616	29.2%	70.8%	100.0%

theory either, because firms that issue stock are not more likely to pay dividends before an issue than nonissuing firms normally are (LODERER and MAUER, 1989). The problem with the third explanation is that it really provides a rationale for a leverage target rather than for dividend payments. If the objective is to expose firms to the scrutiny of the capital market, it is more efficient to require them always to finance part of their investments with outside funds than to force them to pay dividends. Dividends do not necessarily force firms to approach the capital market [7].

The purpose here is not to identify the costs and benefits of simultaneous dividend payout and outside financing, but rather simply to investigate whether this practice can be put in a more general context. What combination of dividend and financing policies can suggest the dividend and borrowing pattern in question? Does that combination make sense? To establish a framework of analysis, consider that, barring theft, a firm's cash inflows and outflows have to balance. Cash inflows consist of money from operations (net of taxes and expenditures) and from the liquidation of assets, plus money from the outside. Cash outflows are made up of money invested internally and money paid to securityholders in the form of interest, principal repayment, dividends, and share repurchases. Equity funding can be ignored because it almost never happens in mature, unregulated firms. For simplicity, share repurchases and asset liquidations can also be ignored. Hence, we are left with the proposition that net cash flows from operations (X_t), plus new borrowings (B_t) equal funds reinvested in the firm (I_t), plus interest and principal repayment (R_t), plus dividends (D_t). The subscript t refers to time. In equation form:

$$X_t + B_t = I_t + R_t + D_t \quad (1)$$

In this equation, the variables X_t and R_t are given by past investment and financing decisions, and the only variables at management's discretion are current investment outlays (I_t), outside borrowings (B_t), and dividends (D_t). Of the three, management

is most likely to focus on investments first, since that is the decision that most directly affects firm value. The question then is, how are the other two decisions made if we observe simultaneous dividend payments and outside financing? Among various possible configurations, there are two simple scenarios worth investigating.

Under the first scenario, firms pursue specific payout targets and outside funding is observed only because internal funds are insufficient to both finance investments and pay dividends. Financing then is a residual decision, for it is implied by the investment and payout decisions. This corresponds to the situation described in MYERS' (1984) pecking order theory of capital structure and is consistent with FAMA's (1974) findings of no apparent interaction between corporate investment and payout decisions.

In the second scenario, by contrast, firms do not pursue payout targets but have leverage targets they want to maintain. As a consequence, every time they add new assets, they need to borrow money to maintain the desired leverage. Of course, since there is no guarantee that cash inflows and outflows will balance, in many cases firms end up with money they do not need that can be paid out as dividends. Under this second scenario, dividends are the residual decision, in the sense that they are determined by the investment and financing decisions. The question explored in the next three sections is which of the two scenarios, if either, best describes reality and what that implies.

2.1. Dividend Payout Targets

Under the first scenario, firms pursue specific payout targets and financing is a residual decision. Target payout ratios have been investigated in a classic study by LINTNER (1956), who argues that firms ultimately would like to pay out a given fraction, α , of earnings. Target dividends (TD) can thus be expressed as

$$TD_t = \alpha E_t, \quad (2)$$

where E is earnings during period t . Actual dividends, however, are not necessarily set equal to their targets. If they were, any change in earnings would be reflected in a change, possibly a decrease, in dividends. Managers apparently prefer a steady progression in dividends. According to LINTNER, this can be attained by adjusting dividends only partially toward their targets, as in

$$D_t - D_{t-1} = \beta (TD_t - D_{t-1}) = \beta (\alpha E_t - D_{t-1}), \quad (3)$$

where β is a speed-of-adjustment coefficient. What (3) says is that a discrepancy between last period's target and actual dividends leads to an increase in current dividends of β times the discrepancy.

To test whether firms indeed pursue specific payout targets we can test how well (3) describes actual dividend policies. The coefficients α and β can be estimated easily [8]. Unfortunately, there is no complete theory that could tell us what an appropriate target payout ought to be, let alone a theory that could tell us how fast that target should be realized. At the very least, however, payout targets should be positive and less than 100%, since it is unlikely that management would choose to pay out

all internally generated funds. Estimated target payout ratios and speed-of-adjustment coefficients by industry for the firms analyzed here are shown in table 5. The average target payout ratio is 48%, which is larger than the historical values observed in tables 1 and 2 [9]. The speed of adjustment is 45%, which means that, following an increase in the payout target, actual dividends are initially increased by only 45% [10].

Not all the target estimates make sense. In two cases (textiles and printing and publishing) the targets are negative, and in four others (food, fabricated metal products, electronics, and electric, gas, and sanitary services) they are very close to or larger than 100%. In all these cases, firms either do not have dividend payout targets, or their targets cannot be expressed as a constant fraction of earnings. The real target may be a certain dollar figure per share instead. There are several industries, however, in which firms behave as postulated by LINTNER. Firms in such industries as metal mining, apparel, petroleum refining, primary metals, machinery, and transportation equipment, among others, appear to pursue dividend targets that are a fixed proportion of earnings.

Table 5: Estimates of dividend target payout ratios and speeds of adjustment toward target based on Lintner's model. Sample period: 1980-1986.

	Payout Target	Speed of Adjustment
Full Sample	0.483	0.445
Electronics	0.982	0.055
Textiles	-2.000	-0.016
Apparel	0.606	0.099
Metal mining	0.424	0.321
Transportation equipment	0.329	0.814
Rubber and plastics	0.602	0.201
Primary metals	0.466	0.189
Machinery	0.421	0.178
Printing and publishing	-0.019	-0.103
Fabricated metal products	0.938	0.064
Food	1.000	0.057
Paper	0.717	0.113
Petroleum refining	0.570	0.165
Chemicals	0.874	0.095
Electric, gas and sanitary services	2.250	0.040

2.2. Leverage Targets

In contrast to the preceding scenario, managers could pursue a capital-structure target and dividends could be the residual decision. Most people would in fact argue that investment and financing decisions are not separable, in the sense that neither can be made in isolation from the other [11]. Of course, if managers simultaneously decide investment outlays and borrowing amounts, and if they are reluctant to issue equity, then dividend payments are predetermined. Dividends will be paid only if the available funds are more than enough to cover new investments. Unlike the preceding scenario, this residual-dividends scenario could explain why various nonborrowing firms do not pay dividends. There may simply be little or no money left over after the investment projects have been financed. The residual-dividend policy idea is discussed in HIGGINS (1972).

To see whether firms pursue a capital-structure policy, one can investigate whether they have leverage targets (consistent evidence is reported, for instance, in MARSH, 1982). Specifically, one can

postulate that firms have leverage targets defined as a given ratio of debt to book value of total assets and that they move only gradually toward those targets (see also TAGGART, 1977). These ideas can be formalized in two equations that mirror equations (1) and (2) above. As before, reasonable leverage targets should be positive and not exceed unity. Logical candidates for a residual dividend policy are firms whose dividend-paying history does not fit the LINTNER model well.

Estimates of target leverage ratios and associated speed-of-adjustment coefficients for the sample firms are shown in table 6 [12]. Accordingly, the average leverage target is 27% and the average speed of adjustment 25%. The magnitude of the speed-of-adjustment coefficient means that, all else being equal, the gap between target and actual leverage is reduced by 25% every period. In general, the results are better than for dividend payout decisions, for no leverage target is either negative or even close to 100%. The evidence thus appears to support the claim that firms pursue leverage targets, even when they also have dividend targets. Firms meeting this definition are in metal mining, apparel,

Table 6: Estimates of leverage target ratios and speeds of adjustment toward target based on a Lintner-type model. Sample period: 1980-1986.

	Leverage Target	Speed of Adjustment
Full Sample	0.268	0.254
Electronics	0.218	0.211
Textiles	0.393	0.394
Apparel	0.214	0.777
Metal mining	0.268	0.164
Transportation equipment	0.204	0.554
Rubber and plastics	0.127	0.150
Primary metals	0.287	0.613
Machinery	0.290	0.321
Printing and publishing	0.330	0.330
Fabricated metal products	0.663	0.101
Food	0.290	0.817
Paper	0.324	0.262
Petroleum refining	0.163	0.178
Chemicals	0.241	0.590
Electric, gas and sanitary services	0.467	0.349

petroleum refining, primary metals, machinery, and transportation equipment, among other industries [13].

3. Interpretation of the Results

The data suggest that the typical firm, regardless of industry classification, tries to finance its activities in such a way so as to maintain a certain leverage level. Moreover, some firms also appear to pursue a constant payout ratio. What does this say about borrowing firms that pay dividends? It says some firms appear to pursue a financial leverage target and a residual dividend policy, whereas others apparently try to maintain both a financial leverage target and a certain payout ratio.

Firms of the first type behave in a way that seems to follow the implicit recipe of many financial management textbooks. That is, investigate your investment opportunity set, choose the optimal investment level while taking into consideration financing side effects, and manage to stay close to the capital structure that intuition, experience, or survival has taught. Of course, if you do that, and if you are reluctant to raise equity funds, dividend policy is predetermined.

Firms of the second type - those that apparently attempt simultaneously to pursue payout and leverage targets - are in many respects the more interesting group. If they truly pursue constant payout and leverage targets, and if they are reluctant to issue equity, then the investment decision becomes the residual decision, since investment outlays will equal what is left after dividends are paid, regardless at least in the short run, of the quality and the number of investment opportunities available. Interestingly, this situation corresponds to the scenario implicit in models of sustainable growth (HIGGINS, 1977). In those models, the question managers try to answer in drafting their business plans is how fast firms can grow when funding is restricted by a certain leverage target, a certain dividend target, and a lack of new equity funds. It is furthermore interesting to note that the situation also

corresponds to what managers say they do when asked about how they draft business plans (DONALDSON, 1984).

The policy mix of nonzero payout and leverage targets may be rational, especially in a world where managers feel under constant pressure to increase dividend payments and where they perceive bankruptcy as disastrous for their personal welfare. This policy, however, can have serious consequences. When coupled with a reluctance to issue new equity, it brings about capital rationing. If this rationing is binding, profitable projects may be eschewed simply because of insufficient funds. If the rationing is not binding, then too many funds may be available for investment, and firms may end up wasting corporate resources. Excess funds could in principle be used to repurchase stock, but it is not clear that managers will do so if they can use the funds for self-serving investments. The perplexing aspect of this policy is that the investment decision, the one most likely to create or dissipate value, does not appear to be paramount, but rather seems subordinated to financing and payout considerations, at least in the short run.

Of course, things are not necessarily that extreme. Actual payout and financing targets may be more flexible than those suggested by the data. But even then, the results suggest that investment decisions are made simultaneously with dividend and financing decisions. This means that payout considerations do affect investment decisions. As a consequence, managers are not only willing to incur the transactions costs of raising outside funds to maintain a certain payout, but they are also willing, if the situation arises, to forego otherwise beneficial investment projects in order to pay dividends. Unfortunately, current knowledge of finance has little to say about how the tradeoff between dividend and investment policy should be made.

4. Dividend and Financing Policy in Switzerland

The practice of contemporaneous dividend payments and outside financing is not exclusive to

American firms. A similar practice can be observed in Switzerland, except that Swiss firms also raise considerable equity capital. In 1986, for instance, in a sample of 108 traded firms, 43% issued stock to the public and 95% paid dividends [14]. Of those that issued stock, 98% simultaneously paid dividends. The median ratio of dividends to outside financing was 39%.

The practice of contemporaneous payout and outside financing assumes one additional puzzling dimension in Switzerland. Stock offerings are almost without exception rights offerings, and stockholders are generally expected to exercise their preemptive rights (that is why, according to practitioners, offer prices are set very low) [15]. Hence stockholders buy the very same securities issued to pay dividends. Consequently, a large proportion of outside funds is funnelled back to the investors who provide the money to begin with. The puzzling aspect is that investors end up incurring (dividend income) taxes on these funds. If they bought other securities instead, they would incur taxes (if any) only on the return yielded by those securities [16]. Ironically, dividend payments are not decided by the board of directors, as in the U.S., but have to be approved by shareholders at their regular annual meetings.

Unfortunately, there are no readily available dividend and financing data to replicate the analysis of the preceding sections for Swiss firms. Hence we do not know the payout-financing mix that Swiss firms are actually pursuing. Their willingness to raise equity funds suggests they may have more flexibility to pursue payout and leverage targets without predetermining investment policy. The problem is that legal restrictions make Swiss firms very reluctant to repurchase stock. Under those circumstances, if firms pursue fixed leverage and payout target ratios, overinvestment is not an unlikely outcome. To give an example, suppose that current net cash flows from operations are \$80 million, dividends are \$20 million, and the target debt ratio is 25%. After dividends are paid there will be \$60 million of internally generated funds available for investment. Assume that the sum necessary to take on all profitable investment projects is \$60 million. Mainte-

nance of a 25% debt ratio requires that new debt be issued, and this means that, in the absence of stock repurchases, there will be more than the optimal \$60 million available for investment. Disregarding the losses from the suboptimal investment policy, the firm will have to raise \$20 million in new debt to maintain the appropriate leverage. Since the extra funds cannot be spent on profitable projects, they will have to be wasted on unprofitable projects. The higher the target leverage ratio, the greater the potential waste.

5. Conclusions

Although the practice of paying dividends while raising outside funds is widespread, it is not clear why firms follow it, since it is costly to raise outside capital [17]. The puzzle is compounded by the finding that in many cases this practice appears to reflect the attempt to pursue specific payout and leverage target ratios simultaneously. This suggests that firms are willing to trade off valuable investment opportunities against dividend payments. It also suggests that investment decisions are not made solely on the basis of project profitability. Whatever the explanation for these decisions is, it may be difficult for managers to move away from these dividend and financing policy combinations, even if they are inappropriate. Managers are especially captives of past dividend policies. Once a dividend policy has been established, a sudden dividend cut to save taxes or transactions costs leads to significant stock-price declines no matter how the decision is justified (see, for instance, WOOLRIDGE and GOSH, 1986). The market knows that dividends are typically related to earnings and therefore uses dividend payments as a gauge of expected earnings. A dividend cut therefore implies that earnings are likely to be lower.

Thus, even if managers conclude that past dividend policies are not beneficial, they are reluctant to cut dividends. The obvious retort is that, if the reason for the decline is a reassessment of past dividend policies to save money, the decline will be short

term, probably a few months at most. The market will eventually figure out what is happening and return stock prices to their original level. As a consequence, managers are not likely to be too fastidious about the initial price decline. The problem with this counterargument is that short-term fluctuations in stock prices are not irrelevant, particularly for stockholders who do not hold well-diversified portfolios and want to sell in the short term. These stockholders will oppose any payout reduction. The only way to mollify them is to reduce both the duration and the extent of the price declines in question. That requires a timely and meaningful information policy on the part of firms and more research showing that the price declines are indeed short term.

More flexibility to change past practices can also be obtained if investors and managers appreciate, first, that the practice of simultaneous payout and outside financing is costly, especially when outside funds are provided by current stockholders, and second (and perhaps more importantly), that it is not possible to pursue independent investment, financing, and payout targets simultaneously. The choice of financing and payout targets almost invariably determines investment policy. Available funds will thus differ in general from what is required to take on all profitable projects. Firms will either forego profitable projects or invest in unprofitable ones.

Footnotes

- [1] A good account of the puzzle created by firms that borrow money and pay dividends is given in CAROL LOOMIS's widely quoted 1968 Fortune article.
- [2] The number of firms analyzed changes over time as some firms are added to the tapes and others are dropped because of takeover, bankruptcy, etc. Moreover, to be included in any given year, a firm must have a positive dividend-payout ratio of 1.5 or less. The sample always exceeds 1'100 firms.
- [3] Trade credit and off-balance-sheet financing are not included.
- [4] Measuring debt ratios with market values would probably yield even smaller values, since debt likely sells at a discount from face value and equity usually sells above book value.
- [5] This does not mean that 50% of the firm's assets are financed with debt, since some of these borrowings may just be refinancing, and capital expenditures do not include increases in current assets.
- [6] This is especially true if one considers that the proxy used here for sales of common and preferred also captures stock splits and dividends.
- [7] It could also be argued that if investors need liquidity to finance consumption, it is cheaper, from the point of view of transaction costs, for them to obtain liquidity via dividends, even if firms have to borrow in the process, than to sell shares of stock. An even better solution, however, would be for firms to repurchase stock, since taxes on realized capital gains are lower than taxes on dividend income (at least during the period in question) and only those investors will end up with liquidity who actually want liquidity. This transactions costs hypothesis also fails to explain why a non-trivial proportion of non-borrowing firms do not pay dividends.
- [8] Estimation is performed using ordinary least squares regressions with pooled cross-sectional and time-series data. Data are annual individual-firm data. Earnings are measured as income available for common stock, i.e., net income less preferred dividends.
- [9] This conclusion also holds when average, as opposed to median, historical values are considered.
- [10] The adjusted R^2 of the underlying regressions is 0.49 for the full sample and between 0.26 and 0.65 for the industry-specific subsamples.
- [11] One reason is that the nature of the investment opportunity set affects the optimal financing mix, while the financing mix affects the cost of capital and thereby the amount of money that it is optimal to invest (see, for instance, MYERS, 1977).
- [12] The adjusted R^2 of the underlying regressions is 0.24 for the full sample, and between 0.05 and 0.82 for the industry-specific subsamples.

- [13] Of course, if firms pursue both dividend and leverage targets, a precise estimate of the various target ratios and speed-of-adjustment coefficients in tables 5 and 6 requires a simultaneous equations framework similar in principle to that used in JALILVAND and HARRIS (1984).
- [14] The sample is taken from the 1987 annual stock guide published by Swiss Bank Corporation. All firms with the necessary data are included in the sample.
- [15] LODERER and ZIMMERMANN (1988) report that the average offer price is only 40% of the market price.
- [16] Individuals pay essentially zero capital gains taxes.
- [17] Of course, in the U.S., one could also question the wisdom of paying dividends when share repurchases are more tax-advantageous for individual investors.

References

- DONALDSON, G. (1984): "Managing corporation wealth: The operations of a comprehensive financial goals system", Praeger, New York.
- FAMA, E.F. (1974): "The empirical relationships between the dividend and investment decisions of firms", *American Economic Review* 64, pp. 304-318.
- HIGGINS, R.C. (1972): "The corporate dividend-saving decision", *Journal of Financial and Quantitative Analysis* 7, pp. 1527-1541.
- HIGGINS, R.C. (1977): "How much growth can a firm afford?", *Financial Management* 6, pp. 7-16.
- JALILVAND, A. and R.S. HARRIS (1984): "Corporate behavior in adjusting to capital structure and dividend targets: An econometric study", *Journal of Finance* 39, pp. 127-145.
- JOHN, K. and J. WILLIAMS (1985): "Dividends, dilution and taxes: A signalling equilibrium", *Journal of Finance* 40, pp. 1053-1070.
- KALAY, A. (1982): "Stockholder-bondholder conflict and dividend constraints", *Journal of Financial Economics* 10, pp. 211-233.
- KALAY, A. and A. SHIMRAT (1986): "On the Payment of Equity Financed Dividends", New York University working paper.
- LINTNER, J. (1956): "Distribution of incomes of corporations among dividends, retained earnings and taxes", *American Economic Review* 46, pp. 97-113.
- LODERER, C. and H. ZIMMERMANN (1988): "Stock offerings in a different institutional setting: The Swiss case, 1973-1983", *Journal of Banking and Finance* 12, pp. 353-378.
- LODERER, C. and D. MAUER (1989): "Corporate dividends and seasoned equity issues: An empirical investigation", Purdue University working paper.
- MARSH, P. (1982): "The choice between equity and debt: An empirical study", *Journal of Finance* 37, pp. 121-144.
- MYERS, S.C. (1977): "Determinants of corporate borrowing", *Journal of Financial Economics* 5, pp. 147-175.
- MYERS, S.C. (1984): "The capital structure puzzle", *Journal of Finance* 39, pp. 575-592.
- ROZEFF, M.S. (1982): "Growth, beta and agency costs as determinants of dividend payout ratios", *Journal of Financial Research* 5, pp. 249-259.
- TAGGART, R.A. (1977): "A model of corporate financing decisions", *Journal of Finance* 32, pp. 1467-1484.
- WOOLRIDGE, J.R. and C. GOSH (1986): "Dividend cuts: Do they always signal bad news?", in: J.M. Stern and D.H. Chew, Jr., eds., *The Revolution in Corporate Finance*, Basil Blackwell, New York.