Special dividends and the evolution of dividend signaling[☆]

Harry DeAngelo[a,*], Linda DeAngelo[a], Douglas J. Skinner[b]

[a]*Marshall School of Business, University of Southern California, Los Angeles, CA 90089, USA*
[b]*University of Michigan Business School, Ann Arbor, MI 48109, USA*

Abstract

This paper documents that (1) special dividends were once commonly paid by NYSE firms, but are now rarely paid; (2) firms typically paid specials almost as predictably as they paid regular dividends; (3) despite the dramatic overall decline in specials, the incidence of very large specials increased in recent years; and (4) special dividends were not displaced by stock repurchases. Most plausibly, small specials disappeared because their predictability made them close substitutes for regular dividend signals, while large specials survived because their sheer size automatically differentiates them from regulars. © 2000 Elsevier Science S.A. All rights reserved.

JEL classification: G35; D82

Keywords: Dividend policy; Payout policy; Special dividends; Signaling; Stock repurchases

*Corresponding author.

E-mail address: hdeangelo@marshall.usc.edu (H. DeAngelo).

1. Introduction

Dividend signaling plays a prominent role in corporate finance theory, with numerous studies outlining scenarios in which managers use cash dividends to convey information about firm profitability [see, e.g., Bhattacharya, 1979; Miller and Rock, 1985; John and Williams, 1985; and more recent papers cited in Allen and Michaely's (1995) survey of the dividend literature]. However, few empirical studies indicate that signaling is pervasively important, although some research suggests it might be important in limited circumstances [see e.g., DeAngelo et al., 1996; Benartzi et al., 1997; and many earlier studies cataloged by Allen and Michaely]. In their comprehensive survey, Allen and Michaely (1995, p. 825) state that " … the empirical evidence (on dividend signaling) is far from conclusive … more research on this topic is needed". The juxtaposition of continued strong theoretical interest in signaling models on the one hand, with limited empirical support on the other, has made the relevance of dividend signaling an important unresolved issue in corporate finance.

There are firms in which dividend signaling is inarguably at work, and they are the ones studied by Brickley (1982, 1983), whose managers pay both regular dividends and occasional special dividends (extras, specials, year-ends, etc., hereafter "specials"). As Brickley indicates, the differential labeling of special and regular dividends inherently conveys a warning to stockholders that the "special" payout is not as likely to be repeated as the "regular" payout. Brickley's evidence indicates that investors treat special dividends as hedged managerial signals about future profitability, in that unanticipated specials are associated with weaker stock market reactions than are regular dividend increases of comparable size. One contribution of the current paper is to provide evidence that the historically prevalent practice of paying special dividends has largely failed the survival test, casting further doubt on the overall importance of signaling motivations in explaining dividend policy in general.

We document that special dividends were once commonly paid by NYSE firms but have gradually disappeared over the last 40 to 45 years and are now a rare phenomenon. During the 1940s, 61.7% of dividend-paying NYSE firms paid at least one special, while only 4.9% did so during the first half of the 1990s. In the single year 1950, 45.8% of dividend-paying NYSE firms paid specials, while just 1.4% of such firms paid specials in 1995. In years past, special dividends constituted a substantial fraction of total cash dividends. Among NYSE firms that paid specials, these bonus disbursements average 24.3% (median, 16.8%) of the dollar value of total dividends paid over all years between the firm's first and last special. Firms that at one point frequently paid specials include such high visibility "blue chip" corporations as General Motors, Eastman Kodak, Exxon, Mobil, Texaco, Gillette, Johnson & Johnson, Merck, Pfizer, Sears Roebuck, J.C. Penney, Union Pacific, Corning, International Harvester, McGraw Hill, and Boeing. Today, only a handful of NYSE firms

continues to pay frequent special dividends, and these firms are generally not well known companies.

Why have firms largely abandoned the once pervasive practice of paying special dividends? Our evidence suggests that the evolution of special dividends reflects the principle that dividends are a useful signaling mechanism only when they send clear messages to stockholders. Surprisingly, most firms paid specials almost as predictably as they paid regulars, thereby treating the two dividend components as close substitutes and impeding their ability to convey different messages. Over 1926–1995, more than 10,000 specials were paid by NYSE firms, and virtually all of these were declared by firms that announced specials in multiple years. Remarkably, a full 27.9% of the latter firms omitted paying specials in less than one year out of ten on average (i.e., they paid specials in over 90% of the years between their first and last special dividend). Well over half (56.8%) the firms that paid specials in multiple years did so more frequently than every other year on average. We find that the only specials that have survived to an appreciable degree – and that, in fact, have grown in importance – are large specials whose sheer size automatically differentiates them from regular dividends.[1]

When investors view specials and regulars as close substitutes, there is little advantage to differential labeling, and so firms should eventually drop the practice of paying two types of dividends and simply embed specials into the regular dividend. Evidence supporting this prediction comes from our Lintner (1956) model analysis of the dividend decisions of firms that eliminated specials after paying them frequently for many years. This analysis shows that, controlling for earnings, the pattern of regular dividends after the cessation of specials does not differ systematically from the earlier pattern of total (special plus regular) dividends. Other data indicate that these sample firms preserved the relation between earnings and total dividends by substituting into greater reliance on regular dividend increases. We also find that firms generally tended to increase regulars when they reduced specials to a still-positive level, further supporting the view that firms treated specials and regulars as reasonably close substitutes. Finally, our data show that the disappearance of specials is part of a general trend toward simple, homogeneous dividend policies in which firms converged on the now prevalent practice of paying exactly four regular dividends per year.

We study the stock market's reaction to special dividends from mid-1962 (when CRSP first provides daily returns) through 1995. We find that the stock market typically reacts favorably to the *fact* that a special dividend is declared

---

[1] Large specials, like large repurchases, are likely to get stockholders' attention. These large payouts may or may not serve as signals in the conventional sense, however, depending on whether stockholders interpret them as information about the firm's future profitability as opposed, e.g., to information about the success of its current restructuring efforts.

(holding regular dividends constant), but that the market reaction is not systematically related to the sign or magnitude of the change from one positive special dividend payment to another. For example, we observe an average stock market reaction of about 1%, both when firms increase specials and when they reduce them to a still-positive level. Overall, our event study analysis indicates that, although special dividend declarations tend to convey good news to market participants, any signaling content they exhibit is typically small.

We find some empirical support for the notion that the long-term decline in special dividends is related to the clientele effect shift from the mid-century era, in which stock ownership was dominated by individual investors, to the current era, in which institutions dominate. One might reasonably expect this clientele shift to reduce the importance of special dividends, since institutions are presumably more sophisticated than retail investors and are therefore better able to see that most firms treated specials as close substitutes for regulars. At the aggregate level, the secular decline in specials and the increase in institutional ownership occurred roughly in parallel, with both trends proceeding gradually over many years. At the firm level, our logit regressions show a significant negative relation between the level of institutional ownership and the probability that a firm continues to pay special dividends.

Finally, we find little support for the notion that special dividends were displaced by common stock repurchases. Theoretically, one might expect a close connection between the disappearance of specials and the adoption of stock repurchases. Both payout methods allow managers to signal their beliefs about company prospects through temporary bonus distributions, with no necessary commitment to repeat today's higher cash payout in future years. Moreover, repurchases are now widely prevalent (much as specials used to be), although historically they were rare events (as specials are now). However, at the aggregate level, the secular decline in specials began many years before the upsurge in repurchase activity, so that any theory which attributes the disappearance of specials to the advent of repurchases faces the difficult task of explaining the long time gap between the two phenomena. Moreover, at the firm level, the number of companies that repurchased stock after they stopped paying special dividends is significantly less than expected if firms simply substituted one for the other form of payout. Finally, repurchase tender offers and large specials both increase in recent years with the upsurge in corporate restructurings and takeovers.

Perhaps the most important implication of the findings reported here is the challenge they pose for dividend signaling theories. Specifically, the fact that special dividends once flourished, but have largely failed to survive, is inconsistent with the view that these signals serve an economically important function. We discuss this and other implications of our findings for corporate finance research in Section 7. We begin in Section 2 by documenting the long-term evolution of special dividend payments. Section 3 analyzes the predictability of

special dividends, the evolution of large specials, the behavior of total dividends around the time firms stopped paying specials, and firms' general tendency to increase regulars when they reduce specials. Section 4 presents our event study analysis of the information content of special dividends. Section 5 examines the relation between institutional ownership and the payment of specials. Section 6 investigates the connection between repurchases and the decline in specials.

2. The historical importance of special dividends in corporate dividend policies

Table 1 documents the number and size of special dividends paid by NYSE-listed firms (panel A) and the length of time that specials were an element of these firms' dividend policies (panel B).[2] From mid-year 1926 through year-end 1995, 1,287 NYSE-listed firms paid a total of 10,008 special dividends, with 9,636 specials paid by the 942 firms that made special distributions in multiple years. Panel A shows that the average special dividend is 157% (median, 100%) of the latest regular dividend payment for the full sample and 138% (median, also 100%) for firms that paid specials in multiple years. These figures indicate that the specials paid by our sample firms tend to be larger than those examined by Brickley (1982, 1983), whose median special is 67% of the most recent regular dividend.

Panel A of Table 1 also reports the ratio of special dividends to total dividends, a measure that shows the importance of special dividends in firms' payout policies during the time they paid specials. This ratio is defined as (1) the sum of the dollar amount of all split-adjusted special dividend payments from a firm's first year of special payment through its last such year, divided by (2) the sum of all split-adjusted regular and special dividends paid over all years in the same interval, regardless of whether a special distribution was made in a given year. Special dividends account for an average of 24.3% (median, 16.8%) of total cash dividends in the full sample and 20.0% (median, 15.5%) of total dividends by firms that paid specials in multiple years. These figures indicate that, over the years that firms had policies of paying occasional special dividends, these

---

[2] Throughout the paper, we employ the Center for Research in Security Prices (CRSP) monthly tape to identify NYSE-listed firms that paid special dividends. We consider only securities with CRSP distribution codes 10 or 11 and thus exclude ADRs, various ownership units (e.g., limited partnership interests), closed-end funds, REITs, and shares of firms incorporated outside the United States. We classify a cash distribution as a special if it carries distribution code 1262 or 1272, the code numbers CRSP employs to identify dividends labeled year-end, final, extra, or special. We do not include CRSP code 1282 (defined as "interim" dividends) because they are relatively uncommon and almost all are bunched in one year (1929). We exclude code 1292 (defined as "non-recurring, or proceeds from sale of rights") because these distributions are generally not pure cash payouts to stockholders. For example, during the 1980s, code 1292 often identifies poison pill securities.

Table 1
Size of special dividends and length of time they were paid by NYSE-listed firms from mid-1926 through year-end 1995

In panel A, the first size measure is the ratio of each individual special dividend payments to the most recent *single* regular dividend payment, provided that a regular has been paid within the last year. The second size measure is the ratio of the dollar value of *all* special dividends to the dollar value of total dividends paid beginning with the first year the firm paid a special and ending with the last year it did so. The denominator in the latter measure incorporates all dividends paid over all years in this interval, including those years in which no special was paid. For both size measures, all cash dividend amounts have been adjusted for stock splits and stock dividends. For the first size measure, the number of specials accompanied by regulars within one year is 9,821 for the full sample and 9,494 for the firms that paid specials in multiple years. Panel B reports the cross-sectional distribution of the length of time that specials were paid by firms that paid them in multiple years. The length of time that a given firm paid special dividends is defined as the total number of years between the first and last special. All data are from the CRSP monthly tape, and include only NYSE securities with CRSP share codes 10 or 11. A dividend is classified as a special if it has a distribution code of 1262 or 1272, the codes CRSP employs to identify dividends labeled year-end, final, extra, or special.

	All firms	Firms that paid specials in multiple years
A. *Number and size of special dividend payments*		
Number of firms	1,287	942
Number of special dividends	10,008	9,636
Special/latest regular dividend		
Mean	157%	138%
Median	100%	100%
All specials/all dividends		
Mean	24.3%	20.0%
Median	16.8%	15.5%

B. *Length of time that firms paid special dividends*		
Length of time from the firm's first to last special	Number of firms (% of cases)	Cumulative number (%) of firms
30 or more years	174 firms (18.5%)	174 firms (18.5%)
20–29 years	193 firms (20.5%)	367 firms (39.0%)
10–19 years	218 firms (23.2%)	585 firms (62.2%)
less than 10 years	357 firms (37.9%)	942 firms (100.0%)

payments typically accounted for approximately one-fifth of total dividend distributions.

Panel B of Table 1 shows that special dividends were a component of many NYSE firms' dividend policies for long periods of time. For each firm that paid specials in multiple years, we tabulate the number of years between the first and last special dividend payment, an interval which can be viewed as a lower bound on the time that a firm had a policy of paying specials. (A firm's ex ante policy of paying specials may have started earlier or ended later than the interval between the first and last payment dates, even though the events necessary to trigger special payments actually occurred only between the latter dates.) We find that 174 NYSE firms had policies of paying specials for 30 or more years, 367 firms had such policies for at least 20 years, and 585 firms had such policies for at least 10 years.
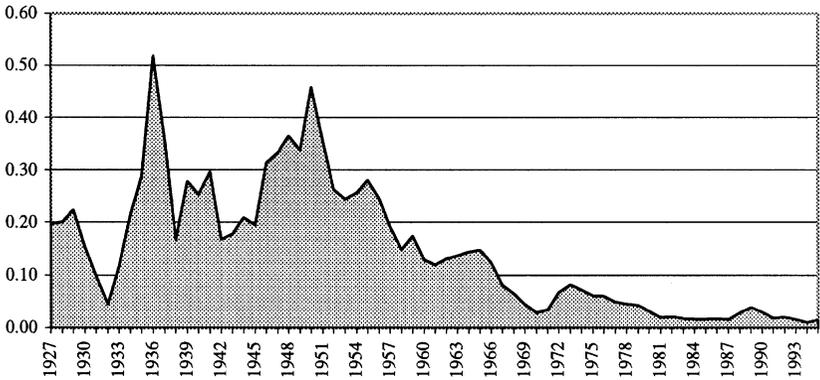
Fig. 1 reports the annual incidence and dollar magnitude of special dividends by NYSE firms for 1927–1995. Panel A gives the proportion of dividend-paying firms that paid specials, while panel B reports the annual dollar amount of specials divided by the dollar amount of total dividends paid by all NYSE firms. Fig. 1 indicates that the incidence and dollar volume of special dividends is generally quite high in the early sample years, but that both erode gradually over the last four decades to very low levels. In virtually every year from 1927 through the 1950s, a large fraction of dividend-paying firms distributed specials (panel A). In the average year during the decade of the 1950s, specials were paid by 26.2% of the dividend-paying firms on the NYSE. This average is not significantly different from the average annual incidence of 23.9% over 1927–1949. However, the average falls to 11.2% for the 1960s, 5.4% for the 1970s, 2.2% for the 1980s, and 1.8% for the 1990s (through 1995). All these figures are below the average for 1927–1949 at very high levels of statistical significance.[3]

The dollar value statistics in panel B of Fig. 1 show that special dividend payments generally fluctuated around 10% of all cash dividend distributions, hitting peaks of 21.1% in 1936 and 19.3% in 1950. The dollar volume of specials falls below 5% of all dividends in the early 1930s at the depths of the Great Depression and does not fall below 5% again until the late 1950s. In the average year over 1927–1949, specials constitute 9.8% of the dollar value of all cash

---

[3] Brickley (1982) documents that special dividends were paid by many banks, particularly those with shares traded over-the-counter. We therefore identified the number of firms with a primary SIC code of 60 (depository institutions) that paid special dividends while listed on the NYSE. From 1926 through 1995, there are at most 10 such depository institutions paying specials in a given year (the peak of 10 was attained only in 1937). From 1926 through the early 1970s, depository institutions never account for more than 5.4% of the special dividend-paying firms on the NYSE (with the peak of 5.4% also attained in 1937). These data indicate that the early popularity of (and subsequent decline in) special dividends among NYSE-listed firms was not a phenomenon driven by banks or other depository institutions.

A.   **Number of NYSE firms that paid special dividends as a proportion of dividend-paying firms**

B.   **Dollar value of special dividends as a proportion of total dividends paid by NYSE firms**
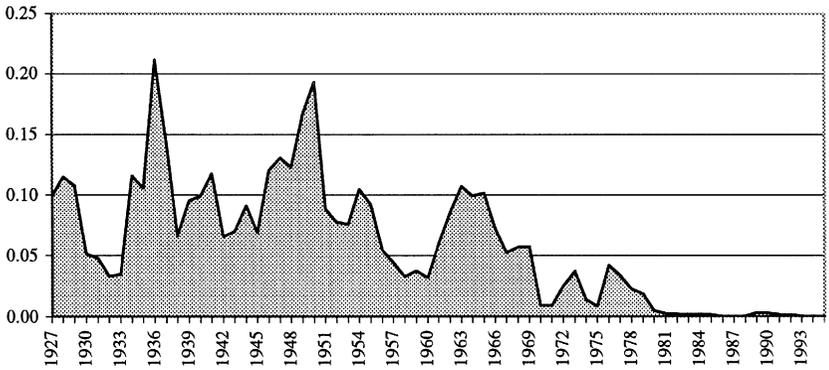

Fig. 1. Annual incidence of NYSE firms that paid special dividends (Panel A) and magnitude of special dividend payments as a fraction of all dividends paid (Panel B): 1927–1995.

Panel A gives the number of NYSE-listed firms that paid special dividends in a given year as a proportion of the total number of NYSE firms that paid any type of cash dividend in that year. Panel B gives the dollar amount of special dividend payments by all NYSE firms in a given year as a proportion of the total cash dividends they paid in that year. To generate the dollar volume of total dividends for a given firm, we take the number of shares outstanding at the beginning of the year and multiply by the sum of all (split-adjusted) dividend payments during the year. The dollar volume of special dividend payments is calculated analogously for the subset of dividend payments labeled specials. The sample firms and associated dividend data are drawn from the CRSP monthly tape. We consider only those securities with CRSP share codes 10 or 11, which exclude ADRs, various types of units, closed-end funds, REITs, and shares of firms incorporated outside the United States. A cash dividend is classified as a special if it has a distribution code of 1262 or 1272, which are the CRSP codes for dividends labeled year-end, final, extra, or special.

dividends paid by NYSE firms. The corresponding average for the 1950s is 8.0%, which is not significantly different from the 9.8% average over 1927–1949. During the 1960s, the average year's dollar volume of specials falls to 7.2% of total dividend payments, which differs significantly from 9.8% (*p*-value, 0.04). For the 1970s, 1980s, and 1990s, the average dollar volume of specials falls respectively to 2.2%, 0.2%, and 0.1% of all dividends paid by NYSE firms, with all three averages below 9.8% at very high significance levels.

The data in Fig. 1 establish that, at least through the middle part of the 20th century, many NYSE firms paid special dividends. Because of the occasional nature of special payouts, these data understate the importance of specials as a component of corporate dividend policies.[4] A broad horizon view of the extent to which firms occasionally paid specials is provided by the incidence of NYSE firms that paid at least one special dividend during a given decade. These data (not presented in our tables) show that specials were an element of the payout policies of over half the dividend-paying firms on the NYSE during the 1930s, 1940s, and 1950s. Consistent with the trends in Fig. 1, the number of firms paying at least one special during the 1960s falls to less than half the level of the 1950s (from 56.3% to 24.8% of dividend-paying firms). During the 1970s, fewer than one in five dividend-paying firms paid a special dividend. The downward trend continues during the 1980s and 1990s, with less than one firm in ten paying a special dividend. In sum, these data indicate that special dividends were once a common feature of the dividend policies of NYSE firms, but they are now a rare phenomenon.

3. Sharply delineated signals and the survival of special dividends

While Section 2 documents that specials as a group have virtually disappeared, the data in Section 3.1 show that large special dividends (constituting at least 5% or 10% of equity value) have actually increased in importance. Large special dividends are notable because their sheer size inherently commands stockholders' attention and accordingly differentiates the special from the regular payout. The trend in large specials is therefore consistent with the view that the disappearance or survival of special dividends depends on whether they send sharply delineated messages to stockholders. Further support for this view comes from an examination of the predictability of most special dividends (Section 3.2), firms' conversion of special into regular dividend payments

---

[4] To see why, consider a firm whose policy is to pay specials only in even numbered years. In odd years, this firm will not be counted as a firm that pays special dividends, even though its policy is unchanged in those years. Since firms do not generally pay special dividends in every single year, a one year window is too narrow to accurately estimate the incidence of firms that have a policy of paying specials. For our example firm, a two year window would suffice, but that window would be too narrow for firms in general (see the payment frequency data in Section 3.2).

(Sections 3.3 and 3.4), and firms' general convergence on the now pervasive practice of paying exactly four regular dividends per year (Section 3.5).

3.1. Large special dividends have increased in importance

Table 2 reports the number of special dividends by NYSE firms that exceeds three size thresholds for each decade from the 1920s to the 1990s, and the percentage they represent of all special dividends paid in each decade. Columns (1) and (2) respectively present the incidence of special dividends that equal or exceed 5% and 10% of the pre-announcement equity value of the firm, while column (3) reports the incidence of specials whose size equals or exceeds that of the average repurchase tender offer studied by Dann (1981), i.e., a cash distribution of 18.6% of pre-announcement equity value.

Table 2 shows that, in the early sample years, large special dividends represent a modest fraction of all specials. For example, column (1) indicates that 5%-plus

Table 2
Special dividends whose size equals or exceeds (1) 5% of equity value (2) 10% of equity value, and (3) the size of the average repurchase tender offer

The table reports the number of specials whose size meets three thresholds. Thresholds (1) and (2) are 5% and 10% of equity value at the end of month before announcement of the special dividend. Threshold (3) is 18.6% of pre-announcement equity value, the average size of the cash distributed to stockholders in Dann's (1981) sample of 143 repurchase tender offers by NYSE and AMEX firms over 1962–1976. This analysis examines 9,948 specials (rather than the 10,008 reported elsewhere in the paper) because we exclude those cases in which CRSP does not report a stock price for the firm for the month prior to a given special. All data are drawn from the CRSP monthly tape, and include only NYSE securities with CRSP share codes 10 or 11. A cash dividend is classified as a special if it has a distribution code of 1262 or 1272, the CRSP code numbers for dividends labeled year-end, final, extra, or special.

| Decade | Number of specials | Specials whose size equals or exceeds: | | | | | |
| | | (1) 5% of equity value | | (2) 10% of equity value | | (3) Size of the average repurchase tender offer | |
		Number of cases	% of all specials	Number of cases	% of all specials	Number of cases	% of all specials
1926–1929	539	6	1.1%	3	0.6%	1	0.2%
1930–1939	1,445	44	3.0%	5	0.3%	1	0.1%
1940–1949	2,653	81	3.0%	12	0.5%	1	< 0.1%
1950–1959	2,982	51	1.7%	1	< 0.1%	0	0.0%
1960–1969	1,244	2	0.2%	0	0.0%	0	0.0%
1970–1979	691	12	1.7%	1	0.1%	0	0.0%
1980–1989	281	37	13.2%	22	7.8%	17	6.0%
1990–1995	113	21	18.6%	17	15.0%	6	5.3%
All years	9,948	254	2.6%	61	0.6%	26	0.3%

specials never exceed 3% of all specials from the 1920s through the 1970s, while column (2) indicates that 10%-plus specials always account for less than 1% of all specials during the same period. Column (3) reveals that there are virtually no special dividends as large as the average repurchase tender offer over this period. Consistent with Section 6's inference that repurchases did not generally replace specials, the latter observation clearly establishes that repurchase tender offers cannot have displaced large specials since, at least through the 1970s, there were virtually no comparably large special dividends to displace.

Table 2 further shows that large special dividends have increased substantially in importance in recent years, both in absolute number and as a proportion of all specials. For example, over the 1980s and 1990s, there are 39 specials whose size equals or exceeds 10% of equity value – almost double the 22 specials of comparable size paid over the prior half-century. The increased importance of large specials in recent years plausibly reflects the takeover/restructuring pressures faced by many firms over the last two decades. *Wall Street Journal* reports indicate that 30 (81.1%) of the 37 10%-plus specials announced during the 1980s and 1990s are part of a corporate restructuring, and that 18 (60.0%) of these 30 payouts are related to explicit takeover pressures.[5] The presence of takeover/restructuring pressures suggests that managers of these firms felt it was important to distribute large amounts of cash to provide a credible indication of their faith in their planned restructurings (and perhaps to convince investors that otherwise successful restructurings would not be undermined by unprofitable reinvestment of free cash flow).

3.2. The predictability of special dividends

Although the "special" or "extra" label seems to connote an infrequent cash dividend, managers actually distributed these bonus payouts remarkably often. Fig 2 presents the dividend histories of Eastman Kodak and General Motors, with the height of each bar representing total dividends for a given year and the black portion representing the special dividend component. Over the 33 years from 1954 to 1986, Kodak paid a special dividend in every year, and since that time has paid no specials at all. Many years before this lengthy string began, Kodak had another period of densely clustered special dividend payments, making such distributions in 1926–1932, 1935–1937, and 1942. GM went through three distinct phases in which it paid specials quite often, interspersed between long dormant periods with no such distributions. GM's clustering of

---

[5] This finding is consistent with the restructuring pattern documented by Denis (1990), Palepu and Wruck (1992), and Denis and Denis (1995). The 12 specials that are elements of restructuring are paid by eight firms and include one payout by Sealed Air Corp. (Wruck, 1994), three payouts by General Dynamics Corp. (Dial and Murphy, 1995), and two payouts by Manville Corp. as it emerged from asbestos litigation-induced bankruptcy.
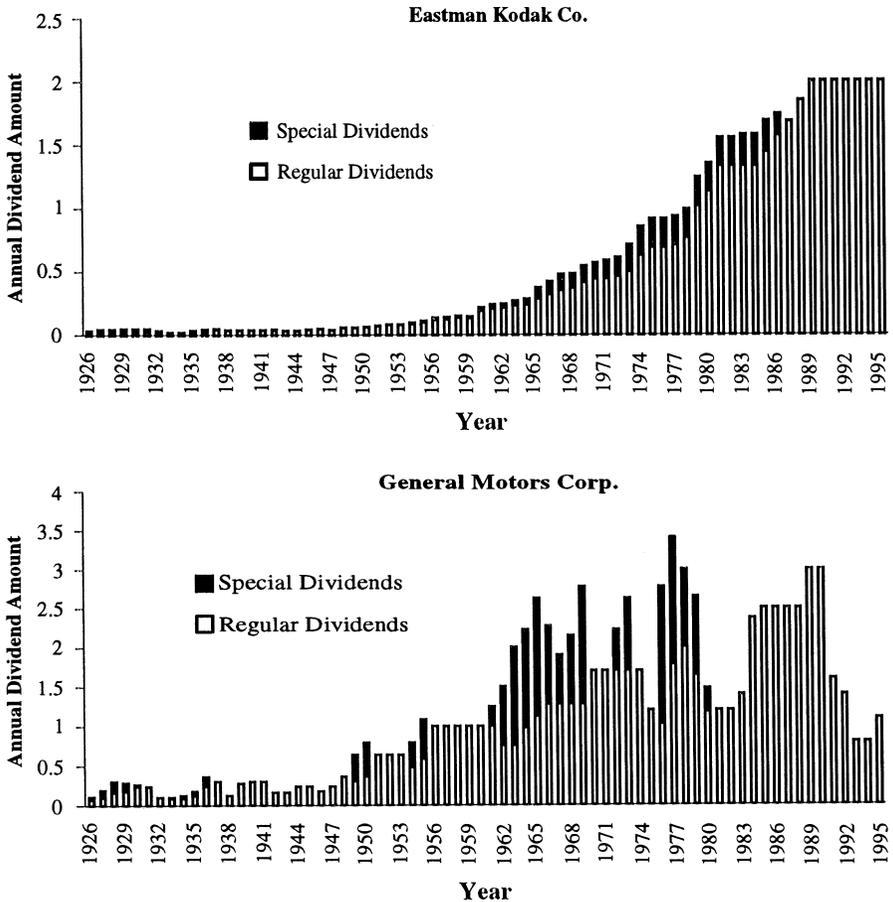
Fig. 2. Special and regular dividends paid by Eastman Kodak and General Motors: 1926–1995.

The height of each bar is the total dollar dividends paid per share in the year in question. The black portion of the bar represents special dividend payments, while the white portion represents regular dividend payments. All cash dividends have been adjusted for stock splits and stock dividends. The low total dividend values for early years reflect the fact that one current share of stock is equivalent to a small fractional share interest in earlier years due to stock splits that occur in the interim. All dividend data are drawn from the CRSP monthly tape. A cash dividend is classified as a special if it has a distribution code of 1262 or 1272, the CRSP code numbers for dividends labeled year-end, final, extra, or special.

specials came in (1) 16 of the 20 years between 1961 and 1980 (and nine consecutive years in the 1960s), (2) nine of the 11 years between 1926 and 1936, and (3) four of the seven years between 1949 and 1955.

The high frequency of special dividends is not peculiar to the Kodak and GM cases, but instead characterizes the vast bulk of NYSE firms that at one time had

Table 3
Frequency of special dividend payments by 942 NYSE-listed firms that paid specials in multiple years during 1926–1995

The frequency with which a firm paid special dividends is defined as the total number of years in which a special was paid divided by the total number of years between the first and last special. For example, a frequency of 40% implies that the firm paid specials in four out of 10 years on average (during the time that it was paying specials). All data are drawn from the CRSP monthly tape, and include only NYSE securities with CRSP share codes 10 or 11. A dividend is classified as a special if it has a distribution code of 1262 or 1272, the codes CRSP employs to identify dividends labeled year-end, final, extra, or special.

Percent of time that firm paid specials	Number (%) of firms	Cumulative % of firms	Number (%) of specials	Cumulative % of specials
90% < frequency	263 (27.9%)	27.9%	2,037 (21.1%)	21.1%
80% < frequency < 90%	52 (5.5%)	33.4%	999 (10.4%)	31.5%
70% < frequency < 80%	56 (5.9%)	39.3%	990 (10.3%)	41.8%
60% < frequency < 70%	73 (7.7%)	47.0%	980 (10.2%)	52.0%
50% < frequency < 60%	92 (9.8%)	56.8%	1,271 (13.2%)	65.2%
40% < frequency < 50%	84 (8.9%)	65.7%	1,038 (10.8%)	76.0%
30% < frequency < 40%	110 (11.7%)	77.4%	1,074 (11.1%)	87.1%
20% < frequency < 30%	113 (12.0%)	89.4%	839 (8.7%)	95.8%
10% < frequency < 20%	74 (7.9%)	97.3%	344 (3.6%)	99.4%
frequency < 10%	25 (2.7%)	100.0%	64 (0.6%)	100.0%

a policy of paying specials. For our full sample, Table 3 summarizes the frequency of special dividends, defined as the number of years in which a firm pays specials divided by the number of years between the firm's first and last special dividend. A strikingly large 27.9% of the firms that paid specials in multiple years did so more often than 90% of the time – i.e., these firms omitted paying specials in less than one year out of 10 on average. Well over half (56.8%) the sample firms paid specials more frequently than every other year on average. Moreover, these figures actually understate the frequency with which firms

temporally clustered their special dividend payments, since they do not adjust for dormant periods in which firms paid no specials.[6] These figures establish that specials typically were *not* paid as occasional bonuses, but rather provided stockholders with recurring payments at frequent intervals.

Since most firms paid specials almost as predictably as they paid regular dividends, the payout pattern chosen by managers diminished any signaling difference between specials and regulars. There is a clear analogy here to the practice of paying faculty salaries in academic year and summer research components. Since many schools now pay summer money virtually all the time, faculty often focus on their total pay and treat the university's commitment to maintain both salary components as almost equivalent. The same logic implies that, if managers pay special dividends with great frequency, stockholders will come to expect them nearly as much as the regular dividend so that little purpose is served by the differential explicit labeling. Moreover, as it becomes clear that specials are effectively close substitutes for regulars, it becomes more likely that firms would eliminate the differential labeling.[7]

3.3. The conversion of specials into regular dividends

To assess the latter prediction, we focus on NYSE firms that (1) paid special dividends in 10 or more different years, (2) paid specials at least 25% of the time on average, (3) paid specials through at least 1965, and (4) remained listed on CRSP for at least four years after the last special. Criteria (1) and (2) ensure that we have isolated firms that followed well-established policies of paying specials. Criterion (3) increases the likelihood that Compustat data are available for the earnings-based tests described below. Criterion (4) enables us to observe sample firms' payout decisions following the cessation of specials. We exclude four firms that satisfy (1) through (4), but continue to pay specials after 1991. This screening process yields a sample of 91 firms that ended well-established policies of paying recurring special dividends. These firms account for more than 22% of all

---

[6] The Kodak and GM examples show that some firms paid specials in multiple year clusters, interspersed between long periods with no special dividends. Table 3 measures the frequency of special dividends from the time of a firm's first special through its last, including intervening periods in which the firm paid no specials. Inclusion of these intermittent periods obviously reduces the estimated frequency of special dividends below that which prevailed during the time the firm actually paid specials.

[7] It might, however, take a long time for the practice of paying specials to die out unless there are large costs from a policy of paying two types of dividends with poorly differentiated signaling attributes. As long as any disadvantages are modest, little is lost if managers take a long time to recognize that specials are not serving a useful purpose and act to eliminate them.

specials paid by NYSE firms over 1926–1995, and their median special dividend is identical in size to the median for the full sample (100% of the most recent regular dividend).

Table 4 documents regular dividend increases and decreases by the 91 firms that stopped paying specials after long histories of paying them at frequent intervals. The first row of the table gives the incidence of regular increases and decreases during the time the firms had policies of paying specials, while the second row gives their incidence after the cessation of specials. The table shows no significant difference in the incidence of firm-years with dividend cuts during the period that specials were paid and the period after they were stopped (15.1% versus 14.5%, with a p-value of 0.612 to assess the difference). However, we find a statistically significant rise in the incidence of regular dividend increases from 48.0% during the time specials were paid to 52.1% after the cessation of specials

Table 4
Frequency of increases and decreases in annual regular dividend payments during and after the period in which special dividends were paid by 91 NYSE firms with long histories of paying specials at frequent intervals

This table reports changes in the annual amounts of regular (split-adjusted) dividend payments. The sample contains 91 firms that paid specials in 10 or more years and that did so at least once every four years on average. All dividend data are drawn from CRSP. A firm is included here only if it paid specials through 1965 and remained listed on CRSP for at least four years after the last reported special. A given dividend is classified as a special if it has distribution code 1262 or 1272, the CRSP code numbers for dividends labeled year-end, final, extra, or special. A dividend is classified as a regular payment if it has distribution codes 1232, 1212, 1218, 1222, or 1245, which are the CRSP code numbers for U.S. cash dividends with the following respective frequencies: quarterly, unspecified frequency (normally taxable), unspecified frequency (fully taxable), monthly, and semiannual. The table considers dividend changes from a positive level so that regular increases exclude initiations of dividends and unchanged values exclude cases where the firm paid no regular dividends in adjacent years. The p-values are for pairwise tests to assess whether the proportion of decreases (or increases or unchanged regulars) during the special dividend payment period differs from the corresponding proportion after the cessation of specials. A chi-square test that simultaneously assesses all differences in the table is significant at the 0.029 level.

	Number (%) of firm-year observations that entail:			
	Regular decreases	Unchanged regulars	Regular increases	Row total
During special dividend payment period	471 (15.1%)	1151 (36.9%)	1496 (48.0%)	3118 (100.0%)
After cessation of special dividends	206 (14.5%)	473 (33.4%)	739 (52.1%)	1418 (100.0%)
Significance of pairwise proportion comparison	$p = 0.612$	$p = 0.021$	$p = 0.010$	

(p-value of 0.010). While this rise is not particularly large, it is nonetheless consistent with the notion that firms simply converted payouts formerly labeled "special" into regular dividend increases.

Although the cessation of specials is associated with somewhat more frequent regular dividend increases, it is not associated with a material change in the payment of total dividends by sample firms. In other words, the evidence is consistent with the view that sample firms simply rolled specials into regular dividend increases while continuing to follow the same overall (total dividend) payout policy. In Table 5, we work with the 59 companies (out of the sample of 91) that have sufficient data on Compustat to estimate the Lintner (1956) model and to test for dividend shifts around the cessation of special dividends. We define event year 0 as the calendar year in which the firm last paid a special, year -1 as the immediately prior year, year $+1$ as the immediately subsequent year, and so on. The sample of 59 firms consists of those firms with no fiscal year changes and with dividends and earnings data available on Compustat through-out years -15 to $+3$.

For each firm, we obtain Lintner model parameter estimates using data for event years -15 to -4. These estimations use the firm's annual earnings per share before extraordinary items and total dividends per share, i.e. the sum of both regular and special dividends, with all data inputs split-adjusted as appropriate. Fama and Babiak (1968) examine a variety of Lintner model specifications and conclude that the best dividend predictions come from the specification that suppresses the constant term and includes both lagged and current earnings per share. To provide a robustness check on our findings, we run tests on this and three other model specifications. (Models A and B have intercepts set equal to zero, while C and D have fitted intercepts. Models B and D included lagged earnings, while A and C do not.)

For each firm in each year from -3 through $+3$, we generate raw prediction errors, which equal the observed level of total dividends minus the predicted level of total dividends based on the Lintner parameter estimates, realized earnings, and the prior year's dividend. We then generate standardized prediction errors, defined as the raw error divided by the firm's average dividend over the five years beginning with year -10. Our statistical tests analyze the mean, median and percent of negative standardized prediction errors for the cross-section of the 59 firms in each of years -3 through $+3$.

If firms simply converted specials into regular dividends, we should observe dividend prediction errors clustered near zero in the years surrounding the cessation of specials. On the other hand, we should find systematically negative prediction errors around this time if firms largely stopped paying specials because of general factors that put downward pressure on total dividends. Suppose, for example, that tax law changes encouraged firms to reduce dividends or, more realistically, to raise them less aggressively. We should then find that actual dividends are systematically below the levels predicted by realized

Table 5
Lintner model standardized dividend prediction error (sdpe) analysis for the seven years surrounding the firm's last special dividend payment by 59 NYSE-listed firms with long histories of paying specials at frequent intervals

Event year 0 is the last year in which a firm paid special dividends, year -1 is the immediately prior year, etc. The 59 firms in this sample are a subset of the 91 firms (studied in Table 4) which paid specials in 10 or more years and did so at least 25% of the time. The 59 firms are those firms with no fiscal year changes and complete earnings and dividend data on Compustat for years -15 to $+3$. For each firm, we fit the Lintner model using annual earnings and dividend data for years -15 to -4. Models A and B have intercepts set equal to zero, while C and D have fitted intercepts. Models B and D include lagged earnings, while A and C do not. For each firm, raw dividend prediction errors for years -3 to $+3$ are defined as actual dividends per share minus predicted dividends based on the fitted model coefficients, realized earnings, and last year's dividend. Standardized dividend prediction errors (sdpe) equal the raw prediction error divided by the firm's average dividend over the five years beginning with year -10. Columns (3), (4), and (5) summarize the cross-sectional means, medians, and percent of negative sdpe values. Columns (6), (7), and (8) give p-values for t-tests and Wilcoxon tests to assess whether the means and medians differ significantly from zero, and for binomial tests to assess whether the percent of negative sdpe's differs significantly from 50.0%.

Event Year (1)	Model (2)	Mean sdpe (3)	Median sdpe (4)	% Negative of sdpe's (5)	P-value Mean (6)	P-value Wilcoxon (7)	P-value Binomial (8)
-3	A	-0.01	-0.03	64.4%	0.79	0.35	0.04
	B	0.02	-0.02	57.6%	0.44	0.76	0.30
	C	0.04	0.00	54.2%	0.36	0.60	0.60
	D	0.08	0.00	52.5%	0.05	0.15	0.79
-2	A	0.01	-0.03	57.6%	0.83	0.36	0.30
	B	0.05	-0.03	54.2%	0.47	0.81	0.60
	C	0.10	0.00	50.8%	0.14	0.55	1.00
	D	0.15	0.04	42.4%	0.09	0.20	0.30
-1	A	0.04	-0.08	62.7%	0.58	0.28	0.07
	B	0.08	-0.05	59.3%	0.38	0.74	0.19
	C	0.17	0.00	47.5%	0.10	0.43	0.79
	D	0.22	0.05	44.1%	0.06	0.09	0.43
0	A	0.23	-0.03	54.2%	0.29	0.76	0.60
	B	0.23	-0.11	55.9%	0.30	0.71	0.43
	C	0.36	0.03	44.1%	0.09	0.08	0.43
	D	0.42	0.13	44.1%	0.04	0.02	0.43
1	A	-0.14	-0.11	61.0%	0.27	0.07	0.12
	B	-0.17	-0.14	64.4%	0.17	0.06	0.04
	C	-0.01	-0.02	54.2%	0.97	0.61	0.60
	D	0.03	0.01	49.2%	0.79	0.99	1.00
2	A	-0.06	-0.03	54.2%	0.58	0.19	0.60
	B	-0.12	-0.16	62.7%	0.32	0.08	0.07
	C	0.11	0.06	39.7%	0.37	0.26	0.15
	D	0.02	0.01	46.6%	0.88	0.54	0.69
3	A	-0.09	-0.01	50.8%	0.53	0.39	1.00
	B	-0.08	-0.21	59.3%	0.52	0.10	0.19
	C	0.09	0.07	44.8%	0.59	0.54	0.51
	D	0.20	0.03	48.3%	0.16	0.68	0.90

earnings and the fitted Lintner model. Conversely, we should observe positive prediction errors if the cessation of specials was associated with a shift toward payout policies in which firms tended to distribute greater total dividends than they would have historically, given their earnings performance.

Table 5 indicates that sample firms did not significantly alter their policies regarding total dividends around the time they ceased paying special dividends. For almost every Lintner model specification and event year from -3 to $+3$, columns (6) and (7) show that the mean and median standardized dividend prediction errors (sdpe's) are not significantly different from zero at conventional levels. In only two instances (model D in years -3 and 0, column (6)) is the mean significantly different from zero at the 0.05 level or better. The Wilcoxon p-values in column (7) show only one instance in which the median sdpe differs significantly from zero at this level (model D in year 0). A similar pattern appears in column (8), which reveals only two cases in which the percent of negative spde's is statistically distinguishable from 50.0% at the 0.05 level or better (model A in year -3 and model B in year $+1$).

The results shown in Table 5 for years -3 through 0 indicate that sample firms did not systematically alter their total dividend policies in the four years up to and including their last special dividend. These findings are inconsistent with the view that sample firms were under significant pressures – for example, from changes in tax laws or other parameter shifts – that led them to drop specials as part of a general shift toward a less aggressive dividend policy. These firms simply continued to adjust total dividends in response to earning realizations in a manner consistent with the policies they had followed in prior years. The same pattern holds in years $+1$, $+2$, and $+3$, a finding which also indicates that managers largely converted specials into regulars, with no significant change in the total dividends paid.

3.4. Increases in regulars often offset reductions in special dividends

The data we next report indicate that the conversion of specials into regulars is a general phenomenon, and one that does not simply occur at the time when firms terminate a longstanding policy of paying special dividends. These data show a strong tendency for managers to increase the regular *whenever* they reduce a special dividend. This pattern is consistent with the view that managers seek to avoid disappointing investors with cuts in the special by compensating them at least to some degree with increases in the firm's regular dividend.

Table 6 documents the frequency and magnitude of regular and special dividend changes (panels A and B), and the extent to which our sample firms used increases in the regular dividend to offset reductions in specials (panels C and D). Since it is impossible to observe dividend reductions from a zero level, we restrict attention to those firm-years in which a company paid both positive special and regular dividends in the prior year. All data are for split-adjusted

Table 6
Changes in regular and special dividends by 942 NYSE firms that paid specials in multiple years over 1926–1995

The dividend change data in panels A through D are based on split-adjusted annual dividends (as reported by CRSP), and are restricted to cases in which the firm paid positive regular and special dividends in the prior year. In panel B, the last column gives the percent of the sample of dividend cuts that are omissions. For the subset of cases in which the firm reduced special dividends from the prior year, panel C documents the incidence of the different types of regular dividend changes that came in the same year as the special reduction. For those years in which the firm both reduced the special and increased the regular dividend, panel D documents the incidence of cases in which the dollar magnitude of the regular increase was less than, equal to, or greater than the dollar magnitude of the special reduction.

A. *Incidence of regular and special dividend changes the year after a special dividend payment*

	Sample size	Decrease dividend	No change in dividend	Increase dividend
Regular	7,171	13.4%	33.6%	53.0%
Specials	7,171	49.8%	27.2%	23.0%

B. *Percent changes in regular and special dividends the year after a special dividend payment*

	Sample size	25th percentile	Median change	75th percentile	Dividend omissions
Regular decreases	963	− 50.0%	− 25.0%	− 16.7%	8.3%
Special decreases	3,572	− 100.0%	− 100.0%	− 50.0%	65.7%
Regular increases	3,800	11.1%	25.0%	50.0%	
Special increases	1,648	28.6%	60.0%	100.0%	

C. *Regular dividend decisions that accompany a reduction in special dividends*

	Sample size	Decrease regular	No change in regular	Increase regular
All firms, all years	3,572	18.2%	21.8%	60.0%
1960 + earlier	2,648	19.3%	24.3%	56.4%
After 1960	924	15.0%	14.8%	70.2%

D. *Size of regular dividend increase relative to a contemporaneous special dividend reduction*

		% of cases with dollar amount of regular increase		
	Sample size	< special reduction	= special reduction	> special reduction
All firms, all years	2,142	38.3%	3.5%	58.2%
1960 + earlier	1,494	43.4%	4.3%	52.3%
After 1960	648	25.5%	1.9%	71.6%

changes in annual dividends for the 942 NYSE firms that paid special dividends in multiple years over 1926–1995 (per CRSP).

Since the special label connotes a temporary or occasional dividend flow, conventional wisdom suggests that firms will cut specials more frequently than they cut regulars, and that specials will accordingly exhibit greater volatility than regulars. The former expectation is confirmed in panel A, which shows that reductions in special dividends outnumber reductions in regular dividends roughly four-to-one (49.8% versus 13.4%) and in panel B, which shows that special omissions vastly outnumber regular omissions.[8] The latter expectation is confirmed in panel B, which shows that the median reduction in regular dividends is -25% versus -100% for the median reduction in special dividends, while the median regular increase is 25% versus 60% for the median special increase. (For both increases and decreases, the 25th and 75th percentiles also show larger absolute changes for specials than for regulars.)

While managers of sample firms are more willing to cut specials than to cut regulars, our data also show that managers are hesitant to reduce specials without providing compensation in the form of a regular dividend increase. Panel C reveals that managers raised the regular dividend in 60.0% of the 3,572 firm-years in which they cut specials, a frequency significantly greater than the 46.1% of the firm-years in which they increased regulars while also increasing the special or paying the same special amount. (The 46.1% figure is not shown in the table; the p-value to assess the difference between 46.1% and 60.0% shows statistical significance at better than the 0.0001 level.) Panel C further shows that, during the first half of our sample period (mid-1926 to 1960), sample firms raised regulars in 56.4% of the firm-years in which they cut specials, and did so in 70.2% of such cases during the later sample period. However, the increase from 56.4% to 70.2% is not of economic importance, since it can be explained by the general tendency for sample firms to increase regulars more often in recent years (details not provided).

The contemporaneous changes in special and regular dividends reported in Table 6 are those that occur within the same calendar year, and not necessarily on the same declaration day. However, declaration day data reported in Table 8 below indicate that, more often than not, regular dividends are increased on the same day that firms reduce or fail to pay special dividends, after paying both a regular and a special contemporaneously in the prior year (see Section 4.1 for sampling details). Specifically, columns (3) and (4) of Table 8 show that regular dividends were increased 55.7% of the time (240 out of 431 total observations) on the same day that specials were cut or omitted.

---

[8] The statistics in panel B imply that there are fewer than 100 firm-years with regular dividend omissions and more than 2,300 with special omissions, since omissions constitute just 8.3% of the 963 regular decreases versus 65.7% of the 3,572 special decreases.

Panel D of Table 6 compares the immediate (i.e., current year) dollar magnitude of regular dividend increases with the magnitude of special dividend reductions for the subset of 2,142 firm-years with contemporaneous special reductions and regular increases. Of these particular special dividend reductions, 58.2% were accompanied by a *larger* immediate dollar increase in the regular dividend. (This incidence rises from 52.3% in the first half of the sample period to 71.6% in the second half, but this trend can again be explained by sample firms' general tendency to increase regular dividends more frequently in recent years.) These findings are stronger than they might seem at first glance, since the more permanent nature of regular dividends implies that investors should happily trade a given dollar reduction in the special dividend for a somewhat *smaller* increase in the regular dividend.

The data in panels C and D indicate that managers typically adjust the regular dividend to ameliorate – and in many cases more than fully offset – any disappointment that stockholders might associate with a reduction in special dividends. Since such compensating actions were taken with reasonably high frequency in our sample, investors had (yet another) reason to view specials and regulars as reasonably close substitutes, rather than as independent variables that managers might use to signal distinctly different information about transitory versus persistent earnings.

3.5. Convergence to the now prevalent practice of paying four quarterly dividends per year

Table 7 provides evidence that the virtual disappearance of special dividends is an element of a long-term convergence toward homogeneous dividend policies in which firms pay exactly four regular dividends per year. The sample here consists of all 1,287 firms that paid at least one special dividend sometime between mid-1926 and year-end 1995 while listed on the NYSE. For simplicity, we present data only at five year intervals, beginning with 1930 and ending with 1995. For each year, we include only those firms that paid at least one regular dividend during that year. We tabulate the percentage of firms that paid between one and three dividends, exactly four dividends, and more than four dividends.

Table 7 shows that over the last several decades, more than 80% of sample firms paid exactly four dividends per year, consistent with one's intuition that most firms pay regular dividends on a quarterly basis. But the table also shows that this was far from uniform practice earlier in the century and that sample firms converged slowly on this practice over the same years they gradually dropped special dividends. Recall from Fig. 1 that the decades of the 1930s, 1940s, and 1950s were years when many firms paid specials. Table 7 shows that, during these same years, many firms – often a majority – deviated from a policy of paying exactly four dividends per year and a substantial minority paid fewer

Table 7
Number of dividend payments per year by 1,287 firms that paid at least one special dividend while NYSE-listed

The sample consists of the 1,287 firms that paid at least one special dividend at some time from mid-1926 through year-end 1995 while listed on the NYSE. For each year, we consider only the subset of the 1,287 firms that paid at least one regular dividend in that year. We then tabulate the total number of dividend payments (regulars and specials) by that firm in the year in question. The table reports the percent of firms paying less than four, exactly four, and more than four dividends during the specified year. For simplicity, we report data at five year intervals. All data are drawn from the CRSP monthly tape, and include only NYSE securities with CRSP share codes 10 or 11. A dividend is classified as a special if it has a distribution code of 1262 or 1272, the codes CRSP employs to identify dividends labeled year-end, final, extra, or special.

| Year | Number of firms | Percent of firms with given number of dividends in year: | | |
		1, 2 or 3 dividends	exactly 4 dividends	more than 4 dividends
1930	423	21.7%	57.7%	20.6%
1935	331	26.6%	47.4%	26.0%
1940	500	30.8%	41.8%	27.4%
1945	634	23.8%	56.2%	20.0%
1950	747	14.5%	37.2%	48.3%
1955	753	13.8%	54.2%	32.0%
1960	714	12.7%	70.2%	17.1%
1965	732	9.8%	70.4%	19.8%
1970	627	10.4%	82.6%	7.0%
1975	632	8.7%	80.5%	10.8%
1980	575	8.3%	84.2%	7.5%
1985	454	9.7%	87.0%	3.3%
1990	329	10.0%	84.8%	5.2%
1995	291	7.9%	88.7%	3.4%

than four dividends per year. The latter fact clearly indicates that many firms had not yet settled on a policy of paying four regular dividends per year. (Since many firms paid three or fewer dividends per year, including specials, they obviously could not have paid regulars on a quarterly basis). The data for more

recent years show a substantially higher proportion of firms paying exactly four dividends per year and much lower proportions of firms paying either less than four or more than four dividends per year. This pattern suggests that the disappearance of special dividends was part of a gradual evolution to the now pervasive practice of paying exactly four undifferentiated quarterly dividends in each year.

4. Information content of special dividend announcements

The evidence in Section 3 is consistent with the view that special dividends were largely replaced by regular dividends because many firms paid specials frequently, effectively converting them into close substitutes for regulars. This explanation does not consider the potential signaling value attached to the magnitude of any change in special distributions declared by management. However, the event study evidence we present next indicates that the sign and magnitude of special dividend changes do not systematically convey significant information. Moreover, the average stock market reaction to special dividend declarations, although statistically different from zero, is just not that substantial. These observations lend credence to the notion that, at least during the 1962–1995 sample period for which we have data, the information signaling content of special dividends is small at best.

Brickley (1982, 1983) documents that stock prices increase by about 2% on average when firms announce unanticipated special dividends (defined as specials declared by firms that had not paid them for at least two years). Brickley also finds that, controlling for the size of the total dividend change, regular dividend increases have a significantly more favorable market impact than do unanticipated specials. We extend Brickley's analysis by (1) documenting the stock market reaction to other types of special dividend changes, most importantly to reductions in specials to a still-positive level, and by (2) assessing whether the abnormal stock returns at special dividend announcements are systematically related to the size of the special change.[9]

We find that the stock market typically reacts favorably to the fact that a special dividend is declared (holding the regular dividend constant), but that the stock price response is not systematically related to the magnitude of the

---

[9] Jayaraman and Shastri (1988) report a positive average stock price reaction to special dividend announcements, but unlike Brickley do not control for whether or the extent to which these announcements represent a change in the special dividend. It is difficult to interpret Jayaraman and Shastri's findings, since they assume that every special dividend is simply a "labelled dividend increase" (p. 301). But this assumption is not descriptive since, as we document below, many special declarations actually represent a reduction (or no change) from the prior year's special. Nevertheless, Jayaraman and Shastri's results are consistent with Brickley's findings and with those reported here.

change in the special. Most strikingly, we observe a significantly *positive* average stock market reaction even when firms *reduce* special dividends (to a still-positive level) and leave regular dividends unchanged. Our data also show statistically indistinguishable positive average abnormal returns for increases and decreases in the special dividend to a still-positive level. Moreover, the average market reaction to special dividend declarations (including increases, decreases, and no change from the prior year's level) is significantly greater than the essentially zero market response we find when firms fail to pay a special after declaring one in the prior year. Finally, our tests reveal no systematic relation between the stock return at special dividend announcement and the magnitude of the special change, holding the regular dividend constant.

4.1. Basic event study findings

In Table 8, we examine special dividends declared from mid-1962 (when daily stock returns become available on CRSP) through year-end 1995 by NYSE firms that paid multiple specials while on the CRSP tape. For all dividend announcements analyzed here, the firm paid one special dividend in the base year (defined as year 0) and paid either one special or none in the event year (defined as year 1). Columns (1), (2), and (3) of the table contain cases where the firm paid a special in both years 0 and 1, while column (4) contains cases where the firm paid one special in year 0 but omitted such payment in year 1. For columns (1), (2) and (3), we restrict attention to those cases in which the firm declared a regular dividend on the same date that it declared its special in year 1. We cannot apply this condition to special omissions because firms generally do not announce the omission of a special, but instead simply fail to declare one. Accordingly, the column (4) analysis of special omissions examines cases in which a firm (a) declared a regular dividend in the same calendar month of year 1 as it declared both a regular and a special in year 0, and (b) did not declare a special in that or any other month of year 1.

Table 8 documents average abnormal stock performance in the three days surrounding announcements of special dividends, with the sample partitioned according to the combination of regular and special dividend actions taken on the announcement day. Columns (1), (2), (3), and (4) respectively report results for announcements of an increase, no change, a decrease to a still-positive level, and an omission of special dividends. Rows (A), (B), and (C) report results for increases, no change, and decreases (including omissions) in regular dividends. For each observation in the table, we calculate the abnormal stock return as the firm's raw stock return from the business day before through the business day after the dividend announcement minus the return on the CRSP value-weighted market index over the same three-day period. We assess statistical significance using t- and z-statistics under standard parametric and nonparametric Wilcoxon tests.

Table 8

Mean (median) abnormal stock returns in the three days around dividend announcements by NYSE firms over 1962–1995: sample partitioned according to the combination of special and regular dividend decisions announced by the firm

For these tests, the sample consists of NYSE firms that paid multiple specials over 1926–1995 according to CRSP. The sample is restricted to firms that paid specials from mid-1962 through year-end 1995, since CRSP does not provide daily stock returns for earlier periods. For all data points analyzed here, the firm paid one special dividend in the base year (defined as year 0) and paid either one special or none in the event year (year 1). Columns (1), (2), and (3) contain cases in which the firm paid specials in both years 0 and 1, while column (4) contains cases where the firm paid one special in year 0 but omitted such payment in year 1. For the former group, we restrict attention to cases in which the firm declared a regular dividend on the same date that it declared its special in year 1. We cannot apply this condition to special omissions because firms generally do not announce the omission of a special, but instead simply fail to declare one. Therefore, our analysis of special omissions in column (4) focuses on those cases in which the firm (a) declared a regular dividend in the same calendar month of year 1 as it declared both a regular and a special in year 0 and (b) did *not* declare a special in that or any other month of year 1. Column (5) gives parametric *t*- and Wilcoxon nonparametric *z*-statistics to compare columns (1) versus (3), while column (6) gives *t*- and *z*-statistics to compare columns (1), (2), and (3) pooled versus column (4). For each observation in the table, we calculate the abnormal stock return as the firm's raw stock return for the business day before through the business day after the dividend announcement *minus* the contemporaneous three day return on the CRSP value-weighted market index. For cases in which the regular dividend was decreased, there are respectively 0, 1, and 2 observations in columns (1), (2), and (3) and so the relevant table entries are marked as not meaningful (n.m.).

| | Firm pays another special dividend: | | | | Comparison test statistics: | |
	Increase special (1)	Pay same special (2)	Decrease special (3)	Omit special (4)	Special increases versus decreases (5)	Special payments versus omissions (6)
Increase regular (A)	2.45%* (1.63%)* n = 67	2.45%* (1.78%)* n = 59	1.33%* (1.33%)* n = 64	0.08% (0.08%) n = 176	t = 1.60 z = 1.03	t = 5.15 z = 4.90
Pay same regular (B)	1.25%* (0.91%)* n = 200	0.61%* (0.44%)* n = 311	1.09%* (0.89%)* n = 124	−0.70% (−0.93%) n = 42	t = 0.42 z = 0.14	t = 2.74 z = 3.06
Decrease regular (C)	n.m.	n.m.	n.m.	−1.32% (−1.32%) n = 25	n.m.	n.m.

*Indicates that reported figure is significantly different from zero at the 0.01 level or better under a parametric *t*-test or nonparametric Wilcoxon test.

The most important findings in Table 8 are those in row (B), since these subsamples contain only observations for which the regular dividend is unchanged. These data show that, on average, firms experience significantly positive abnormal stock returns of about 1% when they do not change their regular dividend and either increase the special [column (1)], leave the special unchanged [column (2)], or cut the special to a still-positive level [column (3)]. The findings in column (3) are especially noteworthy because they indicate that investors respond favorably to the news that the firm will pay a special dividend, even when that dividend is smaller than the prior year's special.

Brickley (1982, pp. 121–126) runs tests analogous to those in columns (2) and (4) of row (B). For 22 special omission observations, he reports a negative average announcement day return that is almost identical to the mean figure in our column (4) and which, like ours, is not significantly different from zero. For 15 observations in which the firm left the special unchanged, he finds a negative but statistically insignificant stock return. The latter finding is inconsistent with the significantly positive return we document in column (2), but this inconsistency is not particularly troubling given the small sample size. Brickley does not present findings for samples analogous to those in our columns (1) and (3), and so we cannot compare these aspects of our analysis with the findings of his study.

The comparison test statistics in row (B) of Table 8 indicate that, on average, the stock market reacts more favorably when a special will be paid than when one is omitted, but that it reacts in essentially the same way to special increases and decreases to a still-positive level. Specifically, when firms leave the regular dividend unchanged, we find significantly greater stock returns when they continue to pay another special of whatever magnitude [columns (1), (2), and (3) pooled] than we observe when they fail to pay one [column (4)], with comparison test statistics of $t = 2.74$ and $z = 3.06$. However, we find no statistically detectable difference between the favorable market reactions to special increases and to special decreases to a still-positive level ($t = 0.42$, $z = 0.14$).

Row (A) of Table 8 presents a similar picture, except that these tests are less informative than those in row (B) because the various observations in row (A) have heterogeneous (and contemporaneous) changes in the size of regular dividends. As with row (B), the row (A) data show that firms experience positive mean and median abnormal stock returns when they increase the regular dividend and simultaneously either increase the special, leave it unchanged, or cut the special to a still-positive level (columns (1), (2), and (3) respectively). However, when firms increase the regular dividend but omit payment of a special, the average stock return does not differ significantly from zero (column (4)), suggesting that the regular dividend increase effectively compensates stockholders for the relatively disappointing news that the firm will not pay a special.

We find no statistically significant difference between the mean (and median) stock returns for increases and decreases in special dividends to a still-positive

level, as evidenced by comparison test statistics of $t = 1.60$ and $z = 1.03$ in column (5) of Table 8. However, the pooled sample in which firms continue to pay specials exhibits materially larger stock returns than we find for the sample in which regulars are increased and specials omitted ($t = 5.15$, $z = 4.90$). Although the tests in row (A) do not control for the size of regular dividend changes, they are nonetheless consistent with the general patterns found in row (B), which do control for such changes.

The 25 cases in which firms cut the regular dividend and omitted the special experience an average abnormal return of -1.32% [row (C) and column (4) of Table 8]. This stock return represents a smaller decline than the -5% or -6% average market reaction to regular dividend decreases previously reported by Charest (1978) and Woolridge (1983). Since this finding is not central to the main themes of this paper and since it is based on a relatively small sample, we do not investigate this issue further.

4.2. Cross-sectional regression analysis of announcement returns

We next investigate whether there is significant information (or signaling) content associated with the magnitude of special dividend changes. For this regression analysis, we study the sample of observations in which regular dividends are unchanged, i.e., the observations in row (B) of Table 8. We exclude the 7 observations (out of 677) where the special increased by 300% or more, since these very large changes likely differ in fundamental ways from the vast majority of recurring special dividends. (For example, consistent with the findings presented in Section 3.1, they are more likely to be associated with corporate restructurings.)

The dependent variable in our regression tests is the abnormal stock return for the three-day dividend announcement period, denoted AR. The first explanatory variable, OMIT, is an indicator variable that takes the value 1 if the special dividend was omitted and 0 if a special was paid. The size of the special dividend change is denoted CHG, which is defined as the ratio of the split-adjusted values of (1) the difference between the current year's and last year's special dividends, divided by (2) total dividend payments in the prior year. Finally, OMIT $\times$ CHG is a slope interaction term which measures the dollar size of a given special omission standardized by the firm's total dividend in the prior year. The regression estimates (and t-statistics) are:

$$AR = 0.008 - 0.023 \ \text{OMIT} + 0.024 \ \text{CHG} - 0.071 \ \text{OMIT} \times \text{CHG}.$$
$$\quad (6.16) \ (-2.00) \qquad\quad (1.54) \qquad\quad (-1.10)$$

This regression captures a very small portion of the total variation in abnormal returns, with an adjusted R-squared of just over 1%. However, the intercept is significantly positive, indicating that specials are met with a favorable stock

price reaction that averages about 1%, a finding that is consistent with the figures reported in Table 8. Also, the significantly negative coefficient on OMIT indicates that the stock market return is materially lower when the firm fails to pay a special dividend, corroborating our earlier finding that investors react favorably to the fact that a special will be paid. The insignificant coefficients on CHG and on OMIT × ICHG indicate the absence of a systematic relation between the announcement period abnormal stock return and the size of the change in special dividends.

We find similar results when we replace the CHG variable with the percentage change in the special dividend. The new size measure dictates that we must exclude a slope interaction term in the regression, since all special omissions represent a −100% change in the special dividend, which makes the slope interaction variable perfectly collinear with the intercept term. With these modifications, the resulting regression yields a significant positive intercept and a significantly negative coefficient for OMIT (t-statistic = −2.12), while the coefficient for the percentage change in the special does not differ significantly from zero (t-statistic = 0.61). As before, the announcement return is significantly influenced by the presence or absence of a special dividend payment, but it is not systematically related to the size of the special change.

We would ideally like to assess whether (1) special dividends had significant signaling content in our early sample period, but (2) lost much of that power in later years after special payments had become routine. Unfortunately, CRSP reports daily stock returns only beginning in mid-1962. Given these data limitations, we instead run one additional cross-sectional test on post-1962 data to see if the wealth impact of specials is smaller when the firm historically paid consistent specials. We employ the structure of the regressions reported above, but add as an independent variable the number of consecutive years that a firm paid specials prior to each announcement under consideration. We include the consecutive years variable to assess the hypothesis that, when the signaling content of specials is relatively large (the number of consecutive payment years is low), the market reaction will be greater than when the "surprise" element is small (the number of consecutive payments is high).

We find that the coefficient estimates for the consecutive years variable are negative, as expected, but not statistically different from zero (details not reported). These results do not support the notion that a longer history of paying special dividends translates to a diminished stock market response to subsequent special announcements. (As in the regressions reported above, these tests also show no significant relation between announcement returns and the magnitude of the change in special dividends.)

We are reluctant to place much weight on the results of these cross-sectional tests because they focus exclusively on post-1962 data, and our Section 2 analysis indicates that the decline in specials was already well underway by that time. The latter regularity suggests that any signaling content these payments had in

earlier decades may have been substantially reduced by the time our sample period begins. If so, it would be difficult to observe in our data any cross-sectional relation between relative signaling content and stock returns. Consistent with this conjecture, our regressions uniformly exhibit low R-squareds. Additionally, most announcement returns in our sample are just not that large. In fact, the main picture that emerges from our event study analysis is that, while special declarations convey modest good news to market participants in recent years, their signaling content is typically small.

5. Institutional stock ownership clienteles and the decision to pay special dividends

The virtual disappearance of special dividends may reflect differences in the demand for specials by individual and institutional clienteles, coupled with the substantial shift over the last 45 or so years from a retail-dominated stock market to one dominated by institutions. If institutional investors are more financially sophisticated than retail investors, they should more easily infer the lack of a substantive difference between regular dividends and specials paid with great frequency. Consequently, higher levels of institutional ownership should encourage firms to stop paying specially designated dividends. Stockholders' behavioral biases will reinforce this effect. For example, Shefrin and Statman (1984) argue that some investors demand dividends because they impose a "self control" heuristic that prohibits spending out of invested capital. Miller and Modigliani's (1961) logic implies that such behavior assumes financially naïve investors, since invested capital will fall by the amount of the dividend on the ex-dividend day. Nevertheless, some investors may believe dividends do not reduce invested capital, and thus naïvely view special dividends as "windfalls". To the extent that special dividends are aimed at financially naïve investors, greater institutional ownership should reduce firms' incentives to pay them.[10]

At least two other factors might encourage managers to pay fewer specials when institutional ownership increases. One possibility is that the greater dividend volatility inherent in a policy of paying specials may lead some institutional investors to raise more questions about firm performance than they otherwise would. If so, managers seeking to avoid scrutiny may eliminate

---

[10] Strickland (1997) and Jain (1999) provide evidence that institutions tend to tilt their portfolio holdings toward stocks with low dividend yields. Evidence that institutional ownership and the ERISA prudent man rule affect the stock returns of dividend-omitting firms is presented by Brav and Heaton (1998). Although these studies document a connection between institutional ownership and dividend policy, none speaks directly to the issue of the incentive to pay specials. Our discussion emphasizes differences in financial sophistication across institutional and retail investors because this difference plausibly implies a connection between institutional ownership and the payment of specials.

specials to generate a smoother overall dividend series. A second possibility is that managers eliminate specials because institutional investors find the associated dividend volatility to be bothersome when rebalancing their portfolios. For example, some institutions may view specials as unattractive because of the periodic need to make last minute portfolio "window dressing" trades in response to unanticipated bonus dividend amounts.

5.1. Aggregate trends in institutional ownership and special dividend payments

The New York Stock Exchange Fact Book (various issues) presents Federal Flow of Funds data which indicate that the percent of equity holdings by households and nonprofit institutions fell from 91.3% in 1950 to 48.6% in 1990, while stock ownership by profit-oriented institutions increased from 6.1% to 44.5%.[11] Gompers and Metrick (1998) report firm- and institution-specific data which show that, in recent years, stock ownership has come to be highly concentrated in the hands of a small number of institutional investors. For 1996, they find that investment managers with over $100 million in discretionary funds controlled over 50% of the value of publicly traded stocks, and the 100 largest fund managers controlled over two-thirds of this total. The high concentration of equity ownership by a small number of financially sophisticated institutions suggests that such ownership plausibly contributed to the virtual disappearance of special dividends, consistent with the behavioral bias outlined above.

Two characteristics of the aggregate shift from individual to institutional stock ownership make it more likely that this clientele trend contributed to the disappearance of specials. First, in 1950, aggregate institutional stock ownership was at modest levels (less than 10%, according to the NYSE Fact Books) and special dividends were paid by almost half the dividend-paying firms on the NYSE.[12] Second, subsequent years' increases in institutional ownership and declines in special dividends both occurred gradually over a long period. If the incidence of specials had fallen abruptly over a short time period, we would

---

[11] Poterba and Samwick (1995, Table 7) provide a year-by-year summary of the same data that shows a slow and steady decline in the incidence of household stock ownership from 89.7% in 1952 to 47.7% in 1994. These data show that household ownership increased in only three of the 43 years from 1952 to 1994, and two of these increases are by 1/10th of 1% and 2/10ths of 1%. Almost all the decreases are also small in magnitude (on the order of 1% or so), with the sole exception of 1969 when household ownership declined from 81.9% to 69.1%.

[12] The introduction noted than many large blue chip firms historically paid specials, a finding that might seem at odds with the argument that specials largely appeal to unsophisticated investors (since today we find heavy institutional ownership of blue chips). The two points are consistent, however, since the data show that as recently as the middle part of the 20th century, institutional ownership of equities was not very substantial. The latter fact virtually requires that, during these earlier periods, ownership of many blue chips was not dominated by institutions.

suspect a particular tax or regulatory shift as the primary causal agent. But since we find a gradual decline in specials, it seems more likely that their disappearance is due to economic factors such as the clientele shift toward institutional ownership, which evolved slowly over many years.

5.2. Logit analysis of the impact of institutional ownership on the decision to pay specials

Our tests for a negative relation between the likelihood that a firm continues to pay specials in recent years and its level of institutional ownership employ three samples of dividend-paying NYSE-listed firms. We include only those firms with institutional ownership reported at year-end 1985 in *Standard and Poor's Security Owner's Stock Guide*. Sample (I) contains 118 firms that paid at least 10 special dividends before 1981. Sample (II) contains 195 firms that paid at least five specials before 1981. By construction, these two samples contain only firms with a strong historical tendency to pay specials frequently, which should enhance our ability to detect any impact of institutional ownership on the decision to pay specials in the 1980s. Sample (III) contains 1,009 dividend-paying firms with sufficient data for our logit regressions (described below). The latter sample contains a large number of firms that did not pay specials before 1981, which should make it more difficult to detect any impact of institutional ownership on the decision to pay specials in the 1980s.

We classify a firm as paying special dividends during the 1980s if, at any time from 1981 through 1990, it paid at least one special whose size was less than 5% of equity value. (We impose the size cap because, as documented in Section 3.1, the 1980s witnessed a substantial increase in large one-time specials associated with corporate restructurings, i.e., payments that are not necessarily indicative of an ongoing policy of paying specials.) If the firm paid no such specials over 1981–1990, we classify it as having a policy of not paying specials. In samples (I), (II), and (III), the number of firms that pay specials during the 1980s are 16, 23, and 28 (13.6%, 11.8%, and 2.8% of the firms in the respective samples).

For all three samples, we find that firms that pay special dividends in the 1980s have significantly lower institutional ownership, both under simple univariate comparison tests and in logit regressions that control for other factors that plausibly affect the decision to pay specials. In sample (I), the mean institutional ownership is 49.3% for the firms that do not pay specials versus 34.3% for firms that pay them (*t*-value for difference = 3.50) and the respective medians are 52.4% and 32.9% (Wilcoxon *z*-value = 3.38). In sample (II), the mean and median are 49.7% and 52.5% for those that do not pay specials, compared to 33.0% and 33.9% for those that continue to pay specials (*t*- and *z*-values of 5.11 and 4.50). In sample (III), the mean and median institutional ownership are 33.1% and 35.1% for firms that pay specials during the 1980s

versus 40.5% and 41.3% for firms that do not (t- and z-values of 2.29 and 2.10). These univariate results are consistent with the notion that higher levels of institutional ownership are associated with a lower probability of paying special dividends.

Table 9 reports results of logit regressions that assess whether the likelihood that a firm pays specials is negatively related to the percentage of stock held by institutions. The dependent variable equals one if the firm pays special dividends during the 1980s and zero otherwise. Since larger firms tend to have higher institutional ownership, we control for (the log of) market capitalization to avoid having institutional ownership proxy for other potentially important, but omitted factors related to firm size. We also control for stock return volatility since theory suggests that a riskier operating environment should encourage managers to pay specials to make any future dividend cuts less surprising, hence presumably less troubling to stockholders. The regressions include dividend yield to control for the firm's overall level of dividends. It seems plausible that fewer specials will be paid by firms that pay low overall dividends, given that their dividend policies are not likely to attract any clientele (individual or institutional) with a strong demand for dividend income.

Panel A of Table 9 reveals a significant negative relation between the level of institutional ownership and the likelihood that a firm continues to pay special dividends, controlling for the effects of these other variables. The statistical strength of the relation is of roughly the same order of magnitude in the three samples, with p-values for the institutional ownership coefficient of 0.003 for sample (I), 0.0001 for sample (II), and 0.001 for sample (III).

The control variables show some signs of significance, but overall their impact is not great. The market capitalization coefficient is significantly negative only when institutional ownership is excluded in samples (I) and (II) and is indistinguishable from zero in sample (III). These findings suggest that firm size per se does not affect the decision to continue paying specials. Stock return volatility is significant (or nearly so) in all specifications, but the sign of its coefficient is the opposite of that predicted. One possible explanation is that greater volatility leads managers to adopt conservative dividend policies (with lower regular *and* fewer special dividends) to hedge against disappointing investors with cuts in either type of dividends. The dividend yield coefficient is insignificant in samples (I) and (II), and significantly negative in sample (III). Contrary to our expectation, these dividend yield coefficients are inconsistent with the view that firms that pay higher overall dividends are most likely to pay specials in the 1980s. We have no obvious explanation for this finding. In any case, the important implication for the current study is that all three logit estimations indicate that greater levels of institutional ownership are associated with a significantly lower probability that a firm pays special dividends.

Panel B of Table 9 provides evidence that the negative impact of institutional ownership on the decision to pay specials is economically material. In this

analysis, we hold the control variables constant at their mean values and vary the level of institutional ownership to generate estimates of the probability that a firm pays specials at a given level of institutional ownership. The logit estimates for samples (I) and (II) both imply that, at low levels of institutional ownership, the predicted probability is high that a firm continues to pay specials in the 1980s. For example, 10% institutional ownership implies a firm will continue to pay specials with 88% probability if it is in sample (I) and 50% if it is in sample (II). The predicted probabilities decline fairly rapidly as institutional ownership increases: at 20% institutional ownership, the probabilities decline to 49% for firms in sample (I) and to 34% for firms in sample (II) and, at 50% institutional ownership, they fall to 8.8% and 6.7% respectively. These logit results imply that a large increase in institutional ownership – roughly equal to that which occurred over the last 45 or so years – would be met with a very large decline in the incidence of special dividends.

Although they point towards the same conclusion, the predicted probability changes for sample (III) are not as striking. For this sample, the predicted probability that a firm pays specials falls from 7.6% at 10% institutional ownership to 1.3% at 50% ownership. Arguably, it is more relevant that the *absolute* probability change from 7.6% to 1.3% represents a *relative* decline of 83% in the predicted probability of paying specials. The reason that the 83% figure is more telling is that sample (III) contains many firms with no prior history of paying specials, which implies a low unconditional probability of paying specials for this sample as a whole. In other words, the fact that few firms in sample (III) ever paid specials inherently limits the chances of finding a large absolute reduction in the probability of paying specials. Thus, the 83% relative decline is a strong finding in the sense that it represents almost as large a decline in the importance of specials as one could possibly expect to find in these data.

6. Did common stock repurchases displace special dividends?

Four considerations motivate our interest in assessing whether common stock repurchases displaced special dividends. First, specials and repurchases share the common feature of allowing managers to temporarily increase cash payouts without necessarily committing to continue the higher distributions in future years. Second, managers may have replaced specials with repurchases to capture the tax advantages associated with the latter form of cash distribution. Third, common stock repurchases are currently used by many firms to distribute cash to stockholders, just as special dividends were once used by many firms. Finally, repurchase activity was economically trivial during the years that specials were prominent in corporate payout policies (see below for details).

Table 9
Logit regressions to assess whether dividend paying firms listed on the NYSE pay at least one special dividend during 1981–1990

In the panel A regressions, the dependent variable equals one if the firm paid at least one special dividend (during 1981–1990) whose dollar magnitude is less than 5% of equity value, and zero otherwise. We impose the 5% size cap because large special dividends paid during this period are generally associated with corporate restructurings rather than with ongoing programs of paying occasional specials to stockholders. All sample firms are dividend-paying companies listed on the NYSE, have institutional data for year-end 1985 reported in Standard & Poor's Security Owners' Stock Guide, and have data available on CRSP for the control variables described below. Samples I and II include only firms with a prior history of paying specials before 1981, while sample III includes all firms regardless of their prior special dividend payment record. Log(MktCap) is the natural log of the firm's total market value of equity at year-end 1985. Stock volatility is the standard deviation of the firm's daily stock return over 1985. Dividend yield is the firm's total dividends in 1984 divided by the market value of equity at year-end 1994. Panel B reports the predicted probability that a firm will pay specials at different levels of institutional ownership. In these predictions, the other variables are held constant at their mean values.

A. Estimated coefficients (p-values) from logit regressions

	(I) 118 firms that paid at least 10 specials before 1981		(II) 195 firms that paid at least 5 specials before 1981		(III) 1,009 firms, including those that historically paid specials and those that did not	
Intercept	8.65 (0.022)	8.16 (0.028)	5.20 (0.064)	5.01 (0.072)	−1.47 (2.28)	−2.90 (2.21)
% Institutional stock holdings		−5.77 (0.003)		−6.56 (0.0001)		−4.56 (0.001)
Log(MktCap)	−0.44 (0.03)	−0.22 (0.29)	−0.35 (0.03)	−0.09 (0.58)	0.02 (0.87)	0.30 (0.15)

Stock volatility	− 258.7 (0.01)	− 262.5 (0.02)	− 111.6 (0.12)	− 139.5 (0.05)	− 105.0 (0.05)	− 116.1 (0.02)
Dividend yield	− 16.39 (0.45)	− 15.95 (0.52)	− 16.40 (0.30)	− 20.84 (0.21)	− 17.53 (0.06)	− 26.82 (0.004)
Model p-value	0.032	< 0.001	0.072	< 0.001	0.110	0.001

B. Predicted probabilities of special dividend payments as a function of institutional ownership, evaluated with other variables held at sample means

% Institutional ownership:	(I) 118 firms that paid at least 10 specials before 1981	(II) 195 firms that paid at least 5 specials before 1981	(III) 1,009 firms, including those that paid specials and those that did not
10%	0.880	0.500	0.076
20%	0.494	0.340	0.050
30%	0.278	0.211	0.032
40%	0.156	0.122	0.021
50%	0.088	0.067	0.013

6.1. The timing of the decline in specials and the increase in stock repurchases

Many prior studies indicate that stock repurchases were uncommon before 1973. For example, Dann (1980, 1981) reports a yearly average of 3.8 repurchases tender offers during 1962–1972 by NYSE and AMEX firms, which increased to 43 and 30 in 1973 and 1974. Dollar volume, however, remained modest until 1984. Bagwell and Shoven (1989) estimate annual repurchases for Compustat firms at:

1977: $3.3 billion	1981: $4.0 billion	1985: $41.3 billion
1978: $3.5 billion	1982: $8.1 billion	1986: $41.5 billion
1979: $4.5 billion	1983: $7.7 billion	1987: $54.3 billion
1980: $5.0 billion	1984: $27.4 billion	

For the same population, Poterba (1987) estimates repurchases at $1.8 billion for 1976, while Helwege et al. (1995) estimate them at $0.7 billion for 1975 and $1.1 billion for 1976. These authors, Barclay and Smith (1988), Allen and Michaely (1995), Dunsby (1995), and Dittmar (1997) also report a radical upsurge in repurchases in 1984. Jagannathan et al. (1999) document that the repurchase boom continued at least through 1996.

The decline in special dividends we observe began sometime in the late 1950s and was essentially complete well before the 1984 upsurge in repurchases (Fig. 1, panel A). Only 1.6% of dividend-paying NYSE firms paid special dividends in 1984, an incidence far below that of the 1920s through the 1950s. Similarly, specials account for one-fifth of 1% of the dollar amount of all dividends paid by NYSE firms in 1984 (the same is true for 1981–1983). It is difficult to conceive of economically plausible scenarios in which the mid-1980s stock repurchase boom is closely connected to decisions that many firms made 20 or more years earlier to cease paying special dividends.

6.2. Tax law changes and the incentives to repurchase stock and pay special dividends

The timing of the repurchase boom is also at odds with familiar arguments about tax incentives to pay dividends versus repurchase stock. As many others have noted, the tax law changes in the Tax Reform Act of 1986 should have encouraged greater reliance on dividends relative to repurchases, yet the opposite occurred. It therefore seems unlikely that the increased use of repurchases in recent years is primarily attributable to tax-related factors.

It is similarly difficult to argue that the disappearance of specials is due to tax code shifts that discouraged dividend payments in general. The decline in specials occurred gradually over many years and not in a short time span as one would expect if a single tax law change were the cause. If multiple tax law

changes were responsible, there should be a contemporaneous dampening of *all* forms of dividends over the years that specials eroded. However, the available evidence is inconsistent with this view. Poterba (1987, Table 4) reports that aggregate dividend payout ratios are reasonably stable from the 1940s onward, and increase substantially in the 1980s. [Similar evidence is reported by Dunsby (1995, Table 2) and Fama and French (1999, Table 10)]. This pattern is inconsistent with the view that taxes – or any other factors – put general downward pressure on dividends during the years that specials were declining in importance. This evidence suggests that the disappearance of specials is connected to forces that made specials per se unattractive and not to factors that generally discouraged dividend payments.

Finally, other data in Poterba (1987) cast additional doubt on the notion that income taxes played an important role in the disappearance of specials. His Table 4 provides estimates of the tax penalty on dividends relative to capital gains. These data show only small variation in the dividend tax penalty from World War II through the early 1980s, with a modest trend toward a *smaller* dividend tax penalty in later years. If tax changes were the primary reason that firms altered their usage of special dividends, the incidence of specials should increase in recent years, the opposite of what actually occurred.

6.3. Did firms replace recurring special dividends with stock repurchase programs?

Because special dividends are similar in structure and size to open market stock repurchases,[13] we next investigate whether firms substitute open market repurchase programs for prior policies of paying recurring special dividends. To enhance our ability to detect a substitution of repurchases for specials, we focus on the sample of 91 NYSE firms (described in Section 3.3) that ended well-established policies of paying specials at frequent intervals. If these firms have indeed substituted repurchases for specials, we would expect to observe a reasonable number of repurchases (see below for more precise estimates) within a few years of their last special dividend. We exclude firms that historically paid specials infrequently, since we would have difficulty interpreting evidence of low repurchase activity following their last special dividend. A low incidence of repurchases may be perfectly normal for the latter firms (given their historical

---

[13] Special dividends provide cash to all stockholders, who can also choose to sell their shares and thus receive a similar cash distribution under an open market repurchase program. Data in Stephens and Weisbach (1998) imply that the average annual payout under an open market repurchase program is about 2% of equity value. For our sample, the mean and median specials are 1.46% and 0.98% of the firm's share price one month before the special was announced.

proclivity to pay special dividends infrequently) and not necessarily an indica-tion that they have failed to substitute repurchases for specials.[14]

For each firm in the sample of 91, we document repurchases by searching the *Wall Street Journal Index* for the last year in which a special was paid (event year 0), the two prior years (years -2 and -1), and the ten years after the last special (years $+1$ to $+10$). Column (1) of Table 10 reports the cumulative incidence of open-market repurchases as of each event year.[15] Columns (2) and (4) report estimates of the expected repurchase incidence under the assumption that repurchases replaced specials. To see the logic underlying these estimates, let π represent the probability that a firm makes a bonus cash distribution in a given year. Assuming that different years' bonus payouts are independent, the probability of zero repurchases for T consecutive years is $(1 - \pi)^T$ and the probability of at least one repurchase by year T and is $p(T) = [1 - (1 - \pi)^T]$. If π is equal across firms, the expected incidence of firms that repurchase stock by year T is $np(T)$, where n is 91. Column (2) sets $\pi = 0.25$, and thereby provides a lower bound on the expected repurchase incidence, since all sample firms paid specials at least 25% of the time. Column (4) sets $\pi = 0.587$, and thereby provides an "average case" estimate, since the average sample firm paid specials 58.7% of the time. Columns (3) and (5) report z-statistics to assess whether the observed level of open-market repurchases differs significantly from their ex-pected level.[16]

For each event year from $+1$ through $+10$, Table 10 shows a significantly lower cumulative incidence of open-market stock repurchases than expected under either the lower bound or average case scenarios. By event year $+5$, 20

---

[14] An assumption here is that by focusing on firms with a high historical incidence of special dividend payments, our tests analyze firms whose future policies are to make bonus distributions at a high frequency. This assumption seems reasonable a priori, but it is clearly an approximation, since whether a special dividend is paid or not depends on both the firm's policy regarding special distributions and whether the exogenous events necessary to trigger a special dividend actually materialized ex post. Since the tests reported below show an unexpectedly low incidence of stock repurchases following the cessation of specials, one might be concerned that this low incidence occurred because of exogenous changes that led firms to materially after their payout practices. Some evidence that this concern is not an issue for the 91 firms in this sample is that our earlier Lintner model analysis reveals no detectable change in the behavior of their total dividend payments around the time they stop paying special dividends (see Table 5).

[15] For each event year, we report repurchase incidences as a proportion of the full sample of 91 firms, even though there are four firms for which we have incomplete data after event year 5. The statistical significance of our results is unchanged when we measure repurchase incidence as a proportion of the number of firms with complete data.

[16] The proportion of firms that repurchase stock by event year T follows a binomial distribution with "success" probability $p(T)$. Letting $O(T)$ equal the observed number of firms that repurchase stock by year T (out of a sample of n firms), the test statistic is then $z = [O(T) - np(T) - 0.5]/[np(T)(1 - p(T))]^{1/2}$. This test statistic is based on the normal approximation to the binomial distribution with correction for continuity.

Table 10
Cumulative incidence of firms announcing open-market stock repurchases in the years surrounding
the cessation of special dividend payments: 91 NYSE firms with long histories of paying recurring
specials

The sample contains 91 NYSE firms that paid special dividends in 10 or more years and did so at
least once every four years on average. A firm is included here only if it paid specials through 1965
and remained listed on CRSP for at least four years after its last reported special. Event year 0 is
defined as the calendar year in which the firm last paid a special dividend. Column (1) reports the
actual *cumulative* number and percent of firms announcing an open-market repurchase program by
the specified event year. Columns (2) and (4) give the expected cumulative number and percent of
firms repurchasing stock under two different scenarios, while columns (3) and (5) provide z-statistics
to assess the significance of the difference between the actual and expected numbers. The "lower
bound" scenario takes the probability that a firm will repurchase stock in a given year as 0.25. It is
a lower bound scenario in the sense that all sample firms paid special dividends at least once every
four years during the time between their first and last special. The "average" scenario takes the
probability that a firm will repurchase stock in a given year as 0.587. It is an average scenario in the
sense that the average firm in the sample paid special dividends in 58.7% of the years between their
first and last special. Information on stock repurchases is taken from the *Wall Street Journal Index*.
A dividend is classified as a special if it has a distribution code of 1262 or 1272, the CRSP codes for
dividends labeled year-end, final, extra, or special. In columns (2) through (5), the entries for years
-2 through 0 are marked not applicable (n.a.) to reflect the assumption that firms do not
repurchase stock until they stop paying special dividends.

Event year relative to payment of last special	Cumulative number (%) of firms making open-market repurchases (1)	Lower bound prediction of stock repurchases		Average case prediction of stock repurchases	
		Expected number (%) (2)	(1) vs. (2) z-statistic (3)	Expected number (%) (4)	(1) vs. (4) z-statistic (5)
-2	1 (1.1%)	n.a.	n.a.	n.a.	n.a.
-1	4 (4.4%)	n.a.	n.a.	n.a.	n.a.
0	8 (8.8%)	n.a.	n.a.	n.a.	n.a.
1	10 (11.0%)	23 (25.0%)	-3.21	53 (58.7%)	-9.35
2	14 (15.4%)	40 (43.8%)	-5.56	75 (82.9%)	< -15.00
3	16 (17.6%)	53 (57.8%)	-7.88	85 (93.0%)	< -15.00
4	18 (19.8%)	62 (68.4%)	-10.08	88 (97.1%)	< -15.00

Table 10 (*continued*)

Event year relative to payment of last special	Cumulative number (%) of firms making open-market repurchases (1)	Lower bound prediction of stock repurchases		Average case prediction of stock repurchases	
		Expected number (%) (2)	(1) vs. (2) *z*-statistic (3)	Expected number (%) (4)	(1) vs. (4) *z*-statistic (5)
5	20 (22.0%)	69 (76.3%)	− 12.30	90 (98.8%)	< − 15.00
6	21 (23.1%)	75 (82.2%)	− 14.89	91 (99.5%)	< − 15.00
7	22 (24.2%)	79 (86.7%)	< − 15.00	91 (99.8%)	< − 15.00
8	28 (30.8%)	82 (90.0%)	< − 15.00	91 (99.9%)	< − 15.00
9	29 (31.9%)	84 (92.5%)	< − 15.00	91 (100.0%)	< − 15.00
10	29 (31.9%)	86 (94.4%)	< − 15.00	91 (100.0%)	< − 15.00

firms or 22.0% of the test sample had announced an open-market repurchase. Using lower bound estimates, we expect that number to be 69 firms, or 76.3% of the test sample. Using average case estimates, we expect it to be 90 firms, or 98.8%. Under the lower bound scenario, we expect 86 firms to have announced such programs by event year + 10 while, under the average case scenario, we expect virtually all 91 firms to have done so.

The same picture emerges when we consider all types of repurchases: tender offers, privately negotiated buybacks, and open-market repurchases. In every year, we observe significantly fewer repurchases of all types than expected under the substitution hypothesis (details not shown in Table 10). For example, by year + 10, 38 firms (41.8% of the sample) announced some type of repurchase, an incidence that is materially below that expected under both lower bound and average case scenarios.

Because our data include the 1970s and 1980s period of generally increased repurchase activity, they probably overstate the number of firms that introduced repurchases specifically to replace special dividends. In Table 10, 11 (28.9%) of the 38 firms that paid their last special before 1973's general increase in repurchases had repurchased stock by year + 10. Of the remaining 53 firms (which paid their last special in 1973 or later), 50.1% (27 firms) repurchased

stock by year $+10$. The difference in repurchase incidence before and after 1973 is significant at the 0.031 level under a chi-square test. The higher incidence of repurchases after 1973 plausibly reflects, at least to some degree, the general increased popularity of repurchases per se rather than a deliberate substitution of repurchases for specials.

A possible explanation for the low incidence of stock repurchases in our sample is that firms replaced a policy of paying frequent specials with one of making infrequent stock repurchases. We can assess this possibility by noting that, even if firms slowed the rate of special payouts (independent of form), we should nonetheless observe the greatest incidence of repurchases among firms with the highest prior frequency of special dividends. For this test, we partition the sample according to the historical frequency of special dividends. Group I contains those firms that paid specials *least* often (less than every other year on average), group III contains the firms that paid specials *most* often (more than three out of four years on average), and group II contains the firms that paid specials with intermediate frequency.

Among the firms that had previously paid special dividends most frequently, only 20.0% (five of 25 firms) had repurchased stock by the end of event year $+10$ (group III), a frequency well below that for firms in the other groups. Among firms that previously paid specials least often, 53.7% (22 of 41 firms) had repurchased stock by the end of event year $+10$ (group I). And repurchases were undertaken by 44.0% of the firms (11 of 25) in the intermediate special dividends group (group II). Thus, firms with the highest prior frequency of special dividends have the lowest subsequent incidence of repurchases, and the difference across groups is significant at the 0.052 level under a chi-square test. This pattern is the opposite of what we should observe if firms replaced special dividends with stock repurchases.

7. Summary and implications of findings

This paper documents that NYSE firms once pervasively paid special dividends, but this practice gradually eroded over the second half of the 20th century so that now such payouts are rare. Our evidence indicates that firms typically paid specials almost as predictably as regular dividends, a payment pattern that effectively made them close substitutes for regulars. A remarkably large 27.9% of NYSE-listed firms that paid specials in multiple years did so at least 90% of the time, i.e., in at least nine out of ten years on average. Well over half (56.8%) these firms paid specials more often than every other year on average. When specials are paid so predictably, the special versus regular labeling loses much of any meaningful distinction. In contrast to the vast majority of special dividends, large specials (defined as those exceeding 5% or 10% of equity value) have survived and, in fact, have increased in importance in

recent years. The survival of large specials likely reflects the fact that their sheer size automatically differentiates them from regular dividends.

With little substantive economic difference between virtually all specials and regulars, we would expect most firms to eventually drop the labeling distinction and simply incorporate specials into the regular dividend. Evidence consistent with this view is provided by our Lintner (1956) model analysis of firms that eliminated specials after paying them frequently for many years. Controlling for earnings, the pattern of regular dividends after the cessation of specials does not differ significantly from the earlier pattern of total (special plus regular) dividends. Further evidence that these firms simply substituted regular dividends for specials is the fact that they increased regulars significantly more often after they stopped paying specials than they did while paying specials. More generally, we also find that firms tended to increase regulars when they reduced specials to a still positive level, effectively treating regular increases as substitutes for reductions in specials. Our data also indicate that the disappearance of specials is part of a general evolution toward homogeneous dividend policies in which firms gradually converged on the simple practice of paying exactly four regular dividends per year.

Consistent with Brickley (1983), we find that over 1962–1995 the stock market typically reacts favorably to the declaration of a special dividend, holding the regular dividend constant. However, the market reaction is typically modest in size and is not systematically related to the sign or magnitude of the change from one positive special dividend payment to another. For example, the stock market response averages approximately 1%, both when firms increase specials and when they reduce them to a still-positive level. Overall, our data indicate that although recent years' special dividends generally convey good news to investors, any such signaling content is typically small.

We also find some evidence that the decline in specials is related to the clientele shift from the mid-century era when individuals dominated stock ownership to the current era in which institutions dominate. At the aggregate level, the decline in specials and the increase in institutional ownership evolved roughly in parallel, with both occurring gradually over many years. At the firm level, logit regressions show a significantly negative relation between institutional stock ownership and the probability that a firm pays specials in recent years. These findings suggest that the disappearance of specials is at least partly due to institutional investors' superior ability to infer that, as a practical matter, corporate managers treated most specials and regulars as close economic substitutes.

Our evidence indicates that the disappearance of specials is not closely connected to recent years' upsurge in stock repurchases. For example, the decline in special dividends began many years before the upsurge in stock repurchases and was largely complete by the time repurchases became common. Historically, there is no clear analog to repurchase tender offers among special

dividends, since prior to the takeover and restructuring wave of the 1980s there were virtually no specials comparable in size to repurchase tender offers. Tender offers apparently emerged as vehicles to satisfy relatively recent desires to quickly distribute large amounts of cash, and did not displace large special dividends in accomplishing this objective. Finally, among firms that stopped paying specials after long histories of frequently making such payouts, the incidence of open market (and other types of) repurchases is significantly lower than expected if firms had simply substituted stock repurchases for special dividends.

Our findings pose a challenge for dividend signaling theories, which hold that dividend decisions are an important vehicle for managers to signal stockholders about future firm profitability. As Brickley (1982, 1983) notes, the explicit labeling of special dividends inherently conveys a message that a portion of current dividends is transitory. The fact that specials have almost completely disappeared is inconsistent with the view that these particular dividend signals serve an economically important function. Moreover, the revealed preferences of most managers indicate that they generally did not assign great importance to the ability to send signals that sharply and credibly differentiated between transitory and permanent dividend components. If managers viewed such signals as important, they would not have followed the self-defeating practice of paying specials almost as predictably as they paid regulars.

It is conceivable that special dividends historically served an economically useful signaling function, but were supplanted by more effective signaling vehicles. In this case, the disappearance of specials would not call into question the value of financial signaling per se, but would indicate that one type of dividend signal had been rendered obsolete by innovation in signaling technology. A priori, common stock repurchase is the most plausible candidate for such a signaling innovation. The empirical difficulty with this explanation is that we find little evidence of a connection between the disappearance of specials and the emergence of repurchases as an important payout vehicle.

If we nonetheless assume that special dividends historically served as financial signaling devices and that repurchases now serve this function, we are left with some interesting unresolved questions about what would appear to be a glacially slow process of financial innovation. What factors might explain why specials declined in importance many years before the wide adoption of an ostensibly superior signaling vehicle? And why would most firms that dropped specials after paying them at frequent intervals not move immediately into using the superior signaling technology? Bagwell and Shoven (1989, p. 136) argue that managers required a long time to learn about the advantages of repurchases as a cash distribution method. Yet, if managers were slow to see the advantages of repurchases, why were the disadvantages of special dividends apparent to them so much earlier? While answers to these questions would be interesting in their own right, they could also help us better understand the general process through

which once-popular financial practices come to be obsolete and are eventually replaced.

The findings documented here for special dividends also raise doubts about the importance of signaling as an explanation for observed changes in firms' regular dividends. Our evidence indicates that the survival of different types of special dividends depends on whether or not these payouts send sharply delineated messages to stockholders. If we apply this criterion to firms' regular dividends, changes therein would seem to convey an important message to stockholders only when those changes are dramatic (and not when they are routine). Since most firms tend to make modest changes in regular dividends, the probability that these changes are viewed by investors as meaningful signals about future profitability is small. Thus, if we extrapolate our inference from the data on special dividends, most regular dividend decisions are unlikely to reflect signaling motives. Fama and French (1999) report evidence that publicly traded firms have become significantly more reluctant to pay dividends over the last two decades. Although a variety of factors may explain this trend, Fama and French's evidence is consistent with the view that a substantially larger proportion of publicly traded firms now finds it worthwhile to forego dividend signaling.

Signaling issues aside, our analysis is also relevant to the question of the general relation between firms' dividend policies and their stock repurchase activity. Although dividends and stock repurchases are widely viewed as closely related cash distribution methods, Shoven (1986) and Dunsby (1995) find no evidence that increases in repurchases lead to offsetting reductions in total dividends. Similarly, Jagannathan et al. (1999) conclude that repurchases do not appear to replace dividends. It is possible that the findings of these studies are attributable to their empirical focus on total dividends rather than on specials alone. Unlike regulars, specials and repurchases are similar because both enable managers to make temporary cash payouts without implicitly committing to continue the higher payments in the future. For this reason, an examination of the relation between specials and repurchases should provide a more powerful test of whether repurchases displaced dividends. Our evidence on special dividends indicates that any such connection is weak at best.

A possible explanation for the weak empirical relation between dividends and repurchases is that each accomplishes fundamentally different objectives. For example, dividends may largely serve to distribute free cash flow, while repurchases may be actions taken primarily to raise the firm's share price. This view is plausible in that repurchases were of marginal economic significance until the 1980s, when takeover pressures became widespread. The increased importance of institutional ownership may play a complementary role by pressuring managers to keep stock values high. Such pressures could explain why repurchases are now so popular and why they were not generally observed earlier in this century when institutions did not dominate the stock market and when hostile

takeovers were uncommon. The disappearance of specials and the advent of repurchases might therefore both be related to the clientele shift toward institutional ownership, but with different specific motivations driving the two trends.

Finally, our evidence indicates that the scope of interesting unresolved questions about corporate payout policies extends beyond that emphasized in recent research. The recent literature focuses on the questions of why firms pay dividends (e.g., to signal future profitability or to limit free cash flow wastage), and what determines the mix of dividends versus repurchases. Interest in these questions is shaped partially by issues that seem of immediate relevance; e.g., interest in stock repurchases is undoubtedly driven by their explosive growth since the mid-1980s. But the evidence implies that corporate finance theory does not simply face the task of explaining the current set of payout practices, since the nature of those practices has changed substantially over the last 50 years. Taking history as a guide, there is no guarantee that the paractices that currently seem of greatest relevance will continue to seem so important even 20 or 30 years from now. A more realistic view is that there is not a single fixed set of payout practices to be explained, but that instead these practices are in constant flux, so that an important task of corporate finance research is to help identify the factors that shape their evolution.

References

Allen, F., Michaely, R., 1995. Dividend policy. In: Jarrow, R.A., Maksimovic, V., Ziemba, W.T. (Eds.), Operations Research and Management Science. Elsevier, Amsterdam.

Bagwell, L., Shoven, J., 1989. Cash distributions to shareholders. Journal of Economic Perspectives 3, 129–140.

Barclay, M., Smith Jr., C., 1988. Corporate payout policy: cash dividends versus open market repurchases. Journal of Financial Economics 22, 61–82.

Benartzi, S., Michaely, R., Thaler, R., 1997. Do changes in dividends signal the future or the past? Journal of Finance 52, 1007–1034.

Bhattacharya, S., 1979. Imperfect information, dividend policy, and the "bird in the hand fallacy". Bell Journal of Economics 10, 259–270.

Brav, A., Heaton, J., 1998. Did ERISA's prudent man rule change the pricing of dividend omitting firms? Working paper, Duke University.

Brickley, J., 1982. Shareholder wealth, information signaling, and the specially designated dividend. Ph.D. Dissertation, University of Oregon.

Brickley, J., 1983. Shareholder wealth, information signaling, and the specially designated dividend: an empirical study. Journal of Financial Economics 12, 187–209.

Charest, G., 1978. Dividend information, stock returns and market efficiency – II. Journal of Financial Economics 6, 297–330.

Dann, L., 1980. The effect of common stock repurchases on securityholder returns. Ph.D. Dissertation, UCLA.

Dann, L., 1981. Common stock repurchases: an analysis of returns to bondholders and stockholders. Journal of Financial Economics 9, 101–138.

DeAngelo, H., DeAngelo, L., Skinner, D., 1996. Reversal of fortune: dividend signaling and the disappearance of sustained earnings growth. Journal of Financial Economics 40, 341–371.

Denis, D., 1990. Defensive changes in corporate payout policy: share repurchases and special dividends. Journal of Finance 45, 1433–1456.

Denis, D., Denis, D., 1995. Causes of financial distress following leveraged recapitalizations. Journal of Financial Economics 37, 129–157.

Dial, J., Murphy, K., 1995. Incentives, downsizing, and value creation at General Dynamics. Journal of Financial Economics 37, 261–314.

Dittmar, A., 1997. Stock repurchase waves. Working paper, University of North Carolina.

Dunsby, A., 1995. Share repurchases, dividends, and corporate distribution policy. Ph.D. Dissertation, University of Pennsylvania.

Fama, E., Babiak, H., 1968. Dividend policy: an empirical analysis. Journal of American Statistical Association 63, 1132–1161.

Fama, E., French, K., 1999. Disappearing dividends: changing firm characteristics or increased reluctance to pay? Working paper, Graduate School of Business, University of Chicago.

Gompers, P., Metrick, A., 1998. How are large institutions different from other investors? Why do these differences matter? Working paper, Harvard University.

Helwege, J., Laster, D., Cole, K., 1995. Stock market valuation indicators: is this time different? Research paper no. 9520, Federal Reserve Bank of New York.

Jagannathan, M., Stephens, C., Weisbach, M., 1999. Financial flexibility and the choice between dividends and stock repurchases. Working paper, University of Arizona.

Jain, R., 1999. Institutional investors do not prefer dividends: individual investors do. Ph.D. Dissertation, UCLA.

Jayaraman, N., Shastri, K., 1988. The valuation impacts of specially designated dividends. Journal of Financial and Quantitative Analysis 23, 310–312.

John, K., Williams, J., 1985. Dividends, dilution, and taxes: a signaling equilibrium. Journal of Finance 40, 1053–1070.

Lintner, J., 1956. Distribution of incomes of corporations among dividends, retained earnings, and taxes. American Economic Review 46, 97–113.

Miller, M., Modigliani, F., 1961. Dividend policy, growth, and the valuation of shares. Journal of Business 34, 411–433.

Miller, M., Rock, K., 1985. Dividend policy under asymmetric information. Journal of Finance 40, 1031–1051.

New York Stock Exchange, various dates. New York Stock Exchange Fact Book, NY, NY.

Palepu, K., Wruck, K., 1992. Consequences of leveraged shareholder payouts: defensive versus voluntary recapitalizations. Working paper, Harvard Business School.

Poterba, J., 1987. Tax policy and corporate saving. Brookings Papers on Economic Activity, 455–503.

Poterba, J., Samwick, A., 1995. Stock ownership patterns, stock market fluctuations, and consumption. Brookings Papers on Economic Activity, 295–372.

Shefrin, H., Statman, M., 1984. Explaining investor preference for cash dividends. Journal of Financial Economics 13, 253–282.

Shoven, J., 1986. The tax consequences of share repurchases and other non-dividend cash payments to equity owners. In: Summers, L. (Ed.), Tax Policy and the Economy, Vol. 1. NBER and MIT Press, Cambridge, MA.

Stephens, C., Weisbach, M., 1998. Actual share reacquisitions in open-market repurchase programs. Journal of Finance 53, 313–333.

Strickland, D., 1997. Determinants of institutional ownership: implications for dividend clienteles. Working paper, The Ohio State University.

Woolridge, J., 1983. Dividend changes and security prices. Journal of Finance 38, 1067–1615.

Wruck, K., 1994. Financial policy, internal control, and performance: Sealed Air Corporation's leveraged special dividend. Journal of Financial Economics 36, 157–192.