INSTITUTIONAL INVESTORS, CORPORATE GOVERNANCE AND THE PERFORMANCE OF THE CORPORATE SECTOR

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Abstract: Proportions of equity held by institutional investors – pension funds, insurance companies and mutual funds - are rising across all OECD countries, Meanwhile institutions are becoming more influential in corporate governance, even in bank-dominated countries, inter alia due to international investment, pension reform and EMU. We provide two forms of evidence on the effects of institutional corporate governance on corporate performance. First we offer a literature survey on micro evidence, the outcome of which is mixed, but on balance suggesting a positive effect on equity returns. We contend that these micro studies face a difficulty that they cannot capture effects of governance initiatives whose effects go wider than "target firms". Accordingly, we present results for the reduced form empirical relationship between institutional share holding and corporate sector performance at an economy wide level. These are consistent with significant effects which differ between "Anglo Saxon" and "relationship banking" countries. For example, institutions appear to accompany lower investment and higher dividends in the former.

Keywords: Corporate governance, institutional investors

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Introduction

Given the divorce of ownership and control in corporations, principal-agent problems arise, as shareholders cannot perfectly control managers acting on their behalf. Managers have superior information about the firm and its prospects, and at most a partial link of their compensation to the firms' profitability. This gives them incentives to divert funds in various ways away from those who sink equity capital in the firm. Lower profitability and dividends, poor investment allocation and low productivity may be the result of failure to address these "corporate governance" problems. Institutional investors, because of their greater bargaining power over the firm relative to individuals, are well placed to minimise these problems. Across all OECD countries, the role of institutions is growing as their share of corporate equity increases. Traditionally there have been dramatic differences between financial systems in a number of aspects of governance. An important issue at present is whether a degree of convergence is perceptible, partly related to institutional growth.

In this context, the article examines the relation between growth of institutions, equity finance, corporate governance and performance. First, we show the broad trends in holdings of equity by institutional investors. Four basic models of corporate governance are then outlined. It is suggested that those mechanisms prevailing in Anglo Saxon countries and with an important role for institutions have a wider relevance, since a growing shift towards these modes is perceptible also in Continental Europe and Japan. With this potential for convergence as background, we offer two forms of evidence on the impact of institutional holdings on companies. First we survey aspects of the empirical work on the "Anglo Saxon paradigms" of takeovers, LBOs and direct pressure by shareholders on management. These could have a wider relevance if convergence takes place. The bulk of such empirical work on corporate governance has used micro data in the US. We contend that a useful complementary assessment of the overall effect of institutionalisation on corporate performance can be made by using panel estimation techniques on macro data. Such analyses may capture important economy-wide effects of corporate governance mechanisms that may be obscured by micro studies, given that the latter rely on measures of relative returns or efficiency of target firms[2].

1 Institutional investors, equity holdings and the growth of securities markets

Patterns of equity holding by sector in the G-7 countries in 2000 are shown in Table 1. These show the varying importance of institutional investors. In the UK and US, domestic institutional investors hold 30-40% of equities, and in Germany, Japan and Canada institutional investors also hold around 20%. Only in France and Italy are holdings by the domestic institutional investor sector a trivial share

[2] See for example Firth (1976) who shows how earnings announcements spill over across the relevant sector as a whole.

of equities. However, a complete picture should also take into account foreign holdings, which are likely to be mainly institutional (albeit also by foreign corporations). Foreign sector holdings are very high for UK equities (at 35-40%), with the next largest share of foreigners being in France (20%). In Germany, Italy and Canada foreign holdings are 15-20%, and below 10% in the US and Canada. Banks hold over 10% of shares in Germany, Japan and France, reflecting their strong influence on corporate governance. Households account for 20% or less of equity holdings in most of the countries analysed, with the main exception being the US, Canada and Italy. Corporate cross-holdings are low in the UK and US but much higher elsewhere. Most attention tends to be devoted to such cross-holdings in Germany and Japan in the context of the "bank dominated financial system", discussed below, but the largest intersectoral holdings are actually in France (35%) and Canada (25%).

Charts 1-8 show long-term domestic institutional and foreign equity holdings as a percentage of the total[3]. It is evident that these generally have tended to increase over time, albeit remaining lower in Continental Europe and Japan (CEJ for short) than in the Anglo Saxon countries (here including Australia). Looking first at the CEJ, the low share of domestic institutions is a marked feature, albeit with a rise over time in Germany and Japan. Trends in foreign holdings are not monotonic, with the data showing some decumulation at the end of the 1970s in Germany and Italy, but a rise in all four countries since then. Uptrends in all series are also apparent in the Anglo Saxon countries. Generally, domestic institutions dominate foreign holdings, although the UK in 2000 shows an exception. Institutions in the UK (including the foreign sector) own 80% of shares, which is far higher than elsewhere.

Background features underlying the issue of corporate governance by institutional investors and these rising sectoral holdings are changes in financing patterns which have led to a rise in the importance of securities market finance for enterprises, and therein, a growth in influence of institutions. A view of key developments in financial structure over time is shown in Tables 2-3 for the G-7 countries. The tables show data for end-2000, drawn from National Flow of Funds Balance Sheets, and comparative data for 1970. Households have tended to shift the composition of their balance sheets to institutions and away from deposits as well as directly held equities and bonds (Table 2), although again levels still differ. Patterns for companies are less clear, but there would appear to be a tendency for them to reduce their dependence on loans and increase their reliance on equities, as shown in Table 3 (it being borne in mind that the balance sheet composition reflects capital gains as well as new issuance). The leverage of equity holders in corporate governance is hence potentially enhanced. On the other hand, in levels terms, the table does not show the expected difference between Anglo Saxon and other countries in terms of the importance of bank loans to companies, France being below the UK and

[3] Time series data for mutual fund holdings are only available for the UK, US and Canada

Canada. Finally, use of corporate bonds is particularly low in all the EU countries shown – including the UK.

2 Broad themes in corporate governance

In the context of the above information, which shows a growing predominance of equity finance and institutional holdings thereof, we now go on to discuss corporate governance in more detail. Evidence for agency costs includes the frequent observation that share prices of bidder firms fall when acquisitions are announced (Roll 1986), resistance of managers to takeovers that threaten their positions (Walkling and Long 1984), and the premium offered to shares with voting rights (Zingales 1995). Owing inter alia to managerial discretion over dividends and capital investment, shareholders are much more vulnerable than other stakeholders in the firm, such as workers and creditors. Workers can withdraw labour, and creditors can refuse debt finance and apply pressure on the managers by those means. Whereas it may be argued that managers' desire to maintain reputation in the market will help to protect shareholders (Kreps 1990), it may not be sufficient. Principal-agent problems in equity finance imply a need for shareholders to exert control over management while also remaining sufficiently distinct from managers to let equity holders buy and sell shares freely without breaking insider trading rules. If difficulties of corporate governance are not resolved, equity finance will be tend to be unduly costly[4] and often subject to quantitative restrictions.[5]

A key to all successful forms of corporate governance is mechanisms for legal protection of shareholders. These include the right to vote on important corporate matters, notably mergers, as well as elections of boards of directors. There may also be a legally enforceable duty of loyalty by managers to shareholders (see Schleifer and Vishny 1997). Boards of directors, in particular non-executive directors, act as shareholders' representatives in monitoring management and ensuring that the firm is run in their interests. Shareholder influence is ensured by their right to vote. On the other hand, if boards are weakly supervised by shareholders, they may act in managers' interests rather than those of shareholders (Jensen 1993), or they will be passive in all but extreme circumstances (Kaplan 1994).

Hence effectiveness of corporate governance typically also requires the presence of large investors, be they banks, other companies, or institutional investors. They will have the leverage to oblige managers to distribute profits to providers of external finance. They are needed because individual investors may find it difficult to enforce their rights, even if these are legally enshrined. Underlying

[4] Indeed, in most of the world, absence of minority shareholder protection means that external equity finance is relatively uncommon and most firms are family owned and financed (La Porta et al. 1999).

[5] Investor overoptimism may play a periodic role in the provision of external finance. See, for example, evidence on the overvaluation of junk bonds used to finance U.S. takeovers in the 1980s in Kaplan and Stein (1993) and of

these difficulties are information asymmetries vis-à-vis managers, the difficulty of forming coalitions to act in a concerted manner against management, and free rider problems. Large investors may find it easier than small investors to enforce their rights in court.[6] There is also a downside to large investors, as they may override the interests of minority shareholders (La Porta et al. 1999). Consistent with this, Morck et al. (1988) found that profitability is higher for firms with shareholders that have up to 5% stakes. Beyond that, profitability falls. This pattern may indicate that larger, block-holding investors seek to generate private benefits of control that are not shared by minority shareholders. Institutional shareholders are often limited, either by regulation or by a desire to maintain liquidity, to holding a maximum 5% of a firm's equity, so their holdings appear likely to be at the optimal level to generate profitability.

3 Four Paradigms of Corporate Governance

There are well-known contrasts in the behaviour of financial institutions and markets in the major OECD countries, notably as they relate to the financing and governance of companies. The general division is between the Anglo-Saxon systems of the United Kingdom, United States, Canada, and Australia on the one hand and the systems that have prevailed historically in Continental Europe and Japan on the other. We would characterize the traditional distinction between the two systems in terms of the finance and control of corporations, distinguishing between direct control via debt and market control via equity (see Davis 1995a).

Direct control via debt implies relationship banking along the lines of the German or Japanese model. Companies have exclusive financing relationships with a small number of creditors and equity holders. There is widespread cross-shareholding among companies.[7] Banks are significant shareholders in their own right. In these countries, banks exert corporate governance most decisively via their control rights as creditors. They may influence the firm by varying the maturity of debt as well as taking control when firms default or violate debt contracts. They may also provide rescue finance to firms in financial difficulty, recouping the expense by charging higher spreads when the firm recovers. Banks in these countries have also been able to exert control through the voting rights conferred on them by custody of bearer shares of individual investors who have surrendered their proxies. The influence of other (institutional) shareholders is often limited by voting restrictions, countervailing influence of corporate shareholders, and lack of detailed financial information, as well as the right of other stakeholders (such as employees, suppliers, and creditors) to representation on boards.

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new equity issues by Ritter (1991). But this sentiment tends to be highly cyclical.

[6]Note that this argument suggests that households will be justified in being more willing to provide equity finance via institutions than they would directly.

[7]However, bi-directional cross-holdings are typically means of cementing alliances or collusion rather than

As regards *market control via equity*, the principal advantage of hostile takeover activity, which is a distinguishing mark of Anglo-Saxon systems, is that it can partly resolve the conflict of interest between management and shareholders: The firms that deviate most extensively from shareholders' objectives—and that consequently tend to have lower market values as shareholders dispose of their holdings—have a greater likelihood of being acquired. Indeed, there is evidence that takeovers act to address governance problems (Jensen 1993). The threat of takeover, as much as its manifestation, acts as a constraint on managerial behaviour ensuring dividends etc. are at a level to meet shareholders' needs. Institutional shareholders can have an important role to play in this context, both in complementing takeover pressure as a monitoring constraint on management behaviour and in evaluating takeover proposals when they arise. Besides becoming vulnerable to takeover, a firm with a low share price will find the cost of equity capital very high, which may restrain expansion. This is particularly the case if the credit rating of debt finance is also affected by the high debt/equity ratio that a low share price entails, thus raising the cost of debt.

The willingness of banks—and institutional investors, via junk bonds—to finance highly leveraged buyouts (LBOs) and takeovers in the 1980s in the United States and the United Kingdom brought to the fore *market control via debt* (Jensen 1986). A key source of conflict between managers and shareholders stems from firms' policies in dividing profits between dividends and retained earnings. The suspicion is that managers may waste retained earnings or "free cash flow" on unprofitable investment projects. Debt issue can ease tensions, since by increasing interest payments, the free cash flow at managers' disposal is reduced, and managers must seek external financing for each new project undertaken. This forces them to obtain an adequate rate of return on such projects. Besides this benefit, the equity stakes that managers usually take on in LBOs align their incentives with those of other equity holders.

A disadvantage of increased gearing is that potential conflicts between shareholders and debt holders become more intense.[8] Jensen and Meckling (1976) show that shareholders in highly leveraged firms have an incentive to engage in projects that are too risky and so increase the possibility of bankruptcy. Given this risk, monitoring of managers by creditors may become so intense as to preclude investment altogether. Indeed, it is commonly argued that LBOs are a transient form of corporate organization that may be helpful in unwinding earlier excesses in terms of diversification.

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exerting control.

[8]Perhaps more important, high leverage is likely to have various deleterious consequences by raising the bankruptcy rate. At a macro level, increased corporate fragility is likely to magnify the multiplier in the case of recession (Davis 1995b).

There are a number of shortcomings to market control via equity and debt as practiced in the Anglo-Saxon countries. As Schleifer and Vishny (1997) noted, takeovers are so costly that only major performance failures are likely to be addressed; they may increase agency costs when bidding managers overpay for acquisitions that bring them private benefits of control; and they require a liquid capital market (e.g., for junk bond issuance) to provide finance. These problems came increasingly to the fore in the United States as the boom of the late 1980s turned to recession, leveraged firms started to default, and the junk bond market collapsed in 1989.[9] Dissatisfaction with the takeover mechanism was increased by abuse of takeover defences by managers of weak companies and/or payoffs of raiders, regardless of shareholders' interests.

As a consequence of these concerns, institutions in the United States began to seek new means to exert corporate control, based on *direct control via equity*. The dominance of institutions as shareholders gives ample scope for leverage: They own 50% of the top fifty U.S. companies, and the top twenty U.S. pension funds own 8% of the stock of the ten largest companies. Besides operating via the right of shareholders to select boards of directors, pressure is exerted via direct links from institutional investors to management[10] either formally at annual meetings or informally at other times.

Another important motivation for direct control via equity has been the development of indexing strategies. Indexation by its nature obliges institutional investors to hold shares in large companies that form the index. It thus encourages them, following their fiduciary duty as well as in the interests of returns, to improve management of underperforming firms, (see Monks 1997). Even active investors that hold large stakes in a company must bear in mind the potentially sizable cost of disposing of their shareholdings, thus again encouraging activism. In effect, they are driven to seek direct control owing to illiquidity (see Coffee 1991).

Since institutions typically do not seek to hold large stakes in firms, coalition building is essential for effective institutional control to be exerted. With growing institutionalisation, it becomes much easier and cheaper to reach a small number of well-informed key investors who will command a majority of votes. The U.S. shareholder activist movement was encouraged in the early 1990s by new rules facilitating coalitions and mandating voting by pension funds (Davis and Steil 2001). Since these developments, U.S. pension funds have consistently voted on resolutions that they might previously have ignored. Public pension funds such as the California Public Employees Retirement Scheme (CALPERS) and the New York Employees Pension Fund (NYEPF) have been particularly active.

[9]The junk bond market has proven highly cyclical, with a collapse of issuance occurring in 1989–1991 and again in 1998 (see Davis 2000).

[10]Note that in countries such as Italy, direct control via equity is exerted in pyramidal groups of companies, in which those (larger firms) higher up hold shares in those (smaller) lower down (OECD 1995).

They have sought, for example, to challenge excessive executive compensation and takeover protections, to seek to split the roles of chairman and chief executive, to remove underperforming chief executives, to ensure independent directors are elected to boards, and to ensure that new directors be appointed by non-executives. These ends are reached by filing proxy resolutions and directing comments and demands to managers, either privately or via the press. CALPERS in 1997 also drew up corporate governance standards relating in particular to the role of the independent directors and graded the 300 largest holdings on this basis.

Broadly similar tendencies toward shareholder activism by pension funds are also apparent in the United Kingdom and Canada, often aided by U.S. involvement (Davis (1995a), Simon (1993)). Besides pension funds, value-based asset managers such as Phillips and Drew have become active on their own behalf in the UK, taking large stakes in underperforming firms with a view to improving management or provoking takeovers (Martinson 1998). Even in bank-dominated countries such as Germany and Japan, U.S. pension funds have introduced shareholder activism. U.S. funds' leverage is apparent from the size of their international holdings ($410 billion in 1999) and concentration ($265.5 billion in the twenty-five largest funds). CALPERS, which in 1998 had $2 billion in Japanese stocks and $4 billion in French stocks, has issued guidelines for corporate governance addressed to all firms in the national market. Other factors are facilitating institutional activism in bank dominated countries. Many firms in Continental Europe and, to a lesser extent, Japan are already seeking access to international equity finance, not least given that domestic investors are tending to invest abroad. They are accordingly being obliged to meet the needs of Anglo-Saxon pension funds for market-value-based accounting,[11] information disclosure and higher dividend payments (see Schulz 1993).

Meanwhile, hostile takeovers have been seen in Germany, Japan, France and Italy, while companies are beginning to unravel their cross-shareholdings. Universal banks in Europe are switching away from the traditional lending that underpinned direct control via debt to investment banking activities, partly due to pressures for better performance from banks' own institutional shareholders. Nonfinancial companies in Germany and Japan are also seeking to reduce dependence on relationship banks, to avoid the risk of exploitation (see Edwards and Fischer 1994, Hoshi et al. 1993). The growth of securities markets enables them to substitute bond for bank finance, at a cost in terms of greater vulnerability to financial distress, which may reduce investment (Hoshi et al. 1991, Elston 1998).

Important fiscal and regulatory changes are taking place in Europe and Japan that are improving the scope for corporate governance activity by international institutional investors such as tax reforms in Germany which promise to reduce cross-shareholdings, amendment of laws to protect minority shareholders in takeovers (France), insider information restrictions (in countries such as Germany),

[11]Based on the U.S. Generally Accepted Accounting Principles.

limits on dual classes of share (an important issue in countries such as Switzerland), and equal treatment of creditors in bankruptcy (to protect corporate bond holdings). Japanese corporate law is being reformed to favour equity holders rather than creditors. The EC is considering how to liberalise takeover regulations across the Union (ESFRC 2002).

In Europe EMU is compounding pressures for change to corporate governance:

- institutional investors, which are no longer confined by portfolio regulations to national markets (Davis 2002a), are seeking to diversify much more widely across the Union, and thus asset managers' performance is more readily compared. In this context, investors and asset managers wish to ensure that corporate management performs in line with shareholder value, be it via development of hostile takeovers or direct shareholder pressure.;
- companies are seeking to issue more equity, both to finance restructuring and to increase the robustness of their balance sheets in a context of weaker bank relationships. Desire to issue equity implies a need to satisfy the expectations of institutional investors regarding dividends, information disclosure, minority protection, and profitability;
- a euro corporate bond market (Bishop 1999) has helped to underpin a shift in modes of corporate governance towards market control via debt, by facilitating leveraged buyouts and takeovers as a means to discipline management.
- companies, under pressure to maximize profits, are divesting their cross-holdings (due to low returns), thus eliminating a proportion of currently passive shareholders. Banks equally are seeking to further reduce equity holdings, partly owing to capital adequacy considerations;
- book-reserve-based pensions are giving way to Anglo-Saxon-style externally funded pensions.
- there is reduced willingness of banks to undertake rescues, reflecting both increased interbank competition and the enhanced ability of firms to avoid the costs of banking relationships by issuing bonds in the rapidly growing euro corporate bond markets.

Foreign shareholders continue to play a major role in transforming corporate governance in Europe and Japan. Notably in Europe, the dependence of companies on foreign equity holders in the absence of well-developed domestic institutional sectors (see Table 1) is making takeover bids easier to undertake.[12] Pressure for change may be sustained in the longer term as domestic institutions develop more strongly, when governments reform social security pension systems (Davis 1995a). EMU will provide a considerable stimulus for such reform owing to the Stability Pact fiscal constraints.

[12]In France, the three-cornered merger battle between Société Generale, Paribas, and BNP showed the growing influence of foreign institutional holders relative to the government.

To sum up at this point, the growing dominance of equity holdings by institutional investors, both domestic and international, is casting a sharp focus on their activities as owners and monitors of firms. Anglo-Saxon countries are witnessing an increase in direct influence of institutions to complement reliance on the takeover mechanism to discipline managers. Europe and Japan remain more firmly in the bank-relationship-based governance paradigm. On the other hand, such differences should not be exaggerated, and some convergence is discernible to a modified form of the Anglo-Saxon paradigm in which institutions are the primary actors in corporate governance generally. In Europe, EMU will provide a major spur to such convergence.

4 Empirical evidence 1; activism, takeovers and short termism

The suggestion made above that even the CEJ countries are tending to shift towards Anglo Saxon modes of corporate governance mean that empirical analyses of the outworkings of that system have a wide importance, going beyond the Anglo Saxon countries themselves. Accordingly, this section provides a selective survey of extant empirical work on institutional investors and corporate governance at a micro level, with a focus on the effect on company performance:

In the context of market control via equity, and focusing on the period 1986–1990, Clyde (1997) found that institutional concentration among shareholders was positively correlated with the frequency of takeovers. Concerning the impact of such takeovers, work may be divided between that focusing on share price responses to mergers and estimates of the impact on profitability and efficiency measured directly. Of the former, Jensen and Ruback (1983), looking at US activity, concluded that the overall share price gains are positive; target firm shareholders benefit and bidder shareholders do not lose. Jarrel et al (1988) found that later in the 1980s, premia to targets fell and bidders faced a slight loss but the net effect was still positive. Firth (1980) looking at the UK, saw a definite negative effect on the bidder, which more than cancelled the gain of the target. with a negative net response (part of the explanation may be that information leaked prior to the bid). On the economics side, Scherer (1988) found that acquired firms under perform by 11% on a basis of cash flow to sales, suggesting the evidence for economic efficiency gains was weak.

The short-termist hypothesis maintains that equity markets dominated by institutional investors tend to undervalue firms with good earnings prospects in the long term but low current profitability. This in turn is held to discourage long-term investment or research and development (R&D) as opposed to distribution of dividends, because firms that undertake long-term strategies may be undervalued and/or taken over. Underlying the hypothesis is the willingness of institutional investors to sell shares in takeover battles, in combination with regular performance evaluation of asset managers by trustees, which is said to make managers impatient for returns.

Whereas such a phenomenon could reflect irrational undervaluation of long-term investment projects, this is not necessarily the case. Schleifer and Vishny (1990) show that given information asymmetries, risk-averse managers could prefer short-term investment projects in a situation in which arbitrageurs have limited funds, and hence mispricing of long-term projects by the market is only gradually removed. In support of the short-termist hypothesis is research by Miles (1993) on the UK, who undertook tests of whether discount rates implicit in market valuations applied to cash flows that accrue in the long term are too high, both in absolute terms and relative to the rates applied to cash flows in the near term. The result seems to confirm the existence of such effects in the UK, with long-term discount rates being too high. An earlier study by Nickell and Wadhwani (1987) came to similar conclusions. Evidence of mean reversion in stock prices in the US is seen in the same light by Poterba and Summers (1992).

Against the short-termist hypothesis, Marsh (1990) notes that in the absence of information relevant to valuations, excessive turnover will hurt performance of asset managers, and reaction to relevant information on firms' long-term prospects, which itself generates turnover, is a key function of markets. High stock market ratings of drug companies, with large R&D expenditures and long product lead times, would seem to tell against the hypothesis. Indeed, markets seem to favour capital gains over dividends (Levis 1989), and some research suggests that announcement of capital expenditure or R&D boosts share prices (McConnell and Muscarella 1985). The data for holding periods of equity by institutional investors do not indicate excessively short holding periods. U.K. pension funds, for example, had a turnover rate for domestic equities of around 40% in 1998, implying an average holding period of around 2.5 years.

On balance, current evidence does not appear to favour the short-termism hypothesis, but two caveats should be mentioned: First, the recent enthusiasm for Internet and IT firms that are expected to make profits only in the long term was apparently a bull market phenomenon rather than a structural change in approach by investors. Second, even if short termism does not exist, effects may ensue if managers behave as if it does, which Marsh (1990) admits may be the case in countries such as the United Kingdom. This raises an important wider point, namely that corporate governance and institutional investors can influence the whole corporate sector, e.g. in terms of dividends, investment and productivity, and not just targeted firms in takeovers, LBOs or governance initiatives. This we address in the empirical work on macro data below.

In the context of market control via debt, the question arises as to whether institutions have actively encouraged increased leverage, with potential impact on performance. Research on the influence of institutional investors on debt levels is inconclusive. Firth (1995) shows that the presence of

institutional shareholders tends to have a positive influence on the debt/assets ratio, suggesting they encourage firms to lever up. But Grier and Zychowicz (1994) find a negative effect. They suggest that direct discipline by institutional investors (see the discussion below of direct control via equity) acts as a substitute for debt. One possible reason for the difference is that Firth's data are from the peak of the popularity of leverage (1987–1989), while Grier and Zychowicz cover a longer period (1984–1988) including years when pressure for leverage was less intense.

In the context of direct control via equity, the effectiveness of shareholder activism is a question of lively debate in the United States; the bulk of empirical work seems to justify a degree of scepticism. On the positive side, Wahal (1996), in a sample of forty-three cases, found that efforts by institutions to promote organizational change via negotiation with management (as opposed to proxy proposals) are associated with gains in share prices. Strickland et al. (1996) report that firms that were targeted for pressure by the United Shareholders Association[13] experienced positive abnormal stock returns, although corporate governance proposals per se had no effect.

Del Guercio and Hawkins (1999) analysed shareholder proposals of large and active funds over 1987–1993. They sought to take into account the fact that the tactics adopted by different institutional investors may vary because of the constraints on their investment strategies. For example, an index fund might seek via shareholder proposals to boost the overall performance of the whole market (for example, by improving overall governance standards) rather than solely seeking to improve performance of those firms in which they invest. Externally managed funds are more likely to seek publicity for their governance aims than those that are internally managed, for which activism and trading can be profitably coordinated. Companies receiving shareholder proposals experienced a higher frequency of governance events such as turnover of top managers, shareholder lawsuits, asset sales, and restructuring. CALPERS initiatives had much more leverage than those for other funds. Contrary to popular belief, the results suggested that funds are value maximizing in their corporate governance activities and are not politically motivated.

On the negative side, Del Guercio and Hawkins found no evidence that activism had a significant effect on stock returns over the three years following the proposals. Gillan and Starks (1995) found some positive returns in the short term but no statistically significant positive returns over the long term, leading them to question the overall effectiveness of shareholder activism. Smith (1996), looking at the firms that had been targeted by CALPERS, found that activism again led to no statistically significant improvement in performance of the companies concerned. On the other hand, activism had led to changes in that 72% of targets had adopted proposed governance structure resolutions or made changes sufficient to warrant a settlement. Moreover, there was a statistically

[13]Note that this is actually a coalition of small investors rather than an institutional investor per se.

significant increase in shareholder wealth; CALPERS gained an estimated $19 million over 1989-1993 at a cost to itself of $3.5 million. Karpoff et al. (1996) found that shareholder initiatives were well targeted on firms with atypically poor prior performance but had little effect on operating returns, company share, values, and top management turnover; the only exception was a significant improvement in returns on assets for the targets relative to a control group.

Monks (1997) explains the ineffectiveness of corporate governance activity in raising returns by reference to the political nature of public pension funds. While they are well placed to raise fairness issues such as excessive managerial remuneration, the incentive structure of trustees is not such as to encourage the long-term pressure on management that is needed to obtain positive excess returns in the long term. More effective institutional pressure may be exerted by so-called relationship investors such as Warren Buffett.

Evidence from outside the United States on the effectiveness of corporate governance initiatives is sparse, but Faccio and Lasfer (2000) show that the monitoring role of U.K. pension funds is concentrated among mature and low-performing firms and that in the long run, the firms in which pension funds have large stakes markedly improve their stock returns.

As regards empirical evidence of a decline in *direct control via debt*, Gorton and Schmid (1996), attribute a disappearance of the favourable effects of German bank equity holding on firm performance between 1974 and 1985 to disintermediation, reductions in equity holdings by banks, and greater interbank competition. All of these were thought to weaken banks' oversight over management. Such results highlight the weakness of CEJ modes of corporate governance and the need for a shift in focus as capital markets develop.

A general comment on these results is that they are generally dependent on a distinctive effect being detectable on the firms subject to specific corporate governance action, relative to the market as a whole. They also focus on stock returns rather than real economy aspects of corporate performance. If one takes the case for the disciplinary effects of corporate governance seriously, there should be effects on all firms, which in some cases might actually obscure the specific effects sought in these studies. Indeed, some studies such as Firth (1976) have shown a strong spillover effect, in this case from earnings announcements to the market as a whole, which could be reproduced for corporate governance events. We now go on to address this issue by presenting tentative econometric results on macro data.

5 Empirical evidence 2: estimation of the effects of institutionalisation on the aggregate corporate sector

The above survey has indicated that growth of institutional investors may have major effects on the performance of the corporate sector. Examples include the following[14]:

- The distribution of profits in the form of dividends should be stimulated, rather than their being ploughed back into potentially unremunerative investments.
- Fixed investment itself may be lower in the presence of institutional shareholders than would otherwise be the case, other things being equal.
- On the other hand, if the efficient use of capital and labour were ensured by governance systems driven by institutional investment, one would anticipate that productivity growth might be improved.

In this section we undertake an empirical investigation of these hypotheses at a macro level for the G-7+ countries plus Australia (G-7+ for short), as well as on the subgroups of the Anglo Saxon and CEJ countries. We estimate the effects of institutional ownership, be it domestic or foreign, on aspects of corporate performance in the context of "conventional" equations determining the performance variables. The institutional shares, being in the form of proportions, are independent of the level of share prices and purely indicate the changing nature of ownership of the outstanding volume of equities.

The economic intuition is that the relationship between the dependent variable and its determinants, reflecting the optimising behaviour of company managers and decision makers, is altered by growing institutional shareholding, towards "shareholder value" and away from "managerial" objectives. In other words, there is more effective corporate governance as outlined in the sections above. We would contend that the results are complementary with the firm level studies outlined in Section 4, if the view is taken that the effects of takeovers, institutional activism etc are not just apparent in the performance of targeted firms but also in the wider economy. This may plausibly be the case if, as suggested by Marsh (1990), managers of "unaffected" firms nonetheless change their behaviour in response to the threat of such action.

There remain numerous grounds for caution, for example we only have eight countries (and four Anglo Saxon ones); deregulation of product markets could also lead to effects on productivity (although it is less likely to affect dividend distribution or investment); our "conventional independent variables" cannot perfectly capture the normal developments in the dependent variables in question; there is interrelation between our dependent variables (dividends and investment are partly substitutes); and as noted below there are certain econometric issues relating to our approach.

[14] An earlier version of the paper (Davis 2002b) also reports results for share prices and equity returns.

As a preliminary, Table 4 shows panel unit root tests (undertaken according to the method of Im et al (1997), to average out the individual ADF statistics). The results indicate that the variables are all I(1), including the shares of institutional investors. Whereas these could obviously not be trended in a long run sample, it was to be expected from Charts 1-8 that they would be seen as trended over this period. Equally, the real long-term interest rate is non-stationary, probably due to the impact of inflation on real rates in the 1970s. Technically, the fact that these variables are difference stationary implies stationarity in variance. This is consistent with them being I(0) about a trend or drifting I(0) variables, which can still be bounded (in the shape of an ogive) over a longer-term sample.

Following the tests, the overall specifications are set in an error-correction format, with normal macroeconomic variables to determine the variable in question, and with the share of foreign and domestic life and pension funds in total equity as additional regressors[15]. The drifting I(0) variables, i.e. the shares as well as interest rates, can be seen in the long run as shifting the level equilibrium in the long run cointegrating relation (similarly to the role of unemployment in a wage equation where wages and productivity are cointegrated, and changes in unemployment change the wage/productivity relation[16]). The difference term is showing the effect of the drift in the variable over one time period, which in the long run has no effect.

By this means, we seek to capture the influence of new purchases from other holders and the long run level of institutional holdings, respectively. There is clearly a potential issue of reverse causality, meaning the results need careful interpretation. In other words, there is a need to ensure that we are not merely capturing the investment-response of institutions to aspects of performance already apparent in the outturns. This may in particular affect the difference term; since the level variable is taken with a lag it should be less vulnerable to such misinterpretation.

The estimates were made using a cross-section weighted GLS balanced panel, with fixed effects for each country and cross section weights. The cross-section weights allow for the common disturbances that affect the panel, such as world economic growth, growth in world trade, share prices and global bond yields. We considered this more appropriate than the alternative seemingly unrelated regressions (SUR) given there is a clear relation between equations. The fixed effects should deal with the inevitable heterogeneity between countries in the panel, in terms of levels of the variables concerned. The standard errors are White heteroskedasticity consistent.

[15] As noted, mutual funds are omitted from our general results owing to lack of consistent data; we add results including mutual funds as a variant for Canada, the UK and US only at the end of this section.

[16] Similar issues arise commonly in consumption and investment functions where trends are often detected over short samples in fundamentally-stationary variables such as real interest rates, the user cost of capital,

We started with a test regression on GDP growth itself (not reported in detail). As it would appear unlikely that institutional shares of equity impact on growth, this enabled us to assess whether there were spurious effects linked to investment patterns, and hence that we are merely picking up a form of reverse causality from the real economy to the institutional share. The equation was specified in terms of the first difference of the log of real GDP, on a lagged level and difference of the same variable and the four institutional-share terms. In none of the regressions – for the G-7+, CEJ and the Anglo Saxon countries – was any of the institutional share terms even remotely significant. This result offers some comfort that elsewhere one is capturing genuine interaction between the variables.

One point emphasised above is that institutional investors may seek higher dividend distribution, especially in the case that there is considered to be "free cash flow" and a lack of profitable investment opportunities. Table 5 accordingly shows estimates for growth of real dividends. In this case we include the lagged real dividend flow and lagged GDP as error correction terms as well as the growth of GDP (current and lagged) in order to allow for normal cyclical and trend patterns in dividends. Underlying the equation is the suggestion that firms seek a roughly constant payout rate in the long run, where GDP is a proxy for the profit stream, while the ratio varies cyclically in the short term as financial pressures on firms vary.

The results for the G-7+ bring out the dynamics and long run relationship between GDP and real dividends (where the ratio of dividends to GDP proxies the payout ratio). The current difference of GDP has a coefficient of well over one, suggesting that the cyclical "beta" of dividends is high (they rise more than GDP in booms and fall more in recessions). The lagged levels terms do not suggest long run homogeneity with GDP, suggesting a trend in the payout ratio.

The equation with the institutional investment share terms has the basic variables little changed - a result that also holds for the other dependent variables reported below. This supports the argument made above that the share terms are I(0) with drift, since such a variable should not affect the implicit cointegration properties of the equation (in the levels terms). The share of foreign institutions has a significant coefficient both in the difference and the level terms. This suggests that pressure from foreign institutions for higher real dividend growth (short run) and a higher payout ratio (long run) may have played an active role across the G-7+. Meanwhile the difference of domestic institutions term is negative.

Looking at the results for the Anglo Saxon and CEJ, the dynamic effects of GDP growth are consistent across the panel, as is the significance of the lagged dividend (partial adjustment) term. However, lagged GDP is only significant in CEJ, where long run homogeneity with real dividends

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unemployment, Tobin's Q, and uncertainty.

does seem to hold. The results for institutional shares are quite different. In the Anglo Saxon countries, the significant positive effect comes from the lagged level of the domestic institutions and foreign institutions ratios. This implies that institutional pressure is effective in raising the long run level of real dividends. In the CEJ countries, only the lagged domestic share is positive, suggesting foreign institutions did not exert strong influence over the estimation period, perhaps due to the barriers to activism and discrimination against minorities highlighted in Section 2.

The next issue concerns investment (Table 6). Do institutions exercise restraint on it, given the risk that it may become unprofitable? The dependent variable is the difference of the log of real fixed investment. We have lagged investment, the lagged capital stock and lagged GDP, as well as current and lagged differences of real GDP and a lagged real interest rate as real economy variables. This gives a standard Jorgensen flexible accelerator model (Ashworth and Davis 2001), where underlying the specification is a neoclassical objective function where the firm maximises discounted future profits subject to adjustment costs. The terms bear usual signs and magnitudes. Lagged investment is negative, as is conventional in an error correction equation where the dependent variable is a first difference. The real interest rate is correctly negative and significant, a successful contrast to most empirical work which has found it very difficult to obtain this variable significant.

In terms of the share of institutional holdings, the G-7+ results are insignificant. In Continental Europe and Japan, the level of life and pension holdings has a positive effect. However, in the Anglo Saxon ones, the significant institutional share terms (difference of domestic and level of foreign) are negative. The implication is that institutional investors exert a negative influence on "wasteful" investment that would otherwise occur in those countries, while this corporate governance discipline is lacking elsewhere. Looking at other features of the subgroups, it is interesting to note that the accelerator terms (GDP growth) are much stronger in the CEJ than the Anglo Saxon countries. This could link to the point that in a relationship banking system, investment is freer to respond to growth with readily available debt finance

The third estimate is for Total Factor Productivity (Table 7). Do institutions help to generate higher productivity via corporate governance pressure on firms to maximise profits, efficiency and competitiveness? In this case we simply estimate a distributed lag with GDP together with a partial adjustment term; implicitly TFP accrues during the process of economic growth and development (possibly linked to "endogenous growth" effects of investment within GDP), and at a speed that may vary over the cycle. Admittedly this is a more ad hoc specification that the others. Note that TFP growth is estimated as $100(\Delta \ln Y - \alpha \Delta \ln L - (1-\alpha)\Delta \ln K)$, where Y is real GDP, L is employment and K the real capital stock. α is set to 2/3, which is approximately labour's income share. The level is the accumulation of this variable (see Davis and Madsen 2001). In the basic

equation, the terms in growth of GDP are significant, suggesting that there is a cyclical pattern to this variable. Lagged TFP and GDP are also significant.

In the extended equations, there are no significant difference terms for institutional shares. The levels terms show a positive effect from domestic institutions, and a negative effect from foreign ones. This suggests that TFP may be stimulated by domestic institutions' activity and corporate governance pressure, while foreign investors' holdings link to lower TFP growth. For Anglo Saxon countries, this result again holds, albeit with the coefficient on domestic institutions being only significant at the 90% level. In CEJ, both institutions' share is significant with domestic positive and foreign negative. In CEJ, the difference terms in the institutional share also come through with the same signs as for the levels.

Table 8 summarises the results outlined above, while in Table 9 we provide estimates of the effects of mutual fund shares as well as foreign and long term institutions, for the countries where data are available, namely Canada, the UK and the US. The results provide strong support for differential effects of types of institution. In the dividends equation, it is again the level of long term institutional holdings that entails higher dividends, while a rise in the share of mutual funds cuts the growth rate of real dividends in the short term. Mutual fund investors may be more interested in short term capital gains than are life and pension funds. Concerning investment, when mutual funds are included for the Canada, the UK and US their level plays an additional restraining role. Concerning TFP growth, both long term institutions and mutual fund shares have a positive influence, with the latter being greater. This may link to the greater incidence of takeovers when institutions are dominant in capital markets, which either raises productivity of target firms directly or more generally raises overall productivity by "keeping managers on their toes".

We would argue that this work is consistent with a disciplining role of institutions in the Anglo Saxon countries, particularly life insurers and pension funds. They exert restraint of investment, and lead to a boost to dividends and to TFP. The tendency for corporate use of equity to rise, for equity shares of institutions to increase, and for traditional corporate governance structures to break down in CEJ, suggests these results could hold there in the future.

It would be useful to attempt these estimates with the Pooled Mean Group panel estimation method, which allows the dynamics of the countries to vary while determining a common long run (Pesaran, Shin and Smith 1999). Further work could also use a more sophisticated estimation procedure such as Philips Modified estimators rather than GLS in the dynamic panel. It could also include estimation after 1980 (to assess the effect of the turbulent 1970s on the results), use of patents, takeovers, R and D and profit mark-up as possible dependent variables.

Conclusions

The growing dominance of equity holdings by institutional investors, both domestic and international, is casting a sharp focus on their activities and owners and monitors of firms. The theory and empirical work on corporate governance suggests that their typical stakes of up to 5% are precisely those needed to encourage an improvement in company performance. The Anglo-Saxon countries are showing an increase in direct influence of institutions in place of the previous reliance on the takeover mechanism to discipline managers. In Continental Europe and Japan, some convergence is discernible on a modified form of the Anglo Saxon paradigm where institutions are the primary actors in corporate governance generally. In Europe, EMU will provide a major spur to such convergence.

By improving corporate governance, institutions could boost not only the share price and performance of the companies they invest in, as shown by most extant micro work, but also elements of corporate sector performance detectable at a macroeconomic level. Indeed, if such macro effects are important, they may explain the sometimes-mixed results of the effect of takeovers and other activism at a micro level; if performance is improved across the board, because managers of "unaffected" firms nonetheless change their behaviour in response to the thereat of such action, differential effects on target firms will be obscured. More specifically, our empirical results link the development of institutional investors to important indicators of corporate sector performance, suggesting increased dividend distribution, less fixed investment and higher productivity growth. Results suggest that life insurers and pension funds are most influential.

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Table 1: Corporate equity holders by sector end-2000 (percent of total)

	UK	US	Germany	Japan	Canada	France	Italy
Households	20	35	17	18	41	21	35

Companies	4	14	31	24	25	35	28
Public sector	0	1	3	2	3	3	6
Foreign	37	9	16	18	6	20	14
Financial	39	41	33	38	25	21	17
Of which:							
Banks	2	2	12	12	3	12	8
Life/pension	27	23	8	17	12	4	4
Mutual funds	9	16	13	3	8	5	6

Source: National balance-sheet data. "Financial auxiliaries" used for mutual funds in Germany. Share of banks, life/pension and mutual funds may not add to financial sector total given holdings by other financial institutions.

Table 2: Household sector assets 2000 (1970)

Percent of total assets	**Equities**	**Bonds**	**Deposits**	**Institutional investment**
United Kingdom	18 (28)	1 (8)	22 (37)	59 (26)
United States	25 (31)	7 (7)	14 (30)	50 (30)
Germany	17 (11)	11 (0)	36 (64)	36 (16)
Japan	7 (12)	3 (6)	58 (63)	31 (20)
Canada	28 (25)	4 (15)	26 (32)	41 (28)
France	38 (31)	2 (7)	26 (56)	33 (7)
Italy	26 (12)	18 (21)	25 (59)	30 (9)

Source: National balance-sheet data

Table 3: Corporate sector liabilities, 2000 (1970)

Percent of total liabilities	**Equities**	**Bonds**	**Loans**
United Kingdom	70 (60)	7 (8)	23 (19)
United States	68 (66)	13 (15)	11 (17)
Germany	55 (36)	1 (4)	43 (59)
Japan	37 (22)	11 (4)	51 (74)
Canada	55 (56)	17 (23)	23 (19)
France	79 (60)	3 (4)	16 (36)
Italy	63 (32)	1 (9)	36 (60)

Source: National balance-sheet data

Table 4: Panel unit root tests

Based on Im et al (1997), averaging individual ADFs
** indicates stationarity at 5%, * at 10%

	G7+	Anglo-Saxon	CEJ
DLRDIV	-3.5625*	-4.1**	-3.025
LRDIV	-1.9625	-2	-1.925
DLGDP	-3.725*	-3.725*	-3.725*
LGDP	-0.975	-0.175	-1.775
DEQLPS	-3.675*	-3.425*	-3.925**
EQLPS	-1.525	-1.7	-1.35
DEQFRS	-3.45*	-4.05**	-2.85
EQFRS	-1.225	-1.05	-1.4
DLTFP	-3.775*	-3.45*	-4.1**
LTFP	-1.0625	-0.225	-1.9
RLR	-1.95	-1.825	-2.075
LKS	-2.275	-2.35	-2.2
DEQMFS		-2.87*	
EQMFS		-0.53	
LI	-0.475	-0.225	-0.725
DLI	-3.775*	-4.0**	-3.55*

Key: G-7+ indicates results for Australia, Canada, France, Germany, Italy, Japan, UK and US; Anglo-Saxon indicates results for Australia, Canada, UK and US; CEJ (Continental Europe and Japan) indicates results for France, Germany, Italy and Japan; LRDIV, log of real dividends, LGDP, log of real gross domestic product , EQLPS, share of equity held by life and pension funds; EQFRS, share of equity held by foreign shareholders; LTFP log of total factor productivity, RLR real long term interest rate (long rate less current CPI inflation), LKS, log of real capital stock, EQMFS share of equity held by mutual funds, LI log of real fixed investment. "D" indicates first difference operator.

Table 5: Results of panel estimation for log-difference of real dividends

GLS, Fixed effects, cross-section weights, White heteroskedasticity consistent standard errors in parentheses, ** indicates significance at 5% level and * at 10%.

	G-7+ basic	G-7+	Anglo-Saxon	CEJ
DLGDP	1.67 (0.115)**	1.55 (0.098)**	1.55 (0.11)**	2.21 (0.54)**
DLGDP(-1)	0.73 (0.12)**	0.72 (0.095)**	0.616 (0.108)**	1.96 (0.56)**
LRDIV(-1)	-0.15 (0.025)**	-0.199 (0.028)**	-0.163 (0.036)**	-0.27 (0.058)**
LGDP(-1)	0.078 (0.01)**	0.062 (0.019)**	-0.021 (0.023)	0.197 (0.047)**
DEQLPS		-0.132 (0.075)*	-0.046 (0.124)	1.04 (0.71)
DEQFRS		0.457 (0.229)**	0.032 (0.43)	0.06 (0.43)
EQLPS(-1)		0.038 (0.04)	0.173 (0.064)**	0.606 (0.34)*
EQFRS(-1)		0.43 (0.093)**	0.359 (0.144)**	0.035 (0.41)
R-bar-2	0.381	0.414	0.49	0.37
SE	1.27	0.127	0.082)	0.154
Observations	224	216	112	108

Key: see Table 4

Table 6: Results of panel estimation for log-difference of real fixed investment

GLS, Fixed effects, cross-section weights, White heteroskedasticity consistent standard errors in parentheses, ** indicates significance at 5% level and * at 10%.

	G-7+ basic	G-7+	Anglo-Saxon	CEJ
DLGDP	1.25 (0.17)**	1.19 (0.17)**	0.05 (0.12)	1.78 (0.19)**
DLGDP(-1)	0.22 (0.143)	0.17 (0.15)	-0.66 (0.21)**	0.48 (0.16)**
LKS(-1)	0.022 (0.006)**	0.023 (0.007)**	0.09 (0.013)**	0.01 (0.006)*
LI (-1)	-0.216 (0.032)**	-0.22 (0.032)**	-0.43 (0.053)**	-0.18(0.03)**
LGDP (-1)	0.3 (0.043)**	0.3 (0.043)**	0.54 (0.08)**	0.22 (0.04)**
RLR(-1)	-0.003 (0.001)**	-0.003 (0.001)**	-0.0018 (0.0011)	0.00018 (0.0017)
DEQLPS		-0.21 (0.21)	-0.23 (0.1)**	-0.088 (0.3)
DEQFRS		00076 (0.11)	0.019 (0.23)	0.09 (0.075)
EQLPS(-1)		0.006 (0.08)	0.008 (0.046)	0.37 (0.17)**
EQFRS(-1)		0.016 (0.072)	-0.135 (0.08)**	0.06 (0.082)
R-bar-2	0.345	0.32	0.63	0.59
SE	0.046	0.046	0.052	0.04
Observations	224	216	112	108

Key: See Table 4.

Table 7: Results of panel estimation for log-difference of total factor productivity

GLS, Fixed effects, cross-section weights, White heteroskedasticity consistent standard errors in parentheses, ** indicates significance at 5% level and * at 10%.

	G-7+ basic	G-7+	Anglo-Saxon	CEJ
DGDP	0.61 (0.029)**	0.61 (0.027)**	0.537 (0.034)**	0.697 (0.043)**
DGDP(-1)	-0.175 (0.024)**	-0.17 (0.022)**	-0.153 (0.037)**	-0.184 (0.024)**
LTFP(-1)	-0.077 (0.008)**	-0.071 (0.0085)**	-0.132 (0.04)**	-0.0396 (0.012)**
LGDP(-1)	0.029 (0.004)**	0.025 (0.0049)**	0.049 (0.013)**	0.009 (0.008)
DEQLPS		0.003 (0.017)	-0.037 (0.02)*	0.119 (0.048)**
DEQFRS		-0.04 (0.027)	0.043 (0.08)	-0.062 (0.027)**
EQLPS(-1)		0.034 (0.007)**	0.025 (0.0086)**	0.153 (0.042)**
EQFRS(-1)		-0.054 (0.014)**	-0.045 (0.017)**	-0.044 (0.027)*
R-bar-2	0.8	0.802	0.7	0.892
SE	0.01	0.009	0.009	0.0096
Observations	224	216	112	108

Key: See Table 4.

Table 8: Summary of results for institutional shares of equity

Equation	Difference of log real dividends	Difference of fixed investment	Difference of log TFP
G-7+			
DEQLPS	Negative		
DEQFRS	Positive		
EQLPS(-1)			Positive
EQFRS(-1)	Positive		Negative
Anglo Saxon			
DEQLPS		Negative	Negative
DEQFRS			
EQLPS(-1)	Positive		Positive
EQFRS(-1)	Positive	Negative	Negative
CEJ			
DEQLPS			Positive
DEQFRS			Negative
EQLPS(-1)	Positive	Positive	Positive
EQFRS(-1)			Negative

Key: See Table 4.

Table 9: Results of panel estimation for US, UK and Canada including mutual funds

GLS, Fixed effects, cross-section weights, White heteroskedasticity consistent standard errors in parentheses, ** indicates significance at 5% level and * at 10%.

Equation	DLRDIV	DLTFP	DLI
DGDP	1.61 (0.17)**	0.49 (0.04)	0.2 (0.14)
DGDP(-1)	0.52 (0.16)**	-0.135 (0.04)**	-1.1 (0.2)**
LGDP(-1)	-0.0008 (0.06)	0.027 (0.017)	0.7 (0.074)**
LRDIV(-1)	-0.12 (0.05)**		
LTFP(-1)		-0.095 (0.05)*	
LKS(-1)			0.12(0.016)**
LI(-1)			-0.5 (0.048)**
RLR(-1)			0.0001 (0.001)
DEQLPS	0.07 (0.17)	-0.005 (0.03)	-0.14 (0.08)*
DEQMFS	-0.93 (0.28)**	-0.085 (0.09)	0.25 (0.26)
DEQFRS	0.16 (0.44)	0.056 (0.1)	-0.16 (0.19)
EQLPS(-1)	0.22 (0.103)**	0.031 (0.012)**	0.04 (0.056)
EQMFS(-1)	-0.033 (0.15)	0.075 (0.02)**	-0.24 (0.14)*
EQFRS(-1)	0.23 (0.22)	-0.036 (0.025)	-0.43 (0.12)**
R-bar-2	0.53	0.76	0.71
SE	0.05	0.007	0.045
Observations	84	84	84

Key: See Table 4

Chart 1: Institutional equity holdings in Germany

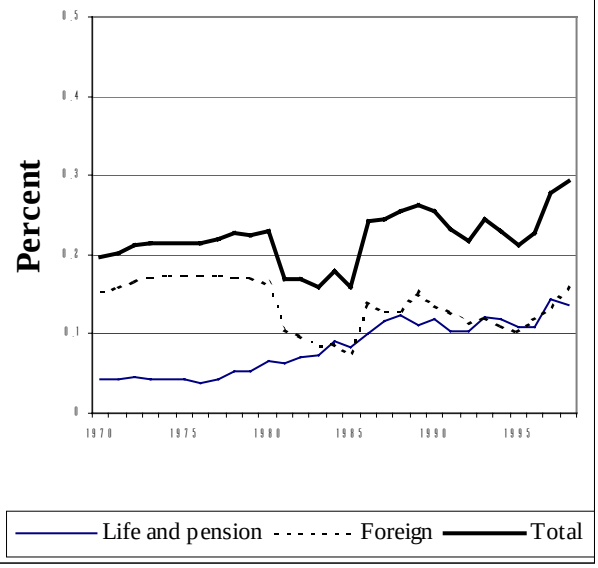

Chart 2: Institutional equity holdings in France

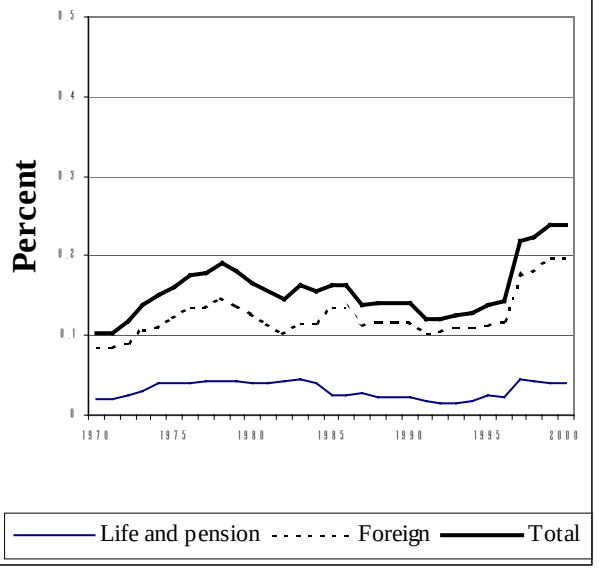

Chart 3: Institutional equity holdings in Italy

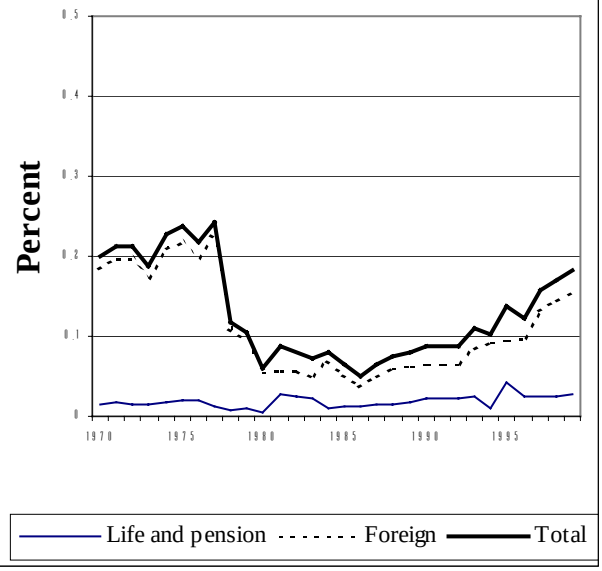

Chart 4: Institutional equity holdings in Japan

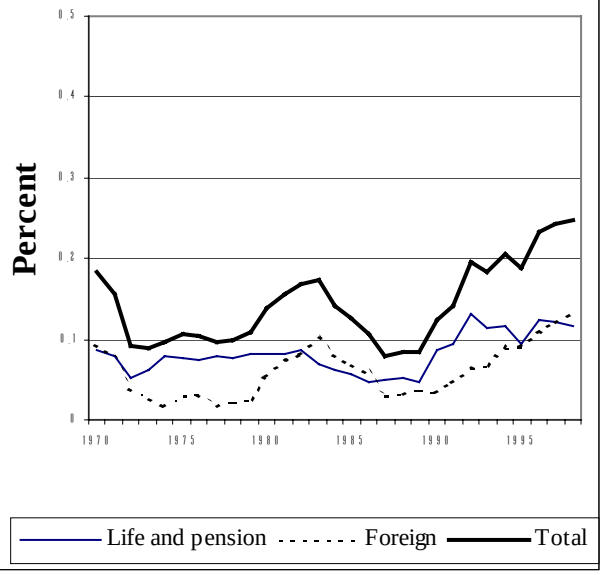

Chart 5: Institutional equity holdings in Canada

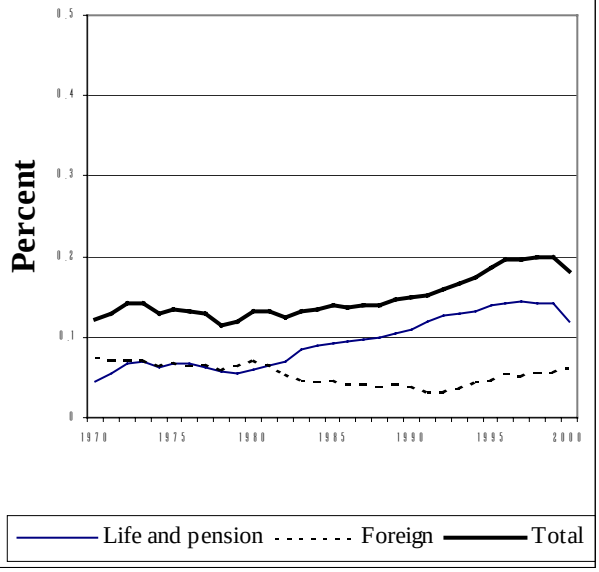

Chart 6: Institutional equity holdings in the United States

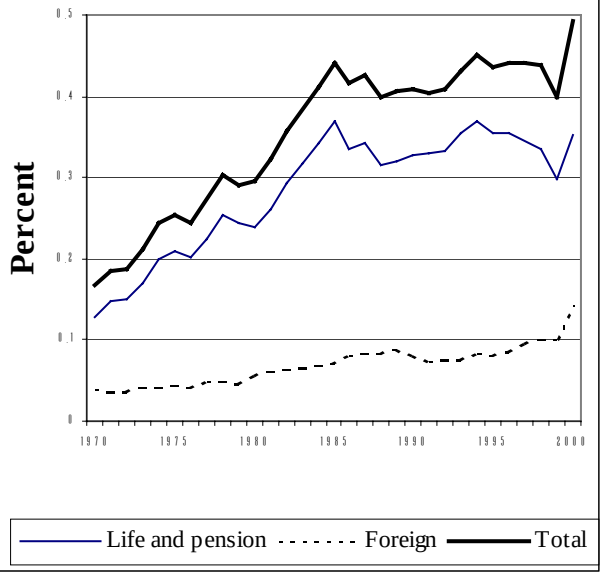

Chart 7: Institutional equity holdings in the United Kingdom

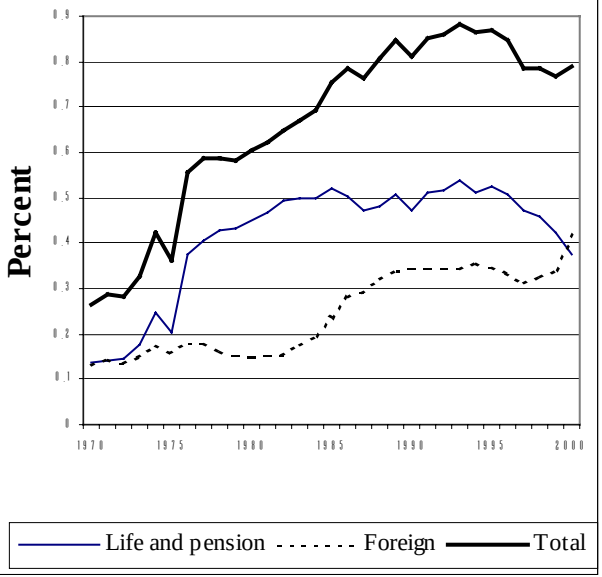

Chart 8: Institutional equity holdings in Australia