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Dividends and Politics

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Abstract

Influential contributors to debates concerning corporate governance assert that it is impossible to understand key trends without taking politics into account. This proposition has, however, remained largely untested. This paper therefore offers an empirical study of the relation between politics and corporate governance, with the focus being on the determinants of dividend policy in publicly quoted United Kingdom (U.K.) companies between 1949 and 2002. The departure point is the wellknown "partial adjustment" model of dividend policy, which we augment to take into account the ideological orientation of the party in power and other potentially salient proxies for politics (e.g. tax policy and dividend controls). The model is tested by reference to aggregate annual data on dividends and earnings. The results indicate that the political placement of the party in office lacks explanatory power. Moreover, even when politics manifests itself in regulation explicitly designed to regulate corporate behaviour, political variables generally do not correlate in the predicted direction with dividend pay-outs. The evidence therefore is inconsistent with the proposition that politics shape corporate governance.

Keywords: corporate governance, dividend policy, politics, tax rules, dividend controls, unions, labor costs, corporate law

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I. INTRODUCTION

Is corporate governance affected substantially by the political environment in which large firms operate? Certainly, in countries suffering from political repression and related civil strife, the economic and institutional pre-conditions for the development of large, privately-owned enterprises are unlikely to be satisfied.[1] But what about rich, stable democracies? Are prevailing explanations for corporate institutions, based upon market forces, technological developments and the quality of the legal system, necessarily incomplete because no explicit allowance is made for the role of politics? Mark Roe and other contributors to ongoing debates concerning corporate governance answer "yes", asserting that it is impossible to understand the modern corporation properly without taking the political angle into account.[2] This paper therefore offers an empirical study of the relation between politics and corporate governance.

Our measure of corporate governance is dividends. There are two main reasons why dividends are a potentially integral element of corporate governance. First, when companies make regular and continuous dividend payments, this can curb the potentially counterproductive accumulation of undistributed funds (referred to as "free cash flow" in the finance literature) by managers and can activate beneficial capital market discipline by forcing companies to rely on external sources to obtain

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[1] Mark J. Roe, Corporate Law's Limits, 31 J. Legal Stud. 233 (2002).

[2] Mark J. Roe, Political Determinants of Corporate Governance (2003); Peter A. Gourevitch, The Politics of Corporate Governance Regulation, 112 Yale L.J. 1829 (2003).

needed funds.[3] Second, unexpected changes to dividend policy constitute potentially valuable signals under asymmetric information and dividend cuts in particular can activate alternative corporate governance mechanisms that address poor performance or financial distress.[4]

Using Mark Roe's work on politics and corporate governance as our departure point, we hypothesize that left-wing governments will depress dividends whereas right-wing governments will put in place policies that encourage higher dividend payments. We use data on aggregate dividend pay-outs by U.K. public companies between 1949 and 2002 to measure the impact of politics on dividends. We focus on Britain because it is an excellent laboratory for testing the relationship between politics and corporate governance. One advantage is that there is detailed annual financial data covering most of Britain's publicly quoted companies available back to 1949.[5] Britain's political system is also well-suited for assessing the impact that politics potentially has on corporate governance. This is because, unlike Continental European political systems that often yield consensus-oriented coalition governments,

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[3] Randall Morck and Bernard Yeung, Dividend Taxation and Corporate Governance, 19 J. Econ. Persp. 163, 170 (2005); Frank Easterbrook, Two Agency-Cost Explanations of Dividends, 74 Am. Econ. Rev. 650 (1984).

[4] For summaries of formal models of dividend "signalling", see Ronald C. Lease, Kose John, Avner Kalay, Uri Loewenstein and Oded H. Sarig, Dividend Policy: Its Impact on Firm Value 102-6 (2000).

[5] A.W. Goudie & G. Meeks, Company Finance and Performance: Aggregated Financial Accounts for Individual British Industries, 1948-82 2 (1986).

Britain's "Westminster Model" gives the party in control substantial leeway to implement policies it prefers.[6]

The "Westminster Model" would not be of great significance for our purposes if a single party had had a monopoly on power between 1949 and 2002. In fact, however, neither of Britain's major political parties (the Conservatives and Labour) dominated exclusively,[7] meaning that there was considerable potential for significant shifts in policy over time. Given this, and given that there was no doubt at any moment in time which party held political power, if there is a link between politics and corporate governance, the effects should be particularly pronounced for Britain. Indeed, studying the U.K in isolation arguably constitutes a more robust test for politics' impact on corporate governance than a cross-country study involving countries where coalition-oriented government was the norm.

While the U.K. should offer a good test of a potential link between politics and corporate governance, our results generally indicate that, at least through the medium of dividend policy, politics does not influence corporate governance. The political placement of the party in office, as measured by positions taken on a wide range of issues in their campaign platforms, does not account in any statistically meaningful way for dividend pay-outs. The outcome is the same even if only economic policies

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[6] On the distinctions between consensus and majoritarian political systems and why these might influence corporate governance, see Peter Gourevitch & James Shinn, Explaining Corporate Governance: The Role of Politics 181-85 (2004, draft manuscript on file with the authors).

[7] The Conservatives were in office three times, covering from 1951 to 1964, 1970 to 1974 and 1979 to 1997. Labour was the governing party four times, covering from 1945 to 1951, 1964 to 1970, 1974 to 1979 and from 1997 to the present.

advocated by the governing party are taken into account. Our test of various "secondary" political variables reveals similarly that they lack explanatory power. The results are not uniform, but for reasons to be elaborated upon, the findings that appear to support the proposition that politics constitutes a determinant of dividend policy need to be carefully qualified.

The paper is organized as follows. Section II discusses the theory that politics constitutes a determinant of corporate governance. Section III explains why the paper focuses on dividends as a means for testing the link between politics and corporate governance. Section IV describes our basic model of dividends and politics. Section V discusses tax. Section VI deals with other "secondary" political variables. Section VII describes our data. Section VIII summarizes our results. Section IX concludes.

II. POLITICS AND CORPORATE GOVERNANCE

Mark Roe argues that political conditions affect corporate governance.[8] Left-wing countries, he says, favor employees over investors, backed by regulation designed to increase the leverage workers possess. Corporate executives, being aware of the bias in favor of employees, tend to give investors short shrift, thus ensuring that a U.S.-style stock market economy is unlikely to evolve. In making this point Roe

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[8] See, for example, Roe, Political Determinants, *supra* note 2.

acknowledges the standard agency cost problem affecting relations between managers and shareholders, but draws attention to a worker-related twist.[9]

Roe asserts that senior executives want to run big firms since doing so increases the resources under their control, thereby yielding greater prestige and power. Still, because executives in effect have all their eggs in one basket, the continued operation of their companies matters greatly to them. As a result, senior managers tend to avoid changes that might put the survival of their firms at risk. As Roe points out, this is an agenda that tallies with the objectives of incumbent employees. This is because being associated with a large company can create numerous promotion opportunities and "a steady as she goes" ethos will bolster job security. Correspondingly, under appropriate political conditions there is a foundation for an alliance between managers and employees that could leave shareholders out in the cold.

To find out if politics in fact constitutes a determinant of corporate governance, Roe carried out an empirical test covering the ownership structure of large companies in sixteen wealthy nations. He borrowed from an index based on ratings compiled by political scientists that ranked governing political parties from left to right on a numerical scale.[10] Roe then tested whether political rankings assigned to

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[9] Roe, Political Determinants, *supra* note 2, 33-37; Mark J. Roe, Rents and Their Corporate Consequences, 53 Stan. L. Rev. 1463, 1468-75 (2001).

[10] See Mark J. Roe, Political Preconditions to Separating Ownership from Control, 53 Stanford L. Rev. 539, 563 (2000).

each country covered in his study were correlated with ownership concentration.[11] His results support the proposition that politics constitute a determinant of corporate governance.[12] There has been little additional empirical work on point and that which has been done has focused on the same variable as that used by Roe, namely ownership patterns in large companies in rich countries.[13] Thus, further testing of the proposition that politics affects corporate governance is in order.

III. DIVIDENDS AS A PROXY FOR CORPORATE GOVERNANCE

This paper tests whether politics is a determinant of corporate governance by focusing on dividends. Why dividends? One reason is that Roe's conjectures can be readily applied to dividend policy. His characterization of managerial preferences implies that corporate executives should prefer to retain rather than distribute profits. Executives have incentives to accumulate free cash flow since the leftover income can be used to pay for "private benefits of control", such as corporate empire-building and excessive managerial benefits and perks.[14] Financing corporate growth through retained earnings also spares managers unwelcome scrutiny via capital markets.[15]

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[11] Id.

[12] Roe's findings do need to be treated with caution because of the small sample size. See Marc Goergen, Review of *Political Determinants of Corporate Governance*, by Mark J. Roe, 12 Corporate Governance: An International Review 116 (2004).

[13] Gourevitch & Shinn, *supra* note 6, 112-14, 126-27, 185-87, 195.

[14] Randall Morck and Bernard Yeung, Dividend Taxation and Corporate Governance, 19 J. Econ. Persp. 163, 170-72 (2005).

[15] Victor Brudney, Dividends, Discretion and Disclosure, 66 Va. L. Rev. 85, 95-96 (1980); Michael C. Jensen, Agency Costs of Free Cash Flow, Corporate Finance and Takeovers, 76 Am. Econ.

Finally, executives apprehensive of a potential downturn in their company's fortunes will tend to be biased against dividends since retained profits can help to provide protection against a "rainy day".[16]

Employees will tend to share management's skepticism towards dividends. Workers may assume that cash paid out as dividends constitutes funds "lost" to the company that could have been distributed to staff in the form of more generous wages and benefits.[17] Employees might also support a conservative dividend policy on the grounds that retained earnings will provide their employers with a financial "cushion" allowing staffing levels to be maintained in the face of unanticipated financial reversals.[18]

Again, according to Roe, in left-wing countries employees are favored over shareholders and risk-averse empire-building managers will share this bias. Given that managers and employees can be expected to share a bias against dividends, if politics "matters", left-wing government should correlate with low dividend pay-outs whereas right-wing government should be associated with more generous dividend policies.

Rev. (AEA Papers and Proceedings) 323, 323 (1986); Zohar Goshen, Shareholder Dividend Options, 104 Yale L.J. 881, 887-88 (1995).

[16] Easterbrook, Two Agency-Cost, *supra* note 3, 654-54 (explaining conservative dividend policies by reference to managerial risk-aversion).

[17] For an example of this line of thinking, see Julie Froud et al., Stakeholder Economy? From Utility Privatization to New Labour, Class & Capital, August 1996, at 119, 126-28.

[18] Mark E. Holder, Fredrick W. Langrehr & J. Lawrence Hexter, Dividend Policy Determinants: An Investigation of the Influences of Stakeholder Theory, 27 Fin. Mgmt. 73, 74 (1998).

Political rhetoric in the United Kingdom aligns with this characterization of dividends. Winston Churchill, as Conservative leader of the opposition, condemned in 1951 a proposal by the Labour government to introduce compulsory regulation of dividends in the following terms:

> "To win the extreme section of the trade union leaders to this policy, (the then Chancellor of the Exchequer) proposed that dividends should…be frozen. Observe that this was not done on the merits, but because much of the driving power of the Socialist movement is derived from the jealousy and envy of others who think they are more fortunate than themselves."[19]

In 1978, the Labour chancellor of the exchequer defended dividend controls then in place on the basis a "large number of very wealthy people derive immense incomes from dividends" and a Labour M.P. did likewise on the basis there was "a widespread welcome…throughout working men and women for dividend control".[20]

But can dividends be treated as a proxy for corporate governance? The dramatic decline in dividend payments by U.S. public companies during the 1980s and 1990s might lead one to wonder,[21] as might Miller and Modigliani's well-known

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[19] Six Disastrous Years, Times, October 3, 1951, 7.

[20] Wealthy Derive Big Incomes from Dividends, Times, July 22, 1978, 15.

[21] Eugene F. Fama and Kenneth R. French, Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?, 60 Journal of Financial Economics 3 (2001).

claim that dividends are a "mere detail".[22] In the U.S., however, dividends have been reappearing since 2000, which implies that the decline in cash pay-outs was a temporary phenomenon.[23] Moreover, Miller and Modigliani's assertion was underpinned by restrictive assumptions associated with perfect capital markets that rarely hold fully.[24]

More generally, a strong case can be made that dividends are an important corporate governance instrument. For instance, dividend policy can act as a "bonding" mechanism that commits managers to maximize share values. When executives are not residual claimants to a firm's cash flows, managers' interests can diverge from those of shareholders. Dividends can play a corrective role in this context. A policy of making regular cash distributions to shareholders can constrain executive discretion since managers worried about the dividend will want to generate net cash flow and ensure that profits are not invested in projects with poor risk-adjusted returns.[25] Moreover, an ongoing commitment to pay dividends places inherent limits on the ability of a company to finance its business plans from retained

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[22] Franco Modigliani and Merton H. Miller, The Cost of Capital, Corporation Finance and the Theory of Investment, 48 Amer. Econ. Rev. 261, 266 (1958); Merton Miller & Franco Modigliani, Dividend Policy, Growth and the Valuation of Shares 34 J. Fin. 411 (1961).

[23] David L. Ikenberry & Brandon R. Julio, Reappearing Dividends, 16 J. App. Corp. Fin. 89 (2004).

[24] Peter H. Huang and Michael S. Knoll, "Corporate Finance, Corporate Law and Finance Theory", 74 So. Cal. L. Rev. 175, 178 (2000-01).

[25] Goshen, *supra* note 15, 887-93.

earnings and thus exposes those running a company to periodic "screening" by investors and scrutiny by financial intermediaries.[26]

The signaling function of dividends is also potentially important from a corporate governance perspective. Dividend cuts are often interpreted by the market as powerful signals of bad news about a company. As a result, the failure to meet an anticipated dividend level can prompt corrective action designed to avert a potential crisis.

Treating dividends as a proxy for corporate governance is particularly apt due to our reliance on U.K. data. Throughout almost the entire period we focus on, paying dividends was the only method companies used to distribute cash to shareholders. Doing so by repurchasing shares was prohibited until the early 1980s and was irrelevant for tax reasons until the mid-1990s.[27]

IV. MODELLING POLITICS AND DIVIDENDS

Even if politics has an impact on dividends, managers can be expected to consider the financial logic involved. Correspondingly, a model of dividend behavior that takes politics into account should have a well-accepted economic foundation. Lintner's research on dividends from the mid-1950s provides the suitable point of

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[26] Easterbrook, Two Agency, *supra* note 3.

[27] Trevor v. Whitworth (1887) 12 App. Cas. 409; Companies Act 1981, c. 62, ss. 45-62; P. Ragahavendra Rau and Theo Vermaelen, Regulation, Taxes and Share Repurchases in the United Kingdom, (2002) 75 Journal of Business 245, 251-59 (describing the tax position from 1981 onwards).

departure.[28] His work constituted the foundation for a well accepted consensus in the literature on dividends that managers set dividend policy with targets based on profitability in mind but only move partially towards these over time.[29] Managers engage in this sort of "dividend smoothing" because they are reluctant to cut existing dividends and will only increase pay-outs if a change can be justified in terms of long-run sustainable earnings.

Lintner formulated an empirically testable "partial adjustment" model of dividends, with the foundations being the notion of a target pay-out ratio, changes in current earnings and the dividend level in the previous year. Fama and Babiak refined the Lintner model to incorporate a lagged earnings variable, reasoning that managers take into account earnings fluctuations occurring in prior years as well as the current year in setting dividend policy.[30] Lintner's partial adjustment model, as amended by Fama and Babiak, can be formulated as this empirically testable equation:[31]

$$\Delta D_t = a - cD_{t-1} + cT\Delta E_t + cT(1-\lambda)E_{t-1} + u_t \qquad (1)$$

where:

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[28] John Lintner, Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes, 46 Am. Econ. Rev. 97 (1956).

[29] On the degree of consensus concerning Lintner's work, see Terry A. Marsh & Robert C. Merton, Dividend Behavior for the Aggregate Stock Market, 60 J. Bus. 1, 5-6 (1987); Alon Brav et al., Payout Policy in the 21st Century, (Working paper, Duke Univ., School of Business 2003, at 1.

[30] Eugene F. Fama & Harvey Babiak, Dividend Policy: An Empirical Analysis, 63 J. Am. Stat. Ass'n 1132-61 (1968); for background, *see* Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* 438 (7th ed, 2003).

[31] The derivation of this equation is available on request from the authors.

D_t is the dividend in period *t;*

ΔD_t is the annual change in dividends;

a is a constant;

c is the speed-of-adjustment coefficient, with $0 < c \leq 1$;

T is the target pay-out ratio

E_t is annual earnings and

u_t is a white-noise error term.

Our conjectures concerning politics can be reduced to an empirically testable form by augmenting the partial adjustment model in equation (1) as follows:

$$\Delta D_t = a - cD_{t-1} + cT\Delta E_t + cT(1-\lambda)E_{t-1} + x \cdot POLITICS_t + v_t \qquad (2)$$

To calculate $POLITICS_t$ we employ a methodology similar to Roe's in that we focus on the political stance of governing parties. The data set we rely upon provides annual political rankings for the U.K. and other OECD countries from the end of World War II to the present.[32] One index (CPM) gives annual scores on the basis of the position taken on 26 different social and economic issues by the governing party in its party platform. A related index (MYRL) is more specialized in orientation,

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[32] Thomas R. Cusack & Lutz Engelhardt, Parties, Governments and Legislatures Data Set, http://www.wz-berlin.de/mp/ism/people/misc/cusack/d_sets.en.htm#data, visited November 29, 2004.

offering data on the placement of the party in office based on views adopted on 10 different market regulation and wealth redistribution issues.

Both CPM and MYRL are calculated on the basis that –100 is on the far left of the political scale and +100 is on the far right. In the case of the U.K., the correlation between the two indices is + 0.88.[33] Importantly, the indices capture more than the identity of the party in office. To illustrate, the Conservatives are normally thought of as Britain's "right wing" party. Nevertheless, the MYRL index suggests the U.K. in fact was a "left wing" country during the years when the Conservatives were in office between 1945 and 1979 (1951 to 1964 and 1970 to 1973), with the average annual MYRL score being –40.27. The Conservative government led by Margaret Thatcher (1979 to 1990) was a much different proposition, with the average MYRL score being +75.07.

V. TAX AS A DETERMINANT OF DIVIDEND POLICY

Even in the absence of a statistically significant correlation between dividend policy and the ideology of political parties in power, politics and dividends might still be related because of the influence of "secondary" variables that have a strong political aspect. Tax is an obvious example of a variable with a strong political aspect that could be a determinant of dividends since politicians can use tax to try to create a bias in favor of retained earnings and against dividends, or vice versa. For instance, in 1947, the Labour Chancellor of the Exchequer sought to justify imposing a heavier

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[33] See table 7.

tax burden on distributed as opposed to retained profits by arguing that the recovery from war conditions had been hindered because "[t]oo much . . . ha[d] been distributed, and too little ploughed back into the business".[34] Fifty years later, another Labour chancellor justified the termination of major tax exemptions for dividends enjoyed by pension funds and other institutional investors on the basis that existing rules "encourage[d] companies to pay out dividends rather than reinvest their profits."[35]

If tax indeed does affect dividend policies, then there will be a noteworthy, if indirect, link between politics and dividends. Various studies have in fact been conducted to determine whether taxation influences dividend policies and, if so, to what extent. As Table 1 indicates, the results are mixed.

[Insert Table 1 here]

For our purposes, the conjecture that tax might, as a proxy for politics, influence dividend pay-outs can be tested by reformulating equation (1) to take into account the position of individual taxpayers. The new equation reads:

$$\begin{aligned}\Delta D_t = {} & a - cD_{t-1} + cT\Delta E_t + cT(1-\lambda)E_{t-1} \\ & + f \cdot \Delta DTP_t + h \cdot DTP_{t-1} + w_t\end{aligned} \tag{3}$$

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[34] 436 PARL. DEB., H.C. (5th ser.) (1947) 84 (statement of Mr. Hugh Dalton).

[35] Chancellor of the Exchequer (Mr. Gordon Brown), 1997 Budget Speech para. 72, http://archive.treasury.gov.uk/pub/html/budget97/chxstat2.html, visited Feb. 5, 2003.

where DTP_t represents the preference a taxpayer will have for receiving dividends rather than having a company retain earnings.

DTP_t can be calculated by adopting methodology used by James Poterba and Lawrence Summers in a 1985 study of the relationship between tax and dividends in the U.K.[36] Poterba and Summers took into account the tax rules governing corporations and individuals during each of the years in their study so as to arrive at a "total tax preference ratio". The ratio in effect compared the amount of after-tax income shareholders received when a company distributed £1 of after-tax profit as a dividend with the amount of after-tax income received if the company retained the pound. A score of less than 1 represented a tax bias in favor of retained earnings, and a figure of greater than 1 signaled a tax bias in favor of dividends. A score of 1 implied shareholders would be indifferent between the two.

The methodology is the same in our study, with a noteworthy exception. Poterba and Summers, following King's 1977 study,[37] based their calculations of tax preference ratios on a weighted average of marginal tax rates. The weights used were proportional to estimates of the value of the shareholdings held by individuals in each different income bracket during each year under study. We did not follow this approach since reliable data on shares owned by taxpayers in different tax brackets

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[36] James Poterba & Lawrence Summers, The Economics Effect of Dividend Taxation, in Recent Advances in Corporate Finance 227 (Edward Altman & Marti Subrahmanyam, eds., 1985). Their model, in turn, is based upon parameters developed in Mervyn King, Public Policy and the Corporation 75-77 (1977).

[37] King, Public, *infra* note 36.

was unavailable for most years. Instead, borrowing from what La Porta, Lopez-de-Silanes, Shleifer and Vishny did in a 2000 study of the dividend policies of large companies in 33 countries, we calculated DTP_t by focusing on the position of a taxpayer falling into the top income tax bracket. In the U.K., the choice of the top marginal tax rate taxpayer is particularly appropriate because the available evidence suggests that individuals falling into this tax bracket received a higher percentage of dividends than did individuals in any other tax bracket.[38]

The tax treatment of dividends varied widely between 1949 and 2002, with six distinct tax regimes being in place during the period (see Appendix A).[39] As Figure 1 indicates, individuals paying the top marginal rate of tax had a tax bias against dividends between 1948 and 1988 that was particularly strong between 1948 and 1979. From 1988 to 2002 the bias was in the other direction.

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[38] There are few years where a detailed breakdown is available on receipt of dividends by taxpayers in different income tax brackets. One is 1972-73, though in fact the relevant figures encompass dividends and interest in aggregate. At that time, the top rate of tax applied to taxpayers earning £15,000 or more annually. *See* A.E. Bevan, Smith's Taxation 1973/4 12 (1973). Top marginal rate taxpayers received £198 million in dividends and income, which was higher than the amount received by taxpayers in any other tax bracket. *See* Royal Commission on the Distribution of Income & Wealth (Lord Diamond, chairman), Report No. 2: Income from Companies and its Distribution, Cmnd. 6172 23 (1975).

1985-86 is another year where there is a detailed breakdown of dividends received by individuals in various tax brackets, based on a survey of 65,000 taxpayers. See Inland Revenue, Statistics Division, Survey of Personal Incomes, 1985-1986: Public Use Tape [computer file]. Colchester, Essex: UK Data Archive [distributor], January 1989, SN: 256. In this instance, unlike with 1972-73, the figures cover dividends alone, not dividends and interest. For 1985-86, the top rate of tax applied to income of £41,201 or more. Tax payers in the top bracket earned £7.7 million dividends from UK companies, which was higher than the amount received by individuals in any other tax bracket.

[39] See Table A1 for a description of how the tax code parameters were calculated under each regime.

[Insert Figure 1 here]

In the British context, analyzing only the tax status of individual investors does not do proper justice to tax's potential impact on dividend policy. As of 1957, individual investors dominated the U.K. share market, owning nearly 66 per cent of all quoted equities in 1957 but this figure dropped to 54 per cent in 1963, 38 per cent in 1975 and 18 per cent in 1993.[40] Institutional investors (pension funds, insurance companies and other domestic financial intermediaries such as unit trusts and investment trusts) quickly supplanted individuals as owners of shares.

To capture the rise of institutional investors when measuring the impact of tax on dividend pay-outs, we focus on pension funds. They emerged as pivotal investors during the period under study, with the percentage of publicly quoted shares they owned rising from 3 per cent in 1957 to 30 per cent by 1993. Moreover, whereas individual taxpayers generally faced a tax penalty on dividends, the position was typically much different for pension funds.

For pension funds meeting a series of criteria set by U.K. tax officials, all investment income, including dividends, was exempt from taxation.[41] Perhaps more importantly, for much of our period of study, pension funds could obtain a refund for

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[40] For 1957 ownership data, see John Moyle, The Pattern of Ordinary Share Ownership 1957-1970 7 (1971). Otherwise, see data available on the National Statistics Online website: http://www.statistics.gov.uk/statbase/TSDtables1.asp, last visited November 30, 2004; heading under "Share Ownership".

[41] On how matters evolved in this fashion, see Leslie Hannah, Inventing Retirement: the Development of Occupational Pensions in Britain 19-20 (1986); Gordon A. Hosking, Pension Schemes and Retirement Benefits 64-65 (1956).

any tax credit generated as a result of companies' payment of the Advance Corporation Tax ("ACT"). This tax was triggered by the payment of a dividend, which meant that pension funds had a tax preference for dividends during most of this period. The refundable feature of the tax credits, which was worth approximately £2.5 billion per year in the mid-1990s,[42] was abolished in 1997.[43]

So as to account for the rise of pension funds we augmented equation (3) to read:

$$\begin{aligned}\Delta D_t &= a - cD_{t-1} + cT\Delta E_t + cT(1-\lambda)E_{t-1} \\ &\quad + f \cdot \Delta DTP_t + g \cdot \Delta PTP_t + h \cdot DTP_{t-1} + k \cdot PTP_{t-1} + y_t\end{aligned} \tag{4}$$

where PTP_t is the pension tax preference.

PTP_t was calculated by constructing a dividend tax preference index for pension funds qualifying as tax-exempt investors. As Figure 1 indicates, pension funds were indifferent between capital gains and dividends from 1965 to 1973, when the U.K. had a U.S.-style classical system of corporate tax, and from 1997 onwards, after the refundable tax credit was abolished. Otherwise, the score was always above 1, with a high of 1.70 during the 1964 tax year.

VI. OTHER "SECONDARY" POLITICAL VARIABLES

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42 Barry Riley, Second Thoughts on the Dividend Tax Dangers, Fin. Times, June 18, 1997, at 29.

43 For discussion of the repeal of the refundable tax credits, see Steven A. Bank, The Dividend Divide in Anglo-American Corporate Taxation, 30 J. Corp. Law 1, 47-48 (2004). The position had begun to change in 1993 when the relevant rules were amended so as to preclude tax-exempt investors from claiming all of the tax refund to which they had formally been entitled.

Tax is not the only variable with a political aspect that could have an influence on dividends. Another example is dividend controls. The reason this form of regulation could have an impact on companies is straightforward: firms are placed under an obligation to set payments by reference to the government's wishes. Churchill's denunciation of Labour's 1951 proposal to introduce legally binding dividend controls indicates the issue can be politically charged. Therefore, if dividend controls elicit a statistically significant decline in cash distributions by companies, this implies politics affect dividends.

The power of organized labor is another politically-oriented factor that could dictate dividend policy. One might well expect the labor relations climate set by government to have an effect on the prosperity of organized labor, and there in fact is empirical evidence from the U.K. that supports this proposition.[44] There is also U.K. evidence that suggests unions can successfully extract "rents" available when companies generate above-normal profits and thereby divert wealth from shareholders to employees.[45] A plausible hypothesis therefore is that fluctuations in the bargaining power of workers will have an impact on dividends that companies distribute.

"Union density" (the proportion of union members to the total working population eligible to join a union) is one proxy that can be used to verify whether

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[44] Richard Freeman & Jeffrey Pelletier, The Impact of Industrial Relations Legislation on British Union Density, 28 Brit. J. Indus. Rel. 141 (1990).

[45] Alison L. Booth, The Economics of Trade Unions 59, 215, 259-62 (1995); Stephen J. Machin & Mark B. Stewart, Unions and the Financial Performance of British Private Sector Establishments, 5 J. Applied Econometrics 327-50 (1990); S.J. Machin, Unions and the Capture of Economic Rents: An Investigation Using British Firm Level Data, 9 Int'l J. Indus. Org. 261-74 (1991).

employee bargaining power influenced dividend pay-outs, with the expectation being that as union density increases the leverage workers will have will increase and dividends will decline. Labor costs constitute another, since they should rise in tandem with the bargaining power of workers as employees negotiate wage deals involving pay rises that outstrip increases in productivity. Rising costs should erode profit margins over time and thereby potentially jeopardize dividend pay-outs, meaning labor costs will be negatively correlated with dividends. While wages are fixed through labor markets and thus will be strongly influenced by economic forces, politics can matter with left-wing governments potentially enacting laws promoting the bargaining power of employees and right-wing politicians seeking to do the reverse. To the extent this occurs, politics would be a determinant of dividends through the labor cost channel.

Corporate law stands out as an additional variable with a political aspect that could influence dividend policy. La Porta, Lopez-de-Silanes, Shleifer and Vishny, using their widely cited anti-director index of corporate law as a measure of investor protection, found companies from countries with strong shareholder protection paid higher dividends, all else being equal, than companies from countries where investors were poorly protected.[46] This finding implies that dividends are an outcome of corporate law, with tough laws enabling minority shareholders to disgorge dividend payments from corporate insiders. With a time-series study such as ours, if corporate

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[46] Rafael La Porta et al., Agency Problems and Dividend Policies Around the World 55 J. Fin. 1-33, 14 (2000).

law is a determinant of dividends, dividend payments should, all else being equal, adjust as a result of changes to corporate law that serve to improve (or cut) the protection offered to minority shareholders.

What is the political dimension with corporate law, given that reform of corporate legislation is ordinarily a technical exercise?[47] Corporate law can in fact have a political aspect. For instance, labor leaders might object to the enactment of laws designed to improve the protection of minority shareholders, fearing that protecting jobs and securing favorable treatment for workers will be difficult if management feels compelled to focus on the interests of profit-oriented investors.[48] Hence, the configuration of corporate law will, to some degree, be a manifestation of politics.[49]

So as to reflect the potential impact of dividend controls, union density, labor costs and corporate law on dividends, we made a final set of refinements to our politically-enhanced partial adjustment dividend model. Our partial adjustment model, augmented by tax variables, was the departure point (equation (4)). We then re-introduced $POLITICS_t$ from equation (2) and factored in our additional proxies for politics. So, we have:

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47 Brian R. Cheffins, Company Law: Theory, Structure and Operation 184 (1997).

48 Brian R. Cheffins, Law as Bedrock: The Foundations of an Economy Dominated by Widely Held Public Companies, 23 Oxford J. Legal Stud. 1, 17 (2003).

49 This proposition gains empirical support from a 2002 study by Roe, who found that in the world's richest nations a combination of corporate law quality and politics does more to explain the

$$\begin{aligned}\Delta D_t = {} & a - cD_{t-1} + cT\Delta E_t + cT(1-\lambda)E_{t-1} \\ & + f \cdot \Delta DTP_t + g \cdot \Delta PTP_t + h \cdot DTP_{t-1} + k \cdot PTP_{t-1} \\ & + l \cdot UnionD_t + m \cdot LawChg_t + n \cdot TakePCT_t \\ & + q \cdot UNITLR_t + r \cdot DivVOL_t + s \cdot DivCom_t + x \cdot POLITICS_t + z_t\end{aligned} \tag{5}$$

where $UnionD_t$ is union density;

$LawChgt_t$ measures substantial changes in corporate law;

$TakePCT_t$ is a measure of takeover activity and is discussed in the conclusion to the paper;

$UNITLR_t$ represents labor costs;

$DivVol_t$ is a dummy variable set to one for years where there was a voluntary dividend restriction in place in t and to zero otherwise and

$DivCom_t$ is a dummy variable set to one when a compulsory dividend limit was in place in t and to zero otherwise.

Dividend controls that were in place were sometimes "voluntary" rather than legally binding, such as during 1949 and 1951 when industry leaders committed themselves to cap dividend increases and unions exercised a policy of wage restraint.[50] As a result, we created a dummy variable to represent voluntary control

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dispersion of ownership in large companies than does either corporate law or politics in isolation: Roe, "Corporate", *supra* note 1, at 265-69.

[50] John Littlewood, The Stock Market: 50 Years of Capitalism at Work 34 (1998). Dividend controls in place in the U.K. between 1949 and 2002 were as follows:

years (*DivVol*) and a different dummy variable to represent mandatory control years (*DivCom*). We also created an alternative measure for *DivCom* to take into account varying limits on permissible dividend increases (*DivComL*).[51]

We measured union density by using as the numerator annual data on union membership compiled by the Certification Officer for Trade Unions and Employers' Associations.[52] The total working population of the U.K. was the denominator.[53] Foreign statistics made available by the U.S. Department of Labor's Bureau of Labor Statistics (BLS) were relied upon to calculate labor costs. In particular, we used U.K. data extending back to 1950 on unit labor cost in manufacturing companies, which represents total labor costs divided by output.[54]

[Insert Table F1 here]

[51] For example, for 1975 to 1979, when the relevant rules prohibited boosting dividends more than 10 per cent from the previous year, this alternative variable takes on a value of 1.10, representing the amount up to which a £1 dividend could be increased.

[52] Our data sources were Robert Price & George Bain, Union Growth in Britain: Retrospect and Prospect, 21 Brit. J. Indus. Rel. 46-68, 46-47 (1983) (1950-81); Department of Trade and Industry, http:www.dti.gov.uk/er/emar/trade_tables.pdf, last visited November 30, 2004 (1982-90); National Statistics, Annual Abstract of Statistics 2004 113 (2004) available at http://www.statistics.gov.uk/downloads/theme_compendia/Aa2004/AA2004.pdf, last visited November 30, 2004 (1991-2002).

[53] The figure encompasses the number of people who work for pay or register themselves as available for such work. Our data sources were Central Statistical Office, Annual Abstract of Statistics 1960 104 (1960) (1950-59); National Statistics Online web site: http://www.statistics.gov.uk/statbase/tsdataset.asp?vlnk=496&More=Y, last visited November 30, 2004 (1960-2002).

[54] See http://www.bls.gov/fls/prodsupptabletoc.htm , Table 9.1. We recalculated the BLS index so as to filter out the effects of inflation. Also, since for the 1950s data is only supplied for 1950 and 1955, we assigned values to the other years based on the trends implied by 1950, 1955 and 1960. Unit labor costs may well have been different in other sectors of the economy, and adjusted at different rates. There is no data available, however, that permits for compensation for this effect.

For corporate law, given the work of La Porta, Lopez-de-Silanes, Shleifer and Vishny, the obvious test would have been to "score" U.K company law over time using their anti-director index and check for a correlation with dividend policy. This, however, is not feasible because during the period under study the U.K.'s score only changed once, rising from a "3" to a "5" out of 6 in 1980.[55] Correspondingly, years with major amendments to U.K. company law were identified to discern whether these correlated with changes to dividend policy, with due allowance being made for a potential lag effect arising from the fact that not all provisions in legislation are brought into force immediately.[56] Substantial alterations were made to U.K. companies legislation in 1967, 1980, 1981 and 1989.[57] 2000 also counts as an important year for the regulation of public companies as the responsibility for administering an elaborate set of listing rules governing publicly quoted companies was transferred from the London Stock Exchange, a private body, to the Financial Services Authority, a governmental regulator.[58]

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[55] See Brian R. Cheffins, Dividends as a Substitute for Corporate Law: The Separation of Ownership and Control, unpublished working paper, Table 1 (2005).

[56] We introduced a one-year lag after each of the significant company law change years. A 50 per cent decay was also applied to address the possibility that managers adjust to legal change over time rather than responding abruptly.

[57] Companies Act 1967, c. 81; Companies Act 1980, ch. 22; Companies Act 1981, ch. 62; Companies Act 1989, ch. 40. In 1985, U.K. companies legislation underwent a major consolidation, resulting in the enactment of the Companies Act 1985, c. 6. This statute consolidated existing legislation but did not change the substance of the law. See Paul L. Davies, Gower's Principles of Modern Company Law 50-51 (6th ed., 1997).

[58] Financial Services and Markets Act 2000, c. 8. For discussion, see Davies, *supra* note 73, Paul L. Davies, Gower and Davies' Principles of Modern Company Law 649-50 (7th ed., 2003).

VII. CALCULATING ANNUAL CHANGES TO DIVIDENDS AND EARNINGS

Testing equations (2) to (5) requires figures on annual changes to dividends and earnings. Correspondingly, two sources, a Cambridge/DTI Databank of Company Accounts and Datastream, were relied upon to assimilate aggregate data for 1949 to 2002. The Cambridge/DTI Databank offers a wide range of financial data for most U.K. publicly quoted companies from 1948 to 1977.[59] The sample covered companies with shares listed for trading on the London Stock Exchange but excluded firms operating primarily outside the U.K. or engaged in agriculture, mining, shipping, insurance, property, banking and finance.[60]

Datastream begins providing firm-level data for U.K. public companies as of 1969 but coverage through 1972 is patchy. By 1973, however, Datastream provides figures for 1217 companies, which exceeds the 1116 firms that comprise the Cambridge/DTI Databank sample for the same year. Correspondingly, for 1973 onwards Datastream's firm-level data has been relied upon to compile aggregate

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[59] The raw data in the sample was collated, standardized and refined in Goudie & Meeks, *supra* note 5. We have relied on their "all companies" figures, set out in Tables 216, 217.

[60] Also, from 1960 onwards, some companies were excluded on the basis of size. For instance, between 1969 and 1974 companies were only included in the sample if they had net assets of at least £2 million or gross annual income of at least £200,000. For background on the Cambridge/DTI Databank, see G. Meeks, J.M. Wheeler & G. Whittington, The Cambridge/DTI Databank of Company Accounts 9-15 (1998).

figures.[61] We included all companies listed by Datastream for the 1973-2002 period.[62]

Lintner, in his study, relied on "net" (i.e. after-tax) figures for dividends and earnings. This approach is perfectly defensible for U.S. data since the U.S. has a "classical" tax system which treats retained earnings and distributed earnings in the same way. This means that the amount of dividends distributed does not alter a company's total tax burden and, by extension, post-tax corporate income. By contrast, other than between 1965 and 1972, when the U.K. had a U.S.-style classical corporate regime, the amount of dividends distributed under the British tax system affected the amount of taxes a company paid and thus the calculation of profits. To filter out such distortions, profits have been recalculated on the basis that companies did not distribute any dividends. The resulting figure is known as "zero-distribution profits."[63] For the purposes of this study, the precise manner in which the figure is calculated varies over time, depending on the particular tax rules in place. The

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[61] The Datastream data, which is based around the financial years of individual companies, was reorganized to conform with the Cambridge/DTI definition of the financial year, which runs from April 6th of the year shown to April 5th of the following year. So as to ensure that our dividend control scores matched up, each year's score represented the position as of the beginning of April in each year. To illustrate, a six month freeze was imposed on wages, salaries, prices and dividends in July 1966. If the change had taken place in January, February or March of 1966, then both 1965 and 1966 would have been given a score of "1". However, since the change in fact took place in July, 1965 has a score of "0" and 1966 receives a "1".

[62] To control for the possibility that the industrial exclusions in the Cambridge/DTI Databank biased our results, we compiled an alternate Datastream sample restricted to firms falling within the industrial sectors encompassed by the Cambridge/DTI data (i.e. manufacturing, distribution, construction, transport and certain other services). We ran the same regressions using the Cambridge/DTI Databank industries data as we did for the "all companies" sample but since the results did not differ materially we do not report them here. The results are available on request.

appendix summarizes U.K. tax law during the period under study and Table 2 provides a detailed breakdown of how zero-distribution profits are calculated under each of the tax regimes in place.

[Insert Table 2 here]

The U.K.'s tax regime also requires an adjustment of the measurement of dividends. Other than the years between 1965 and 1972 Britain had an "imputation" system under which companies paid out more in dividends than ended up in shareholders' hands. The remainder was deducted at source and paid as tax to the Inland Revenue. Shareholders, in turn, could seek at least partial reimbursement for the amount the company had deducted. With respect to dividends, for most years the Cambridge/DTI Databank and Datastream report net rather than gross dividends, which means the focus is on what shareholders actually received. Still, since the purpose of this study is to ascertain determinants of *corporate* dividend policy, what is of interest is the amount companies have paid out, including to tax authorities. Correspondingly, the data has been revised to translate net into gross dividends.

VIII. RESULTS

A. The Partial Adjustment Model

When testing for the impact of politics on dividend policy, the first step was to find whether the data fit with Fama and Babiak's lagged earnings version of the

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[63] Luis Correia da Silva, Marc Goergen & Luc Renneboog, Dividend Policy and Corporate Governance 70 (2003).

Lintner model as specified in equation (1). Table 3 shows the results, which indicate that there is a good match, in the sense that the partial adjustment model explains well the dividend pattern over time.

[Insert Table 3 here]

Two estimation techniques were used to test equation (1), Ordinary Least Squares (OLS) and Generalized Least Squares (GLS). With both, changes in dividend pay-outs are explained well by the partial adjustment model. The coefficients all have the correct signs and are highly significant in the regressions run. For instance, the coefficient on the change in earnings is positive for both the OLS regression and the GLS regressions and is significant at the 0.1 per cent level of confidence.

Further verification of the partial adjustment model represented by equation (1) comes from tests of the overall relationship between the dependent variable and the full set of explanatory variables. The high adjusted R-squared figure (0.354) and the high F-statistic (10.51) indicate that the partial adjustment model fits the data well.

The results generated from equation (1) were tested further by reference to the implicit target pay-out ratio. The implicit target pay-out ratio in this instance can be calculated via $b/(-a)$, where a is the coefficient on the lagged dividends and b is the coefficient on the lagged earnings. Assuming that companies set dividends in accordance with the partial adjustment model, the historical pay-out ratio should be close to the implicit one. This indeed was the case with the data for 1949 to 2002.

The implied dividend/profit ratio for the OLS regression was 1.01 and the equivalent for the GLS regression was 1.03, compared to the observed ratio of 0.77. Numbers in excess of 1.00 imply that companies will be paying out more in a year as dividends than they were earning as profits, a pattern that obviously is unsustainable over the long haul. Nevertheless, when political and tax variables were taken into account in the regressions testing equations (2), (4) and (5), the implied dividend/profit ratio moved below 1 and was closer to the observed ratio.

The Durbin-Watson test, which tests for serial autocorrelation, is in the zone where the null hypothesis of no serial correlation cannot be rejected. So, as a robustness check, we also use Durbin's *h* test as well as the Lagrange Multiplier (or Breusch-Gordon) test.[64] As Table 3 indicates, neither is statistically significant at the 5 per cent level. This suggests that there is no first-order serial correlation.[65]

B. Politics: Party Ideology as a Determinant

Having found that U.K. public companies paid dividends broadly in accordance with a well-accepted economic explanation of how firms set dividend policy, we then used equation (2) to find whether politics, as measured by the party

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[64] We also took this step because one of the main assumptions behind the Durbin-Watson test is that there is no lagged dependent variable on the right-hand side of the equation being tested and our partial adjustment model violates this assumption.

[65] The potential serial correlation problem has also been addressed by using the Prais and Winsten algorithm, which combines GLS with an autoregressive correlation of order 1 (AR(1)) correction feature. *See* S. Prais & C. Winsten, Trend Estimation and Serial Correlation, (Discussion Paper No. 383, Cowles Commission 1954). The generated Rho coefficient was not statistically significant with our regressions, thus confirming that serial correlation is not a serious cause for concern.

platform of the governing political party, affected things. If politics "mattered" then dividend pay-outs should have been higher when Britain had a right-wing government and lower when the government was on the left-wing of the political spectrum. As Table 4 indicates, however, there was no meaningful statistical correlation between the ideology of the party in power and dividend policy. The outcome was the same for the index covering a wide range of social and economic issues (CPM) and the more narrowly focused index based on views adopted concerning market regulation and the promotion of wealth redistribution (MYRL).[66]

[Insert Table 4 here]

We ran a supplementary test to account for the possibility that companies stick with the status quo if political variations are merely incremental but readjust dividend policies in response to dramatic shifts in the political climate. Years in which major changes occurred to the MYRL index were identified and tested using a decay and lags of up to four years.[67] The results did not change.

As a further robustness check, a similar test was run for the United States. Poterba, for the purposes of a 2004 time-series study of tax and dividends in the U.S., relied on National Income and Product Accounts that offer year-to-year aggregate

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[66] The regressions reported in Table 4 were run without any kind of time lag built in. This meant no allowance was made for the possibility that companies might take time to adjust their dividend policies in response to political changes. To test for this, the regressions were rerun with a lag of up to five years being built in. We also checked whether lags of up to 5 years in the annual change in CPM and MYRL had an effect on dividends. No statistically significant link between political ideology and dividend pay-outs appeared. The results, not reported here, are available after request.

financial data on all companies filing tax returns. He used the data to compile annual dividends and profits figures for 1929 to 2003 so as to test a Lintner-style partial adjustment model of dividends.[68] We used Poterba's data so as to test the politically enhanced version of the partial adjustment dividend model set out in equation (2). To deal with the political angle, the same political party database used for the U.K. was relied upon to compile year-by-year scores for the United States.[69]

Consistent with the British evidence, our regressions typically failed to yield meaningful correlations. The only exception was a negative coefficient at the 10 per cent level of significance in some of the regressions including the index focusing on market regulation and wealth redistribution (MYRL). The correlations, however, run in the direction opposite to what a politically based account of dividends would predict, since they imply the reputedly business-friendly Republicans depressed dividend pay-outs. The bottom line is that the evidence from the U.S., as with the evidence from the U.K., implies the ideology of governing political parties is not a determinant of dividends.

C. The Tax-Revised Partial Adjustment Model

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[67] The years when major fluctuations occurred due to an election were 1950/51, 1963/64, 1978/79 and 1996/97. The other years were 1948/49, 1964/65, 1986/87 and 2000/01.

[68] James Poterba, Taxation and Corporate Payout Policy, 94 Am. Econ. Rev. (Papers and Proceedings) 171 (2004). Poterba's year-by-year breakdown of dividends and profits has not been published as part of his study but can be accessed via the internet at http://econ-www.mit.edu/faculty/index.htm?prof_id=poterba&type=paper , Table A.7.

[69] Our primary index was based on the platform of the party of the President but adjustments were made for the possibility of a different party controlling the federal House and/or the Senate.

While our results indicate that there is no direct link between dividends and politics it remains possible that politics could influence dividends at one step removed through tax policy. To test for tax's impact, regressions were run based on the tax-revised partial-adjustment model set out in equations (4) and (5) with current tax changes being matched with current dividend changes.[70] None of the tax variables proved to be significant (Table 5).

[Insert Table 5 here]

We also built in a one year "tax lag" that effectively captured for each year the entire history of tax during preceding years (see Table 6). Generally, none of the lagged tax preference variables proved to be significant. The one exception was the coefficient for top marginal tax rate payers where CPM, our broadly-based political index, was used to measure the politics of the party in power. This result was only statistically significant at the 10 per cent level of significance and there was no statistically significant correlation with MYRL, the index specifically focusing on market regulation and wealth redistribution.

[Insert Table 6 here]

The absence of a correlation between dividends and the tax position of pension funds in any of the regressions is striking, given the growing importance of this type of investor during the period under study. A plausible explanation for the pattern is

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[70] In so doing, suitable adjustments were made to the tax data to reflect our definition of a financial year which runs from April of a given year to April of the following year.

that during the early decades of our study pension funds were ignored since they owned only a tiny percentage of shares in U.K. public companies. This supposition would fit in with a study based on British data from the late 1980s and the early 1990s that found the tax treatment of pension funds was a determinant of dividends.[71] To test for this possibility, we made use of data on the market value of corporate equity owned by pension funds that covered each year between 1962 and 2002.[72] For each year, we divided the market value by the U.K. stock index to remove the effect of changes in share prices. We then added this measure of pension ownership to the regression. In addition, we applied this measure as a weight to the pension tax preference index. Neither change yielded measurably different results.

Again, the empirical evidence concerning the impact tax has on dividend policy is mixed and our findings will not be the last word on the relationship between tax and dividends. Nevertheless, our results do suggest that U.K. public companies generally refrained from altering their dividend policies to respond to tax changes. By extension, politics apparently did not dictate dividend policy through the filter of tax regulation.

D. Other Political Variables

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[71] *See* Helen Short, Hao Zhang & Kevin Keasey, The Link Between Dividend Policy and Institutional Ownership, 8 J. Corp. Fin. 105 (2002).

[72] National Statistics Online database: http://www.statistics.gov.uk/statbase/TSDtables1.asp, last visited November 30, 2004; heading under "Investment by Insurance Companies, Pension Funds and Trusts".

Recognizing that tax is not the only secondary political variable that might be a determinant of dividends, we tested the impact of dividend controls, labor power and corporate law by running regressions based on equation (5). Table 6 contains the results.

Dividend Controls. Prior studies are divided on the effects of U.K. dividend controls.[73] Our data suggests, however, that such regulation did not have a measurable impact on dividend pay-outs, regardless of whether the metric was voluntary controls, mandatory controls or mandatory controls adjusted for the upper limit of permitted dividend increases. These results should not be treated as conclusive, particularly because the impact enforcement (or lack thereof) might have had has not been taken into account. Nevertheless, our findings do have a plausible factual foundation.

Anecdotal evidence suggests numerous companies took advantage of various loopholes, such as exemptions for firms operating extensively outside the U.K. or carrying out public offerings of shares.[74] Moreover, there is empirical data demonstrating that among all but high-profile companies fearing adverse publicity, "illegal" dividend payments were commonplace.[75] Broader economic trends might have also rendered dividend controls largely redundant. There was a downward trend

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[73] For a summary, see J.W. Lomax, A Model of ICC's Dividend Payments (Discussion Paper No. 52, Bank of England 1990), 3.

[74] Tattered, Economist, March 19, 1977, at 119; Unpegged, Economist, August 4, 1979, at 75.

[75] S.L. Hansen & A.W. Goudie, The Effect of Dividend Controls on Company Behaviour, (Faculty of Economics and Politics Research Paper, No. 36 1986).

in corporate profits through the 1960s and 1970s, the years when mandatory controls were in place.[76] Given that U.K. companies apparently set dividend policy largely by reference to earnings, market forces were pushing in the same direction as government regulation and thus might well have cancelled out whatever effects dividend controls would have otherwise had.

Labor Power. Two different proxies for labor power, union density and labor costs, were used to test for a correlation with dividend pay-outs. The results are somewhat mixed. With union density, there was no meaningful statistical correlation between this variable and dividend payments made by U.K. public companies. Hence, those who set dividend policies apparently ignored the growth of union power in the 1970s and the decline of organized labor thereafter. These results suggest that politics, as manifested by the status of unions, did not influence dividend policy.

The situation is more complex with unit labor costs. Unlike with union density, there is, if only at the 10 per cent level of confidence, a statistically significant correlation. On the other hand, the results do not conform with what would be expected if politics in fact were a determinant of dividends. One would anticipate that unit labor costs should rise (fall) as politics shifted leftwards (rightwards) since, as politics move to the left, employees should have additional leverage to make wage demands unmatched by increases in productivity. Profits and

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[76] Christine Oughton, Profitability of U.K. Firms, in The Future of U.K. Competitiveness and the Role of Industrial Policy 55-84, 58-60 (Kirsty Hughes ed. 1993). Our data confirms the pattern. Over 1960-79, zero-distribution profits experienced negative growth rates in 8 years ranging from -2.9% to -40.7%.

dividends should then be depressed. But, as the correlation matrix in Table 7 indicates, in the U.K. the underlying pattern was the opposite: labor costs *rose* as politics shifted to the right.[77] The correlation we found between labor costs and dividend pay-outs therefore does not support the proposition that politics was a determinant of dividends, at least as we have characterized the potential link between the two.

[Insert Table 7 here]

Corporate Law. To the extent that dividends are an outcome of effective legal protection of shareholders, it might have been expected that substantial amendments made to U.K. corporate legislation between 1949 and 2002 would have been associated with changes in dividend policy. There was, however, no such pattern. This finding that corporate law did not "matter" runs contrary to the pattern found by La Porta, Lopez-de-Silanes, Shleifer and Vishny in their cross-border study of dividend policy. Still, their findings were not tested directly because the anti-director index they used to measure corporate law was not used as a dependent variable. Hence, our results in no way constitute the last word on the impact that corporate law might (or might not) have on dividends. Nevertheless, we are still left with an intriguing question. If those setting dividend policy were not responding to cues

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[77] The first half of the 1980s constituted an exception to this trend, as unit labor costs fell under (and perhaps because of) the right-wing administration of Margaret Thatcher. But the pattern broke in the years that followed as unit labor costs continued to fall as governments became increasingly left-wing.

provided by corporate law, what did motivate them? The conclusion addresses one aspect of this question.

IX. CONCLUSION

As part of a growing debate concerning comparative corporate governance, a proposition that has been gaining credence is that politics helps to dictate how those responsible for managing companies conduct themselves. The theory has a plausible ring to it since social democratic policies potentially could exacerbate agency costs by fostering an identity of interest between corporate insiders and rank-and-file employees. This paper has tested this proposition by examining dividend pay-outs made by British public companies between 1949 and 2002. We have found that generally politics did not influence dividends. Thus, at least with respect to this aspect of corporate governance, our results suggest politics did not cause companies to vary from predicted patterns.

Our primary test, based on the ideology of the party in office, revealed no meaningful link between politics and dividends. The story is somewhat mixed with secondary manifestations of politics. The tests conducted using the tax position of pension funds, dividend controls, union density and corporate law as the independent variables revealed no statistically meaningful links with dividend pay-outs. In contrast, there were correlations – albeit weak – with tax rules governing individuals paying the top rate of tax and with unit labor costs.

Even with tax and unit labor costs, however, the results need to be treated with caution. On the tax side, the decline of personal ownership of shares over time implies that the correlation found should have weakened as time passed. We checked this possibility using available data on the percentage of shares owned by individual investors and found no such trend.[78] With unit labor costs, for the results to confirm a political account of dividends, pay-outs should have fallen as politics shifted to the right. But the pattern was in fact the opposite. The bottom line is that our only robust statistical finding is that U.K. public companies set dividend policy in accordance with a model well accepted in the economic literature, namely by adjusting over time towards a target based upon corporate earnings. Politics failed to dislodge the pattern in a readily measurable way.

At the core of the well-accepted "partial adjustment" model of dividends is an assumption that those setting dividend policy are seeking to act in the best interests of investors.[79] For instance, according to the managers Lintner interviewed for the study that motivated him to formulate the model, their desire to move towards any profits-based dividend target was tempered by a belief that shareholders preferred dividends to remain constant or rise slowly.[80] Executives of British public companies have generally shared a similar bias, with interview evidence confirming they have sought

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[78] The data sources are cited *supra* note 40. The results are not reported here but are available upon request.

[79] Francisco Pérez-González, Large Shareholders and Dividends: Evidence from U.S. Tax Reforms, (Working paper, Columbia Univ. Business School 2003), 3-5.

[80] *See* Lintner, *supra* note 28.

to please investors by keeping dividends regular and predictable.[81] This falls into line with our finding that the partial adjustment model explains well U.K. dividend policies.

Assuming that those running U.K. companies were inclined to adopt "shareholder-friendly" dividend policies, what motivated them to do so? The threat of a takeover bid stands out as a possibility.[82] Again, management, all else being equal, will prefer to retain earnings rather than distribute cash to shareholders. Still, managerial conservatism can be dislodged with suitable prompting, and the market for corporate control can potentially provide the necessary stimulus.[83] If management adopts a lower pay-out policy than shareholders desire, a firm's shares will trade at a discount. If the share price falls far enough, the firm may well become a ripe candidate for a takeover offer. This will be an unwelcome prospect for the incumbent management team, since successful bidders usually fire those in charge. Managers thus have an incentive to set dividend payments in a manner that accords with the preferences of shareholders. But the logic is contingent upon there being a real threat of an unwelcome bid for control. A testable hypothesis can in turn be offered: dividend pay-outs should be positively correlated with the level of takeover activity.

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[81] Jeremy Edwards & Colin Mayer, An Investigation into the Dividend and New Equity Issue Practices of Firms: Evidence from Survey Information, (Working paper No. 80, Institute for Fiscal Studies 1986), at 7-10.

[82] Another possibility is that U.K. public companies kept dividend policies "shareholder-friendly" so as to ensure they could raise cash on reasonable terms when they needed to return to the capital markets. *See* Cheffins, "Dividends as a Substitute", *supra* note 55.

There is plenty of anecdotal evidence supporting the proposition that the threat of a takeover induced U.K. public companies to liberalize their dividend policies.[84] Empirical studies have also been done that support this conclusion.[85] We followed up by compiling data on the number of mergers carried out in the U.K. annually from 1949 to 2002 and re-running our regressions to see if there was a correlation between takeover activity and dividend pay-outs. There was a statistically significant link, but contrary to what would be expected the coefficient was negative.[86]

This rather surprising result may be a by-product of shortcomings with the data. Since it is the threat of a hostile bid, not a friendly acquisition, that theoretically acts as the catalyst for dividend pay-outs, ideally take-over activity would have been measured by reference to hostile takeovers. Data on this type of transaction is not available, however, back to 1949 so statistics covering friendly as well as unwelcome

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[83] Mervyn A. King, Corporate Taxation and Dividend Behaviour: A Further Comment, 39 Rev. Econ. Stud. 233 (1972); Daniel R. Fischel, The Law and Economics of Dividend Policy, 67 Va. L. Rev. 699, 713-14 (1981).

[84] George Bull and Anthony Vice, Bid for Power, 3rd ed. 35 (1961); Lex Column, Dividends Make Up for Lost Time, Fin. Times, October 8, 1984, at 16; Cracks Start to Show, Economist, September 16, 1989, at 120. But the evidence does not all run in one direction. See, for example, W.A. Thomas, The Finance of British Industry 236-37 (1978).

[85] King, "Corporate", *supra* note 83; Andrew P. Dickerson, Heather D. Gibson and Euclid Tsakalotos, Takeover Risk and Dividend Strategy: A Study of U.K. Firms, 46 J. Indust. Econ. 281 (1998) (finding in a study of U.K. public companies that higher dividend payments were associated with a lower probability of a takeover).

[86] See Table 6.

bids were used. [87] Further investigation is required to test fully whether the threat of a takeover bid influences dividend pay-outs.

Though it is intriguing to speculate what might have motivated those who made decisions on dividend policy on behalf of U.K. companies to do so in a manner congruent with shareholder interests, our observations on the point are secondary to the main message of this paper. We have carried out a study designed to measure whether politics constitutes a determinant of corporate governance using a novel empirical metric, namely dividend policy. Our results indicate that even though the U.K. experienced extended periods of left-wing and right-wing government between 1949 and 2002, and even though regulations were enacted at various points that were expressly designed to influence dividend policy, the impact of politics was negligible.

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[87] Even then, constructing a time-series extending from 1949 to 2002 required relying on sources that did not offer fully equivalent coverage of transactions over time. Our sources were Leslie Hannah, The Rise of the Corporate Economy 176-77 (2d ed. 1983) (for 1949-53, offering data on acquisitions of manufacturing companies only); Steve Toms & Mike Wright, Corporate Governance, Strategy and Structure in British Business History, 44 Business History 91, 100 (2002) (1954 to 1998, data on "independent acquisitions"); National Statistics Online database, http://www.statistics.gov.uk/statbase/tsdtimezone.asp, (last visited November 30, 2004); "mergers and acquisitions" release/summary of mergers and acquisitions in the U.K. by U.K. companies/DWVH: M & A: Domestic: M & A of independents: number acquired (1999 to 2003).

APPENDIX

A Brief History of U.K. Company Taxation, 1949-2002

Between 1949 and 2002 six different tax regimes governed the taxation of companies in the U.K. As Table A1 indicates, the calculation of our tax parameters varied depending on which regime was in place.

[Insert Table A1 here]

The basic features of each of the six regimes were as follows.

Differential Profits Tax Regime I (1949-51). During this period, company profits were subject to two separate taxes. First, a company was liable to pay income tax but this tax was integrated with the tax paid by shareholders on the receipt of dividends through an "imputation" system. A British company paid income tax on earnings, both distributed and retained, at the standard rate applied to individuals. With distributed profits, a company declared a "net" dividend "grossed up" by the amount of the tax due on the dividend at the standard rate and then withheld the latter amount to compensate it for the tax imposed on their income by U.K. authorities. Shareholders were potentially liable to pay income tax on the gross dividend but would receive with dividend payments a credit that could be used to offset their tax liability on this amount. By virtue of the credit they would not have to pay income tax on the net dividend and would only have to pay income tax on the gross dividend

when their income tax rate exceeded the standard rate. The credit was refundable if it exceeded the income tax due.

To illustrate the operation of this imputation system, consider a situation where the standard rate was 50% and the top rate of income tax was an additional 40%. To ensure that a shareholder paying income tax at the standard rate received a net dividend of £1000, the company would need to designate £2000 of pre-tax profit as a dividend, of which £1000 would be withheld by the company to satisfy its own tax liability. The shareholder would be treated as receiving £2000 for purposes of income tax but would owe no tax at the standard rate on the £1000 actually received or the £1000 required to "gross up" the dividend once he applied the credit accompanying the dividend. For this shareholder, then, the £2000 gross dividend would translate into £1000 net of tax. On the other hand, if the shareholder was liable to pay the top rate of tax, even after using his own credit he would have to pay income tax on 90% of the £2000 grossed up dividend (£1800) less the £1000 credit for the amount withheld by the company, or £800. For this shareholder, then, the £2000 gross dividend payment would translate into £200 after tax (£1000 net dividend minus the tax payment of £800).

The second type of tax a U.K. company had to take into account between 1949 and 1951 that related directly to dividends was a profits tax that discriminated against distributed profits by taxing them at a higher rate than undistributed profits. The Labour government believed the discrepancy was justified so as to give companies an incentive to make the sort of capital investments required to rebuild the economy

following World War II. When companies failed to cut dividends in the manner anticipated, Labour increased the tax on distributed profits dramatically while holding the tax on retained profits at the same level. One factor mitigating the punitive effect of the high taxes on distributed profits was that amounts paid were deductible from a company's income in calculating its income tax liability.

Differential Profits Tax Regime II (1952-58). Between 1952 and 1958, the burden imposed on companies by the profits tax was eased. The tax on distributed profits was reduced from 50% to 22.5% and the tax on undistributed profits was lowered to 10% and eventually to 2.5%. Cutting against this reduction in rates was the elimination of the option to deduct amounts paid as profits tax when calculating income tax liability.

The imputation system continued to operate as it had from 1949 through 1952.

Single Rate Profits Tax Regime (1958-64). The experiment with differential profits tax rates ended in 1958. From this point until 1964, companies continued to be subject to income tax at the standard rate and to a profits tax, but with the latter distributed and undistributed profits were taxed at the same rate. The imputation system again remained unchanged.

Classical Corporate Tax Regime (1965-73). Labour returned to power in 1964 and this marked another transition in U.K. company taxation, in this instance the adoption of a U.S.-style classical corporate tax. Under this approach, corporate profits -- both undistributed and distributed -- were subject to tax at the corporate

level and were then taxed again at the shareholder level as income when dividends were paid. Moreover, imputation credits were no longer provided to shareholders for the tax paid at the corporate level. Hence, from 1965 through 1972, the explicit discrimination against cash distributions that had been in place with the differential profits tax was restored.

1965 also marked the introduction of a capital gains tax covering dispositions of shares.[88] The rate was set at 30%.

Imputation System plus ACT (1973-97). The U.K. scheme reverted to an imputation system in 1973. This time, however, the imputation was only partial. Companies were subject to a corporation tax that exceeded the standard rate, but the imputation credit was only set at the standard rate.[89] Thus, instead of fully exempting dividends from the tax already paid at the company level, shareholders received a credit for only a portion of the tax already paid.

The partial imputation system was accompanied by an Advance Corporation Tax ("ACT"). In the pre-1965 imputation system, shareholders were relieved of tax liability on distributions even if the company never paid tax on the underlying income because of allowances and credits. The ACT was an attempt to address that problem. Under the ACT, firms paid a tax on dividends at the imputation rate at the time of distribution. The ACT was deemed to be in partial prepayment of their company tax

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[88] A tax on “short-term” capital gains was first introduced in the 1962.

liability as well as being treated as a partial prepayment of a shareholder's income tax liability. A company could offset its ACT against the mainstream corporate tax, so long as the former did not exceed the latter. If ACT did exceed the mainstream corporate tax, the result would be "unrecovered ACT". Unrecovered ACT could, in turn, be carried forward or backward but would become "irrecoverable" if its recoverability was no longer "reasonably certain and foreseeable."

To illustrate the interaction between ACT and the partial imputation system, consider a situation where the rate of corporation tax was 50% and the imputation rate was 33 1/3%. A company seeking to ensure that a shareholder receives an after-tax dividend of £1000 would distribute to the shareholder a "grossed up" dividend of £1500. This would be composed of a cheque for £1000 accompanied by a piece of paper representing a tax credit of £500, which is 33 1/3% of the gross dividend. The shareholder would have to enter £1500 on his tax form, which would be added to his other income to calculate his income tax bill. If the shareholder paid income tax at the basic rate, the £500 credit would eliminate the liability created by the "grossed up" dividend. He correspondingly would receive £1000 net of tax. If, however, his marginal income tax rate was 90%, then his tax liability would be £1350 (90% of £1500) minus the tax credit of £500, or £850. He thus would be left with an after-tax dividend of £150 (the net dividend of £1000 - £850). Finally, if the shareholder was a

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[89] In 1993, the imputation rate dropped below the standard or basic rate and has remained below it ever since.

zero bracket domestic taxpayer, such as the case with a pension fund, then it would be entitled to a refund of the entire credit.

The company, by virtue of the ACT, would be obliged to withhold on behalf of Inland Revenue 33 1/3% of the gross dividend, again £500. At the same time though, with the corporate tax rate being 50% it would have needed to designate £2000 of pre-tax profits to pay the dividend of £1000. The remaining £1000 would be due to U.K. tax authorities as corporation tax. The £500 paid to satisfy its ACT liability would be deductible against this actual corporate tax liability, assuming due allowance had been made for deductions and pre-existing ACT credits.

Imputation System without ACT (1997-2002). In 1997, the U.K. Parliament dismantled ACT with full effect by 1999. Companies continued to pay income tax on profits at the standard rate under a partial imputation system but the credit made available to shareholders for dividends withheld was reworked. This credit was cut from 20% to 10% and was made nonrefundable as of 1997 for pension funds and 1999 for all shareholders.

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Table 1: Empirical studies on the link between dividends and tax (organized by country)			
Author(s) of study	**Country**	**Sample period**	**Results**
LaPorta *et al.* (2000)	33 countries	1994	Finding no conclusive evidence on the effect of taxes on dividend policies.
Pattenden & Twite (2004)	Australia	1982-1997	Introduction of dividend imputation system affected dividend policy
Bond *et al.* (1995)	United Kingdom	1970-1990	Finding that surplus or unrecovered ACT affected dividend payouts.
Briston & Tomkins (1970)	United Kingdom	1964-1965 (event study)	Concluding that the introduction of the classical corporate tax system in the U.K. in 1965 was not a significant factor in determining dividend policy
Edwards *et al.* (1985)	United Kingdom	1969-1981	"Major changes in tax policy may shift the level of dividend payout, while tax changes which affect only one or a few firms may have little impact even on the payout decisions of the affected firms."
Feldstein (1970)	United Kingdom	1953-1964	The U.K.'s differential profits tax had an effect on corporate saving and dividends.
King (1972)	United Kingdom	1949-1967	The differential profits tax had an impact on dividends, but the effect was less than Feldstein found because of the influence of takeovers.
Lasfer (1996)	United Kingdom	1973-1983	Tax affected dividend payouts, particularly in firms with unrecovered ACT.
Poterba & Summers (1985)	United Kingdom	1950-1983	Dividend taxes are "importan[t] . . . in determining the extent to which firms utilize their dividend-paying capacity."
Rubner (1964)	United Kingdom	1949-1961	Abolition of the differential profits tax had no impact on dividend-profits ratios.
Brittain (1966)	United States	1929-1964	Rising individual tax rates depressed dividends.
Crockett & Friend (1988)	United States	1940-1942, 1946-1985	Tax rates are "at best marginally significant as a determinant of payout ratios".
Smith & Watts (1992)	United States	1965-1985	Tax theories do not explain cross-sectional variation in industry dividend policies.

Table 2: Calculation of zero-distribution profits

R, D, t_d, t_r, TC are retentions, net dividends, the tax rate on distributed profits, the tax rate on retentions, and unclaimed imputation deductions, respectively. $D/(1-t_d)$ are gross dividends.

Period	Tax system	Formula for zero-distribution profits	Notes
1947-57	German-style tax system where retentions and dividends incur different tax rates	$R + \frac{D}{(1-t_d)}(1-t_r)$	Goudie and Meeks ("G&M"), *supra* note xx, report net dividends.
1958-64	Imputation system	$R + D + \frac{t_d D}{(1-t_d)}$	G&M report net dividends.
1965-72	U.S.-style classical system	$R + D$	G&M report net dividends up to 1966 inclusive, and gross dividends from 1967-72.
1973-1996	Imputation system plus ACT	$R + D + Min\left[\frac{t_d D}{(1-t_d)}, TC\right]$	G&M report net dividends. Proxy for TC is irrecoverable ACT. Datastream report net dividends.
1997	Imputation system	$R + D + \frac{t_d D}{(1-t_d)}$	Datastream report net dividends.

To make allowances for the ACT, we have adjusted profits to take into account irrecoverable ACT. This is because the latter was, in effect, an additional tax charge for companies that paid out dividends despite enduring operating losses. There is no data on unrecovered ACT but figures on irrecoverable ACT are available and these have been used as a proxy.

Table 3: Regression results for the basic Lintner model (equation 1)

The dependent variable is $\Delta \ln DIV_{it}$*, the annual real change in the gross dividend. All independent variables are in natural logarithmic form. The independent variables are* $\Delta \ln ZERO_t$*, the change in the zero-distribution profit,* $\ln DIV_{t-1}$*, the lagged real dividend*, and $\ln ZERO_{t-1}$*, the lagged zero-distribution profit. p-values are reported between parentheses. Modes (1) is estimated using Ordinary Least Squares (OLS). Model (2) is estimated using Generalized Least Squares (GLS) allowing for first-order serial correlation. The coefficient Rho corrects for the potential first-order serial correlation. p-values are reported in parentheses. The Lagrange Multiplier Test is asymptotically distributed as a* χ_p^2 *where p* is *the degree of serial correlation. We test for first-order serial correlation and set p equal to one.*

	OLS model (1)	AR(1) model (2)
Constant	-0.121 (0.784)	-0.178 (0.623)
$\Delta \ln ZERO_t$	0.396 (0.000)	0.400 (0.000)
$\ln DIV_{t-1}$	-0.362 (0.000)	-0.287 (0.000)
$\ln ZERO_{t-1}$	0.366 (0.000)	0.296 (0.000)
Rho	–	-0.198 (0.145)
Adjusted R-squared	0.354	–
F-test (p-value)	10.51 (0.000)	–
Durbin-Watson	2.237	–
Durbin's *h* test	-1.163	–
Lagrange Multiplier test	0.255	–
Observations	53	53

Table 4: Regression results for the politics-revised Lintner model (equation 2)

The dependent variable is $\Delta \ln DIV_{it}$*, the annual real change in the gross dividend. All independent variables are in natural logarithmic form. The independent variables are* $\Delta \ln ZERO_t$*, the change in the zero-distribution profit,* $\ln DIV_{t-1}$*, the lagged real dividend*, and $\ln ZERO_{t-1}$*, the lagged zero-distribution profit. CPM is the Left-Right index measuring the ideological position of the party in power (see Budge et al. 2001) ranging from +100 (right-wing) to –100(left-wing). MYRL ranges from +100 for a government with an ideology entirely based on the market economy and efficient government to –100 for a government with an ideology focusing entirely on a planned economy and a welfare state. Both CPM and MYRL are measured for the party in power (i.e. the Prime Minister's party). p-values are reported between parentheses. Models (1) and (3) are estimated using Ordinary Least Squares (OLS). Models (2) and (4) are estimated using Generalized Least Squares (GLS) allowing for first-order serial correlation. p-values are reported in parentheses. The Lagrange Multiplier Test is asymptotically distributed as a* χ^2_p *where p* is *the degree of serial correlation. We test for first-order serial correlation and set p equal to one.*

	OLS model (1)	AR(1) model (2)	OLS model (3)	AR(1) model (4)
Constant	-0.046 (0.935)	-0.844 (0.856)	-0.253 (0.622)	-0.281 (0.509)
$\Delta \ln ZERO_t$	0.393 (0.000)	0.396 (0.000)	0.405 (0.000)	0.408 (0.000)
$\ln DIV_{t-1}$	-0.368 (0.000)	-0.294 (0.001)	-0.360 (0.000)	-0.285 (0.001)
$\ln ZERO_{t-1}$	0.366 (0.000)	0.296 (0.000)	0.372 (0.000)	0.300 (0.000)
CPM_t	<0.000 (0.823)	<0.000 (0.743)	–	–
$MYRL_t$	–	–	>-0.000 (0.607)	-0.201 (0.140)
Rho	–	-0.200 (0.140)	–	–
Adjusted R-squared	0.342	–	0.345	–
F-test (p-value)	7.74 (0.000)	–	7.83 (0.000)	–
Durbin-Watson	2.241	–	2.237	–
Durbin's *h* test	-1.123	–	-1.171	–
Lagrange Multiplier test	0.155	–	0.138	–
Observations	53	53	53	53

Table 5: Regression results for the tax-revised Lintner model (equation 4)

The dependent variable is $\Delta \ln DIV_{it}$*, the annual real change in the gross dividend. All independent variables are in natural logarithmic form. The independent variables are* $\Delta \ln ZERO_t$*, the change in the zero-distribution profit,* $\Delta \ln PTP_t$*, the change in the pension dividend preference index,* $\Delta \ln DTP_t$*, the change in the dividend preference index,* $\ln DIV_{t-1}$*, the lagged real dividend*, $\ln ZERO_{t-1}$*, the lagged zero-distribution profit,* $\ln PTP_{t-1}$*, the lagged pension dividend preference index, and* $\ln DTP_{t-1}$*, the lagged dividend preference index. p-values are reported between parentheses. Model (1) is estimated using Ordinary Least Squares (OLS). Model (2) is estimated using Generalized Least Squares (GLS) allowing for first-order serial correlation. p-values are reported in parentheses. The Lagrange Multiplier Test is asymptotically distributed as a* χ_p^2 *where p* is *the degree of serial correlation. We test for first-order serial correlation and set p equal to one.*

	OLS model (1)	AR(1) model (2)
Constant	0.544 (0.563)	0.254 (0.750)
$\Delta \ln ZERO_t$	0.397 (0.000)	0.403 (0.000)
$\Delta \ln PTP_t$	-0.062 (0.766)	-0.034 (0.862)
$\Delta \ln DTP_t$	-0.024 (0.637)	-0.029 (0.546)
$\ln DIV_{t-1}$	-0.410 (0.001)	-0.320 (0.002)
$\ln ZERO_{t-1}$	0.372 (0.001)	0.301 (0.002)
$\ln PTP_{t-1}$	-0.029 (0.833)	-0.001 (0.994)
$\ln DTP_{t-1}$	0.025 (0.444)	0.016 (0.549)
Rho	–	-0.182 (0.181)
Adjusted R-squared	0.318	–
F-test (p-value)	4.47 (0.001)	–
Durbin-Watson	2.180	–
Durbin's *h* test	-1.161	–
Lagrange Multiplier test	0.006	–
Observations	53	53

Table 6: Regression results for with the Lintner model augmented by the tax and politics variables (equation 5)

Both models are estimated using OLS. The dependent variable is $\Delta \ln DIV_{it}$*, the annual real change in the gross dividend. All independent variables are in natural logarithmic form. The independent variables are as defined in table 4 and section IV of the paper. CPM is the Left-Right index measuring the ideological position of the party in power (see Budge et al. 2001) ranging from +100 (right-wing) to –100(left-wing). MYRL ranges from +100 for a government with an ideology entirely based on the market economy and efficient government to –100 for a government with an ideology focusing entirely on a planed economy and a welfare state. Both CPM and MYRL are measured for the party in power (i.e. the Prime Minister's party). p-values are reported in parentheses. The Lagrange Multiplier Test is asymptotically distributed as a* χ_p^2 *where p* is *the degree of serial correlation. We test for first-order serial correlation and set p equal to one.*

	(1)	(2)
Constant	2.923 (0.024)	2.925 (0.025)
$\Delta \ln ZERO_t$	0.437 (0.000)	0.424 (0.001)
$\Delta \ln PTP_t$	-0.278 (0.237)	-0.259 (0.280)
$\Delta \ln DTP_t$	0.070 (0.438)	0.044 (0.554)
$\ln DIV_{t-1}$	-0.750 (0.000)	-0.739 (0.000)
$\ln ZERO_{t-1}$	0.604 (0.000)	0.608 (0.000)
$\ln PTP_{t-1}$	-0.046 (0.932)	0.005 (0.983)
$\ln DTP_{t-1}$	0.162 (0.127)	0.125 (0.098)
$UNIOND_t$	0.015 (0.303)	-0.012 (0.377)
$DECAYLCH_t$	0.019 (0.981)	0.011 (0.889)
$TAKEPCT_t$	-0.004 (0.033)	-0.004 (0.043)
$UNITLR_t$	-0.011 (0.077)	-0.013 (0.089)
$DIVVOL_t$	0.014 (0.888)	0.011 (0.916)
$DIVCOM_t$	0.062 (0.377)	0.060 (0.394)
CPM_t	–	-0.009 (0.670)
$MYRL_t$	-0.001 (0.510)	–
Adjusted R-squared	0.408	0.404
F-test (p-value)	3.51 (0.001)	3.47 (0.001)
Durbin-Watson	2.245	2.252
Observations	52	52

Table 7: Correlation matrix

	UNIOND	UNITLR	DIVVOL	DIVCOM	DIVCOML	DECAYLCH	TAKEPCT	MYRL	CPM
UNIOND	1								
UNITLR	0.77032	1							
DIVVOL	0.01741	-0.10659	1						
DIVCOM	0.45819	0.21303	-0.13553	1					
DIVCOML	0.47018	0.22303	-0.13537	0.99883	1				
DECAYLCH	-0.03597	0.09140	-0.03907	-0.03954	-0.05135	1			
TAKEPCT	0.06656	0.22524	-0.25023	0.23602	0.22283	0.02822	1		
MYRL	-0.03732	0.30527	-0.28839	-0.29811	-0.30273	0.29949	0.26924	1	
CPM	-0.25567	0.01089	-0.18413	-0.41027	-0.41384	0.29460	0.15241	0.87937	1

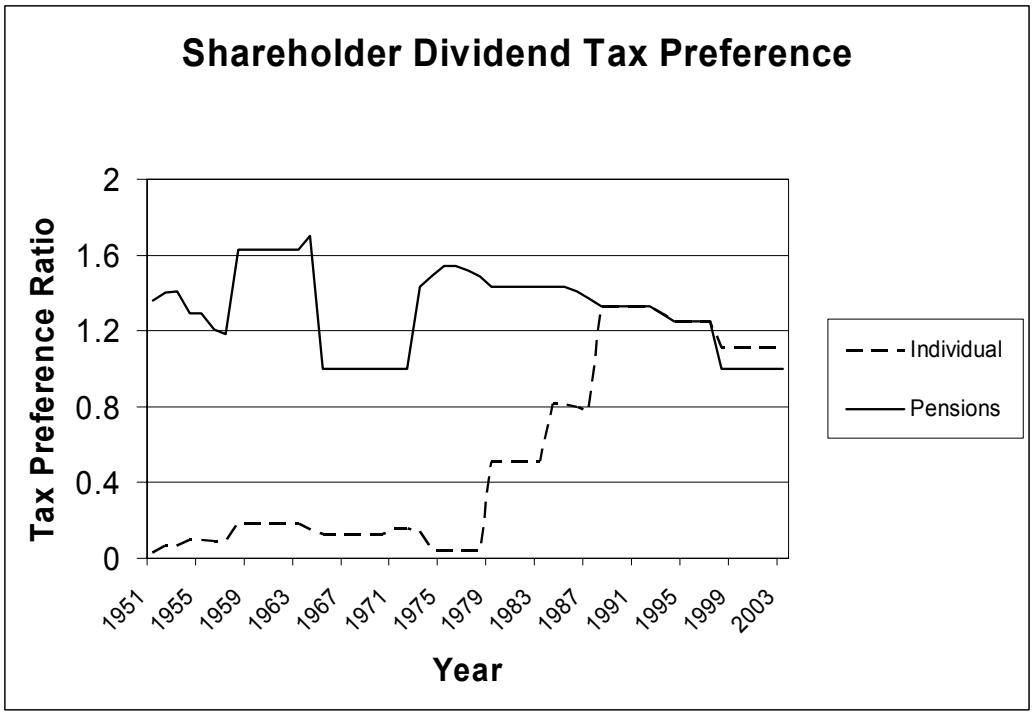
Table A1: Calculation of tax code parameters
m, s, t_d, t_u, z, t_a are the top marginal tax rate on dividends, standard tax rate, tax rate on distributed profits, tax rate on undistributed profits, capital gains rate, and imputation credit, respectively

Tax Regime	Years	Total Tax Preference Ratio (DTP)
Differential Profits Tax I	1949-1951	$(1-m)/[(1-s)(1 + t_d-t_u)]$
Differential Profits Tax II	1952-1958	$(1-m)/(1-s + t_d - t_u)$
Single Rate Profits Tax	1958-1964	$(1-m)/(1-s)$
Classical Corporate Tax	1965-1973	$(1-m)/(1-z)$
Imputation System	1973 - 2002	$(1-m)/[(1-t_a)(1-z)]$

Table F1: Dividend Controls

Year	Type of control	Type of Limit
1949-51	voluntary	
1952-60	–	
1961	voluntary	
1962-65	–	
1966	compulsory	Freeze
1967	compulsory	"Severe restraint"
1968-69	compulsory	3.5%
1970-71	–	
1972	compulsory	Freeze
1973	compulsory	5%
1974	compulsory	12.5%
1975-79	compulsory	10%
1980-2002	--	

Figure 1


Shareholder Dividend Tax Preference
Tax Preference Ratio
2
1.6
1.2
0.8
0.4
0
1951
1955
1959
1963
1967
1971
1975
1979
1983
1987
1991
1995
1999
2003
Year
Individual
Pensions

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