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Cash Distributions to Shareholders

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Economists have long been puzzled by why firms pay dividends when alternative methods of rewarding shareholders and financiers exist which involve less taxes. Dividend paying equity appears to be the most heavily taxed capital instrument available. It is subject to two levels of taxation: first, the federal corporation income tax (currently at a 34 percent marginal rate in the United States) and second, the personal income tax if the shares are owned by households. Even with the new lower marginal tax rates of the 1986 Tax Reform Act, most household shareholders have marginal personal tax rates of 28 or 33 percent, meaning that the combined corporate and personal taxes on dividends exceed 50 percent.

There are more lightly taxed alternative methods of finance. Equity which retains and reinvests earnings generates accrued capital gains on which taxes can be deferred until realization. There is even the possibility of completely escaping taxation on accrued gains if they remain unrealized until the asset passes through an estate. This paper will highlight the fact that firms can distribute cash to equity holders in ways more lightly taxed than dividends. The two methods we examine are share repurchase programs and cash-financed mergers and acquisitions. With either of these alternatives, corporations transfer cash to shareholders in return for their shares, thereby reducing outstanding equity claims. In both mechanisms, the immediate tax consequences of the cash distribution are unlike dividend taxation, as will be described below. Finally, of course, there is corporate debt. While this paper emphasizes equity finance, it should at least be noted that interest payments escape the double taxation

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of dividends since interest is a deductible cost of doing business under the corporation income tax.

Despite the relative tax disadvantage of dividends, they are a major element in the leading models of share valuation. There are several models which attempt to solve the dividend puzzle. There are those in which dividends convey a sufficiently valuable signal (presumably about the firm's true financial position and prospects) to overcome the tax handicap (Bhattacharya, 1979; Miller and Rock, 1985). There are models in which the payment of dividends restricts the action of management in a manner which helps control problems brought about by the separation of management and ownership (Jensen and Meckling, 1976). There are models whereby dividend payments are used by firms to maintain the desired leverage ratios (Feldstein and Green, 1983). And, there is a recent Bagwell–Judd (1988) paper which explains dividends as a result of shareholder diversity and issues of corporate control. Despite these many theories, it is safe to say that none of the explanations have been accepted as the final word on why dividends are paid.

The taxation at the personal level of share repurchases is potentially quite small. When corporations buy shares, either in a repurchase plan or as part of a merger, the tax paid by those who receive the cash is based on their capital gain. Cash received which represents a return of the initial investment (or "basis") is tax free, and only increases above the basis value are treated as a realized capital gain and subject to taxation. In share acquisitions where only a fraction of the outstanding shares of a particular company is acquired, one would expect the sellers to be amongst the holders with the highest basis values (including ones with capital losses), who are therefore those facing the lowest tax bills.

Both the sellers and the nonsellers can gain from a corporate program of share repurchase. When outstanding shares are repurchased, the price of the remaining shares will be higher than if an equivalent amount of cash had been distributed as a dividend. This higher price on the remaining shares results in accrued capital gains on which taxes can be deferred until the gain is realized by selling the shares. The tax advantage of share repurchases relative to dividends was reduced but not eliminated when the taxation of realized capital gains was increased in the Tax Reform Act of 1986.

So why should cash distributions from firms to shareholders ever take the form of dividends? This paper first provides evidence on the explosive growth in non-dividend cash payments, and then discusses how this evidence should affect theories about corporate finance.

The Importance of Non-Dividend Cash Payments

As just described, shareholders can get cash from corporations through dividend payments, cash-financed acquisitions, or share repurchases. Estimates of the quantitative importance of these alternative methods are not readily available in official government statistics. One major contribution of our research is the compilation of these numbers.

Table 1
Annual cash distributions to shareholders, 1977-1987

A) Millions of current dollars

Year	*Cash via acquisitions*	*Dividends*	*Share repurchases*
1977	4,274	29,450	3,361
1978	7,228	32,830	3,520
1979	16,888	38,324	4,507
1980	13,081	42,619	4,961
1981	29,319	46,832	3,973
1982	26,247	50,916	8,080
1983	21,248	54,896	7,709
1984	64,244	60,266	27,444
1985	69,971	67,564	41,303
1986	74,522	77,122	41,521
1987	62,240	83,051	54,336

B) Millions of 1986 dollars[a]

Year	Cash via acquisitions	Dividends	Share repurchases
1977	7,233	49,842	5,688
1978	11,402	51,791	5,553
1979	24,472	55,535	6,532
1980	17,386	56,643	6,594
1981	35,526	56,747	4,814
1982	29,896	57,993	9,203
1983	23,293	60,179	8,451
1984	67,942	63,735	29,024
1985	71,864	69,392	42,421
1986	74,522	77,122	41,521
1987	60,231	80,370	52,582

Source: Data compiled by authors aggregating the Compustat Primary, Supplementary and Tertiary Industrial Files

[a]1986 Constant dollar figures adjust current dollar numbers using the GNP deflator from the 1988 Economic Report of the President, Table B-3

Table 1 contains the annual time series information regarding cash mergers and acquisitions, dividends, and share repurchases. The figures are aggregated over the 2,445 firms on the Compustat Primary, Supplementary and Tertiary Industrial files. A summary of Compustat firm inclusion can be found in the Appendix. Though this data set does not cover all firms, it does include the largest and most significant market participants from the major stock exchanges.

Table 1 displays the figures in both current dollars and in constant 1986 dollars. Between 1977 and 1987, real dividends grew smoothly by a total of 61.3 percent. Both cash acquisitions and share repurchases grew explosively, with real cash acquisitions up by a multiple of roughly nine and share repurchases up 824 percent. In real terms, both roughly tripled between 1983 and 1984. The annual figures of Table 1 show that

Table 2
Quarterly cash distributions to shareholders, 1984:1-1988:2
(*millions of current dollars*)

Year: quarter	*Cash via acquisitions*	*Dividends*	*Share repurchases*
1984:1	13,705	13,965	5,414
1984:2	29,434	14,893	6,617
1984:3	10,116	13,059	8,370
1984:4	11,468	15,937	7,973
1985:1	11,514	14,010	10,327
1985:2	10,698	16,253	11,155
1985:3	17,915	14,454	8,533
1985:4	29,985	20,113	12,382
1986:1	15,120	15,051	10,063
1986:2	13,038	20,855	8,854
1986:3	15,354	15,425	9,414
1986:4	33,476	22,784	15,430
1987:1	7,877	15,485	8,739
1987:2	16,745	23,465	11,117
1987:3	10,053	20,156	11,934
1987:4	27,565	23,945	22,546
1988:1	18,274	20,976	14,486
1988:2	14,323	22,096	11,570

Source: Data derived from Compustat

dividends were the primary mechanism for firms to make cash payments in 1977 (accounting for 80 percent of the total cash distributions). But by 1986, dividends had fallen to 40 percent of cash distributions.

Table 2 contains quarterly time series information from 1984 through the first half of 1988 for the three alternative cash distribution methods examined here. (The figures are consistent with the annual ones because they are derived from the same Compustat data source.) The 1987 information is of special interest, since it shows the initial period in which the taxation of realized capital gains was increased by the 1986 Tax Reform Act.

Table 2 indicates that there may have been a modest bunching of share repurchases and cash acquisitions in the fourth quarter of 1986 (perhaps to beat the tax law changes). However, acquisition activity is often bunched in the fourth quarter, so the "under the tax wire" theory is not resoundingly illustrated. The other notable fact is that total share repurchases in 1987 exceeded those for 1986. In fact, the figures for each quarter starting in 1987 are higher than the annual totals for all years before 1984.[1] There were some predictions that the higher capital gains tax rate in the Tax

[1]It should be noted that our data for the first half of 1988 are less complete, and the final tabulations will certainly show first half 1988 share repurchases greater than these figures.

Reform Act would slow the practice of share repurchases, but the evidence presented here says otherwise.

Evidence regarding cash distribution mechanisms from other sources supports the conclusions presented here. Shoven (1986) created a time series for share repurchases and cash acquisitions from 1970 to 1985 using the monthly Center for Research in Security Prices data. The same qualitative picture emerged there, namely that dividends had been overtaken by the sum of the two share acquisition mechanisms by the end of the sample. We chose to use the Compustat data for this study because it includes explicit information regarding each of the cash distributions examined here.

The New York Stock Exchange compiles monthly reports of changes in Treasury Stock holdings for member companies. We have examined their data in detail from January 1985 through December 1987. This information argues even more forcefully than does the Compustat data that share repurchase activity accelerated in 1987 relative to the two previous years.

We also examined other sources for mergers and acquisitions. We identified, using *Mergers and Acquisitions*, the 25 largest transactions for each quarter from January 1984 to December 1987. The terms of each deal were extracted from *Mergers and Acquisitions* and the *Wall Street Journal* to determine the amount of cash distributed. The time series of the aggregated results were consistent with the Compustat results reported here.

There seems little doubt that during the last decade dividends have lost their place as the primary mechanism for firms to distribute cash to shareholders, a change that represents a major realignment of corporate financial policy.

Theories to Explain the Trends

The evidence presented here demonstrates that the hypothesis that dividends are the only vehicle by which cash can be distributed to shareholders is no longer viable. While the real dividend series has been rising fairly smoothly over the past decade, there has been a meteoric rise in the share acquisition methods of cash distribution. In the most recent years, the majority of cash payments have been in these nondividend forms. Economists are therefore challenged by these market trends to understand both why firms distribute a certain amount of cash to shareholders, and the changing motivations for choosing a specific form of cash distribution.

The framework for understanding optimal financial policy stems from the seminal papers of Modigliani and Miller (1958; 1961).[2] They set forth conditions under which firm financial policy is irrelevant, in the sense that it has no effect on the firm's market value. A firm's investors need not care about its financial decisions, because private portfolio adjustments, "homemade dividends," can offset any action at the firm level. If the firm chooses to pay dividends, some of the recipients could use

[2]An extensive discussion of the Modigliani–Miller theorem and its implications can be found in the 30th anniversary symposium on the Modigliani–Miller propositions in the Fall 1988 issue of this journal. Therefore, its discussion here will be brief.

the money to buy additional shares, thus replicating the percentage ownership they would have held as a nonparticipant owner of a firm repurchasing shares. Conversely, if the firm chooses a share repurchase, each shareholder can sell sufficient shares to match the amount they would have received if dividends had been paid out.

A cash–financed acquisition of the shares of another firm is analogous to a share repurchase. As long as the assets acquired offer a market rate of return, the value of the shares of the acquiring firm will capitalize the new investment. Those who want a dividend-like cash flow can achieve it by selling a fraction of their shares.

Since the underlying assumptions of the Modigliani–Miller propositions are unrealistic, most economists use the model to organize their thinking regarding the effects of relaxing the assumptions. These researchers attempt to explain why the various forms of cash distributions to investors—cash dividends, share repurchases, mergers and takeovers, and capital gains in share values—all exist side by side. And given the trends documented above, theory should address changes in the relative use of these alternative forms through time.

One set of theories examines the implications of allowing taxes to enter the model. The personal tax advantage of using share acquisition programs has been discussed above. Because taxes may differentially impact shareholders, tax clienteles have been considered as an explanation of cross-sectional differences in firms' financial decisions. As first suggested in Miller and Modigliani (1961), perhaps "each corporation would attract itself to a 'clientele' consisting of those preferring its particular payout ratio." Taxpayers with high marginal tax rates may disproportionately be found in firms accruing capital gains, while taxpayers with zero or low marginal tax rates and preference for steady cash flow, including pension funds and taxable corporations, may actually prefer dividends.[3] If one takes seriously the notion of tax clienteles, then the Tax Reform Act of 1986 may have resulted in a shifting of such niches. The difference for an individual investor in the effective tax rate on dividends vis-a-vis capital gains was decreased. Though this might suggest a relative shift from share acquisitions to dividends, no such trend emerges in the data. Taxes alone, therefore, seem unable to fully explain the observed behavior.

It is therefore valuable to examine the implications of relaxing additional assumptions of the Modigliani–Miller paradigm. Bagwell (1989) considers whether, in the presence of costs of making transactions, the form of distribution differentially affects the likelihood of takeovers. She finds that in the presence of an upward sloping supply curve for shares, the cost to the bidding firm of acquiring control of the target will be larger if the potential target distributes a fixed amount of cash through share repurchase rather than through dividends. Since shareholders willing to tender shares to management in the repurchase are those with the lowest reservation values, a repurchase skews the distribution of reservation values that the potential acquirer faces towards a more expensive pool.

One explanation of why the supply curve for the firm's shares slopes upward involves transaction costs. In particular, an upward sloping curve can be derived from

[3]For evidence consistent with dividends and clienteles, see Elton and Gruber (1970) and Pettit (1977). For evidence consistent with share acquisition clienteles, see Bagwell and Shoven (1988).

capital gains tax considerations: investors with different basis values impute different reservation values to their holdings. In a study of defensive responses to hostile takeovers, Dann and DeAngelo (1988) find that the bidder was unsuccessful in all eight cases where repurchase was used, whereas in ten of the remaining twenty-five defensive restructurings the hostile bidder successfully acquired a substantial stake and board representation. This evidence shows that takeover threats may dictate the form of the distribution,[4] and the simultaneous increase of repurchase and acquisitions is consistent with this theory that repurchases may deter takeovers.

Bagwell and Judd (1988) examine the effect of share repurchase and dividends on the distribution of ownership. Since a dividend leaves the distribution unchanged, while a repurchase may systematically alter the composition of ownership, a dividend may be chosen by the current dominant interest group as the means of distributing cash. It assures them of maintaining control. Even in the presence of a tax advantage to share repurchase, control over future firm decisions in the presence of shareholder diversity and transaction costs may dictate that dividends are chosen.

An alternative explanation for optimal financial structure is that distributions may be made in the presence of asymmetric information. The potential benefit of a distribution that has been considered most extensively is that there may be information revealed in a payout. In order for the distribution to signal an increase in firm value, the management must be better informed than the marketplace, and there must be a cost to a "bad" firm of mimicking the "good" firm.

The good news revealed by dividends or share repurchase can include unobserved firm value (Bhattacharya, 1979; Ofer and Thakor, 1987), unobserved current cash flow (Miller and Rock, 1985), or unobserved future cash flow (Ross, 1977; John and Williams, 1985; Huberman, 1984; Constantinides and Grundy, 1986). The cost of false signaling can include the cost of raising new capital externally to finance future investments (Huberman, 1984; Ofer and Thakor, 1987), the probability of going bankrupt trying to meet future distribution obligations (Ross, 1977), taxes on distributions (Bhattacharya, 1979; John and Williams, 1985; Bernheim, 1988), or necessitating a cutting back on today's investment (Miller and Rock, 1985). Unexpected changes in dividends have been confirmed to provide information about unexpected increases in the level of earnings in addition to the information found in earnings announcements. Repurchases have also been found to signal favorable information.[5] These signaling models explain cash payout more satisfactorily than they explain the choice between dividends and repurchase.

We believe that there exists yet another explanation of optimal financial structure, based on learning by the managers and markets about the technologies of repurchases and cash acquisitions. There are some aspects of share acquisition which

[4]Cash acquisitions can also be motivated by the threat of takeovers. The most obvious illustration is the "Pac Man" defense, when the target responds to a takeover threat by attempting to acquire its pursuer. This defense has been employed between Martin Marietta and Bendix in 1982 and between E-II Holdings and American Brands in 1988.

[5]For evidence of the informativeness of dividends see, for example, Aharony and Swary (1980) and Ofer and Siegel (1987). For evidence consistent with repurchase signaling see Dann (1981) and Vermaelen (1981).

are learned only by experience. For repurchases, there has been learning through time about how large or frequently a repurchase can be done without being deemed ordinary income by the IRS, and taxed accordingly. According to Section 302 of the U.S. Internal Revenue Code, if the redemption is "substantially disproportionate," then the excess of the payment over shareholder basis is taxed as capital gain. Firms have also learned how to use repurchase as part of an anti-takeover strategy, and firms and shareholders have recognized that a repurchase can be a less costly signal of favorable news than a dividend.

Management may be reluctant to choose a signal that the market does not interpret correctly. As familiarity with repurchase has increased, the magnitudes and frequencies have increased. There was very little repurchase used prior to 1973. At the inception of Nixon's price and wage ceilings, the ceiling imposed on dividends was met by an increased use of repurchase. In the Dann sample covering of 1962–1976, 73 of the 143 repurchases occurred in 1973 or 1974. It was not until 1977, however, that a major corporation did a large repurchase (IBM, $1.4 billion). Subsequently, repurchase has become a common event for even the largest firms, and the market has learned about the IRS's reaction to and tax treatment of such repurchases.

If one imagines a simple epidemic model where what is spreading is information about repurchase as a cash distribution technology, then we would expect to find a learning curve with firms increasingly using repurchase. Looking at our data for the last ten years, one first sees repurchase used on a large scale in 1984. Evidence of the past three years suggests that dramatic learning has already been achieved. However, it is too soon to predict whether repurchase will continue at its current level, or whether additional technological learning will occur.

There has also been learning about the technology of acquisitions. The most obvious is the use of junk bond financing, commencing in 1984. These below-investment-grade high-yield bonds allow the raising of capital necessary for acquisitions. The junk bond innovation may have been stimulated by changes in the relative taxation of debt and equity. By 1987 they represented one-fourth of the total market for corporate bonds (Jensen, 1988). A second technology increasingly used during this period is the bridge loan. Many Wall Street commercial banks, insurance companies, and pension funds have risked their own money in short term merchant banking to facilitate takeovers and leveraged buyouts.[6] As the successful use of these new technologies has been demonstrated, their use has increased.

Conclusion

The major realignment in the relative importance of alternative cash distribution methods has serious implication for corporate managers, private investors, financial

[6]This behavior took on new magnitude in 1985, when Merrill Lynch put up a $1.2 billion loan in the Comcast takeover of Storer Communications.

economists, and the federal tax authorities. Corporate management now uses a wider array of instruments to reward shareholders, some with distinct advantages over traditional dividends. Private investors as well need to expand their equity valuation models to include these nondividend payments. The availability of alternative cash distribution technologies gives investors the opportunity to acquire equity in firms which use particular distributional forms. This may allow tax driven clienteles to form, thus addressing more precisely the particular tax circumstance of the investors.

The Internal Revenue Service certainly needs to take account of the use of alternative methods of cash distribution. Their differential tax treatment implies that the IRS must consider the form of distributions to correctly estimate tax revenue. To the extent that some are tax efficient methods for firms and investors, they are also revenue-losing technologies from the IRS's perspective. Shoven (1986) estimated that the increased use of nondividend payments reduced federal revenues by roughly $25 billion per year in 1984 and 1985 (relative to taxing the payments as dividends). Since corporate equity is often perceived to be "double"-taxed or "over"-taxed, the tax revenue reduction is not necessarily harmful to economic efficiency or bad policy for the country.

The presence of alternative distributional forms must also be recognized in the creation of tax policy and legislation. However, this task is made difficult by the multiplicity of effects any law change may have. Though many investors predicted the 1986 Tax Reform Act would sharply curtail nondividend methods of cash payment, this has proven to be incorrect. To understand why not, further research is needed on the effect of tax changes on firm and investors' decisions.

Finally, the findings presented here dictate that financial economists must adapt some of their most popular models. In the standard discounted cash flow model[7] of share valuation the equity investor receives return in two forms: dividends and capital gains. Since dividends are the only mechanism in this model for transmitting cash between the firm and its shareholders, capital gains simply reflect a change in the present value of expected future dividends. Therefore, at any moment in time, the share price is equal to the present value of all future dividends, adjusted for risk. In a number of other models that explain why dividends should be paid, dividends are also the only explicit means of transmitting cash to shareholders. These models must be generalized to include cash flows resulting from corporate share acquisitions.

The trapped equity model (for example, see King, 1977; Auerbach, 1979; Poterba and Summers, 1985) in which dividends are the only form of payment to shareholders must also be reconsidered. The trapped equity model implies the corporate retained earnings are immediately capitalized into the share value at less than dollar for dollar, or less than par.[8] Retained earnings are therefore a relatively cheap source of funds, since only their capitalized value must offer competitive market

[7]This model is often called the Discounted Cash Flow, or DCF, model. See Brealey and Myers (1988) for a discussion.

[8]In fact, each dollar is valued at $(1 - T\rho)/(1 - T\epsilon)$ where $T\rho$ and $T\epsilon$ are the personal tax rate and the effective tax rate in accrued capital gains for the marginal shareholder reflecting the eventual and inevitable taxes on dividends that will be paid in those earnings.

returns. Once more tax efficient means of cash transmission are allowed, the resulting cost of capital financed by retained earnings must be adjusted upwards.

To enhance our understanding of corporate financial behavior, it is necessary to recognize that alternative forms of compensating shareholders have become dominant. We hope that the evidence presented here will encourage future research on the implications of this major realignment of corporate financial policy.

Appendix
Compustat Data Availability

Inclusions by File

The Primary Industrial File (814 companies) specifically includes all companies in the S&P 400, some companies in the S&P 40 Utilities Index, the S&P 20 Transportation Index, and the S&P 40 Financial Index, plus companies of greatest interest, primarily companies on the New York Stock Exchange.

The Supplementary Industrial File (812 companies) contains companies which are followed on the major exchanges but which may have a lesser degree of investor interest.

The Tertiary File (819 companies) completes the coverage of industrial companies with common stock listed on the New York and American Stock Exchanges. It also includes approximately 300 nonindustrial companies which have been modified for comparability to the industrials. The nonindustrial companies are from the following industries: Banks, Utilities, Life Insurance, Railroads, Property and Liability, and Real Estate Investment Trusts (REIT). These nonindustrial companies include some of the companies in the S&P 40 Utilities Index, the S&P 20 Transportation Index, and the S&P 40 Financial Index.

Compustat Companies by Exchange

NYSE (400 INDUSTRIALS)	394
NYSE (40 UTILITIES)	40
NYSE (20 TRANSPORTATION)	18
NYSE (40 FINANCIAL)	35
NYSE (NON-S&P 500)	963
ASE (400 INDUSTRIALS)	1
ASE (NON-S&P 500)	801
OTC (400 INDUSTRIALS)	5
OTC (20 TRANSPORTATION)	2
OTC (40 FINANCIAL)	5
OTC (NON-S & P 500)	175
REGIONAL (NON-S & P 500)	6
TOTAL COMPANIES	2,445

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