Finance, Corporate Governance and the New Techno-Economic Paradigm [1]

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1 Introduction

This paper starts from the assumption that technological development over at least the last two hundred years has followed a 'long wave' rhythm, in which approximately every half-century a new 'techno-economic paradigm' or 'technological style' has appeared or 'crystallised'. This follows the cumulation of a number of radical process innovations, leading to certain key factors of production becoming drastically cheaper than before, with clear prospects of further cheapening. A new broad trajectory of technological advance becomes apparent (Perez, 1983, 2002; Tylecote, 1992, 1994; Freeman and Louçã, 2001; and see also Schumpeter, 1939). As first argued in Perez (1983), when the new paradigm appears there is a tension between the techno-economic subsystem (which has made a sharp, discontinuous advance) and the socio-institutional framework (which has not, and in most countries is decidedly mismatched with the new paradigm). Tylecote (1994) identified three types and two levels of mismatch: the levels are national and international, and the types are micro-economic, macro-economic and socio-political. This paper will focus on one key element of micro-economic mismatch.

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Many of the elements of micro-economic mismatch disappear relatively quickly, because the relevant institutions can be modified in a relatively piecemeal and decentralised way, thus allowing experimental learning to take place, and allowing the superior forms to diffuse by emulation and Darwinian selection. Among micro-economic institutions, the financial and corporate governance system (hereinafter FCGS) is unusually resistant to functional change. (We explain why in Section 5 below.) This is in spite of the fact that it displays considerable (now diminishing) variation across countries. Two broad types of FCGS have been identified in the recent literature (Franks and Mayer, 1997; Tylecote and Ramirez, 2006): outsider-dominated/stock-exchange based and insider-dominated/bank based. The latter prevails, or has prevailed until recently, in most economies, including all of Continental Europe and East Asia; the former prevails in the English-speaking world. (However the US departs substantially from the outsider-dominated stereotype through the strength of private equity (including venture capital) and family business.) During the 1990s the US model of FCGS (or a stylised view of it) was increasingly seen as superior, as indeed for high-technology sectors it was (Tylecote & Ramirez, 2006). For this and other reasons insider-dominated systems began to move towards it.

Although the US model of FCGS was proving superior in responding to the challenges of the new ICT techno-economic paradigm, the optimism this generated led to misfortune (Perez, 2002): the stock market boom of the late 1990s went far too far, particularly in the most fashionable high-technology stocks, and so did the associated investment boom, particularly in telecommunications. Boom accordingly turned to bust.

The relationship of finance to technological change, up to the collapse of the late 90s boom/bubble, is well explained in a long wave perspective by Perez's most recent major contribution, Technological Revolutions and Financial Capital (2002). She makes an important distinction between production capital and financial capital; which for some purposes is roughly between the managers of non-financial firms, and the managers of financial institutions. We take up her story in the period when the established paradigm has become mature (let us say, most recently, the 1960s and 70s) with resulting reduction in profit opportunities and growing strain between financial and production capital. 'Financial capital is footloose by nature.' (Perez, 2002, p.73). Incumbent production capital is tied down to the current paradigm by its investment in physical capital, the knowledge and experience of its management and personnel, its networks of suppliers, distributors and customers.

> 'As the low risk investment opportunities in the established paradigm begin to diminish, either in innovation or in market expansion, there is a growing mass of idle capital looking for profitable uses and willing to venture in new directions...' (Perez, 2002, p.33).

When the new paradigm appears and some innovators want to try to commercialise it,

> 'It is here that the separation between financial and production capital has its most fruitful consequences...Financial capital will back the new entrepreneurs and it will be more likely to do so, in spite of the high risk, the more exhausted the possibilities are for investing in the accustomed direction.' (Perez, 2002, p.33)

This flexibility of financial capital gets the new paradigm launched; optimism takes over and provides a boom (as in the railway boom of the UK in the late 1840s, and in the great 1920s boom in the USA and elsewhere); but intemperate boom is inevitably followed by bust. What is needed for sustained expansion and exploitation of the new paradigm is the coming together again of financial capital and industrial capital in a new creative partnership – which requires some institutional as well as technological creativity.

In this paper we examine the aptness of Perez's framework to the present conjuncture, and generally approve it. However we judge that it fits the 'outsider' systems better, and that considerable adaptation is needed for the 'insider' systems. We juxtapose it to the framework of Tylecote and Ramirez (2006), improved in Tylecote and Visintin (2008) and show that the Perez and Tylecote frameworks can be combined. In this combined light we focus on the situation of one of the two main 'outsider' systems, that of Britain. We show it to be as badly adapted for the challenges of the new paradigm as it was for those of the old. (This judgment has to be modulated by sector, which we do.) We consider the light shed on the British system by fieldwork conducted in 1999-2000 and updated in 2005. It illuminates the differences between the UK and US systems and how they affect performance. The differences are generally to Britain's disadvantage: we find that it is still a long way from witnessing a new creative partnership of financial and industrial capital in most of the economy. Alarmingly, we observe pressures within the new, increasingly-global financial and corporate governance system for movement towards the British style of corporate governance, although in many countries these pressures are meeting strong resistance. The paper ends with some suggestions for policy which may help to avoid the generalisation of the 'English disease' [2].

2 The evolution of the financial and corporate governance systems, as far as the 90s bubble

The separation of financial from industrial capital, giving freedom and adventurousness to the former, is likely to be much the greater in those

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[2] This is inspired by the findings of the EU TSER project co-ordinated by Tylecote (1998-2002); see in particular Ramirez and Tylecote (2004) and Visintin *et al.* 2005.

economies which are themselves most mature, where there has been the longest time available to exhaust profit opportunities at home and to organise in one way or another to exploit those abroad: the USA and UK, clearly. The separation is expressed by the name of 'outsider' given to their finance and corporate governance systems by Franks and Mayer (1997) and many authors since. (Berglöf, 1997, calls them 'arms-length' systems.) The point is that the main providers of finance, both equity and debt capital, are 'outsiders' to (or at arms-length from) recipient firms – they have no long-term commitment to them, and any power they may exercise over them is episodic. The most important 'outsider' shareholders, particularly in the UK, are pension funds and mutual funds. These institutions' portfolios of assets may be managed by other institutions, 'asset management houses' whose other operations will probably include stockbroking and/or investment banking (e.g. Merrill Lynch). The separation from industrial capital is then all the greater, since the organisation immediately in charge of the shareholding does not own it – and may at any point be relieved of its control over it.

In all those economies which are less mature or have been 'rejuvenated' through some deep crisis (Japan, France, Germany, Italy....), the ties binding financial and production capital are tighter, expressed by the dominance of 'insider' capital which does have a long term commitment to the firm, with a corresponding desire for control (Berglöf's term is 'control-oriented'). These may be banks with large loans to a firm and/or a major equity stake (Japan and Germany, typically); the state as owner or shareholder (notably France and Italy); the founding family (Continental Europe generally); other firms with share stakes (everywhere). In most of these countries the employees are a recognised stakeholder. In some cases this is expressed by a legal duty, within limits, to maintain employment (Italy, France), in others by a legal right to some degree of co-determination (Germany and to a lesser extent other Central and North Continental Europe). Japan is a special case in which the obligation (both to maintain employment and to give employees a voice in the firm's decisions) is not legal but customary. (See Tylecote and Visintin, 2007 and 2008.) All these commitments and rights make it more likely that the firm's profits will be reinvested, and most of them will incline it to a preference for existing or related activities rather than drastic reconfiguration.

So Perez (2002) is referring most obviously to the outsider-dominated FCGS. It is interesting to consider the stages by which financial capital in these latter economies went from being merely 'footloose by nature' to being able and willing to provide large funds for the new paradigm. During the 40s, 50s, and 60s, production capital, i.e. industrial management, found it convenient to bring down or hold down their gearing, or debt-equity ratio: high debt is the most uncomfortable tie to financial capital because bad luck or judgment may put the firm suddenly at the mercy of its credi-

tors. (See Tylecote and Visintin 2008 ch.3 for the relatively low debt: equity ratios of large US and UK firms in the 1980s.) While the share of equity in total capital thus rose, or remained high, there was a fall in the share of equity in the hands of insiders. The main insiders, the families of founding industrialists, naturally turn into outsiders – or sell to them - as shares are inherited by those who see them as sources of wealth rather than means of control. So it was in the US and (even more so, for cultural reasons) in the UK. The first effect of this evolution was the management control rather prematurely heralded by Berle and Means (1932) for the US and more convincingly identified by Florence (1961) for the UK. This Elysium (for managers) could not last: the shareholdings which had reached a peak of fragmentation in the 1950s and 60s began to be re-concentrated by new financial institutions: by insurance companies (not so new) and increasingly by the asset management houses, referred to above, which managed the assets of pension funds and mutual funds. Their dominance went much further – and the share of households correspondingly fell much further – in the UK than in the US. (See Table 1.)

		Households	Non-financial corporations	Government institutions	Financial institutions	Foreign owners
France	1977	41	20	3	24	12
	1992	34	21	2	23	20
Germany	1970	28	41	11	11	8
	1993	17	39	3	29	12
Italy	1993	32	22	28	14	4
United Kingdom	1969	50	5	3	36	7
	1993	19	2	1	62	16
Japan	1970	40	23	0	35	3
	1993	20	28	1	42	8
United States	1981	51	15	0	28	6
	1993	48	9	0	37	6

Table 1 : *Ownership of listed stocks by sector (as of 31 December)*
Source: Berglöf (1997) Table 5 (as of 31 December)

These institutions were under pressure to perform – to get a better financial return on the assets they controlled. They might indeed be footloose in search of new investment opportunities, as Perez argued, but their first priority,

during the 1980s and 90s, was to get a better return out of the firms they knew. They were reluctant to do this by the traditional, insider's means of using the votes attaching to their shares to choose new directors or bully the old ones – direct control. Instead they established, over time, a degree of indirect control, using methods which did not prejudice their outsider status and the freedom to trade that went with it (Ramirez and Tylecote, 2004). One way was simply to sell their shares in an underperforming firm to a takeover bidder - thus reducing their losses on one investment and 'encouraging' the managers of other underperformers. The carrot to go with this stick was the stock option – a carrot that managers awarded to themselves, which gave them a strong incentive to increase shareholder value (or at least the shareholders' perception of value) because if they did they would get a slice of the increase.

The carrot and stick appear to have worked: the rate of return on capital employed and more particularly on equity went up a long way in the US and UK between the early 80s and the late 90s [3] but this did not represent, or cause, an increase in the opportunities for profitably investing new capital. On the contrary, waste, and apparent waste, was being squeezed out of the system. That is, excessive costs of producing and distributing existing products were being squeezed, on the one hand, and on the other hand investment of all kinds (including R&D and other innovation spending) was being cut if it did not promise a high – and quick – return (Lazonick and O'Sullivan, 2000). In the category of 'apparent waste' came spare capacity, which was squeezed in Britain (but not the US) during this period to an exceptional, and excessive, degree (Driver and Shepherd, 2005).

It was precisely this process – not the maturity of the old paradigm in itself – which caused 'idle money' to 'accumulate without profitable outlets' – in the more mature sectors in outsider-dominated economies. In the insider-dominated economies the money that would otherwise have become idle was generally being reinvested within firms on incremental product and process improvements essentially within the old paradigm. In many cases the investment did not cover its opportunity costs, and could not have been expected to. In other cases it did because the relationships with insiders in effect internalised the externalities of spending on R&D, fixed capital, training and other elements of innovation. (An example is that employees may be much more cooperative, even creative, in process change if they know that management is making an effort to protect their jobs by new product development.) One result was that the insider-dominated economies came by the end of the 20th century to dominate the relatively mature, medium-

[3] Macro factors may account for part of this but probably not all, given the rise from one cyclical peak to the next. See Bureau of Economic Analysis, National Income and Product Accounts, for share of profit in national income: Q31977 peak: 11.30; Q4 1988 peak: 9.78; Q3 1997 peak: 12.17; [Q2 2006 13.79]. See Dimson et al. (2002), figures 33-1 and 32-1, for US and UK real return on equity.

high technology areas such as chemicals, motor vehicles, and machinery 'not elsewhere classified' (Tylecote and Visintin, 2008).

Where then was the 'footloose money' of the outsider economies to go? It was not obliged to go into the sectors of the new paradigm – software, microelectronics, biotechnology – the 'new economy'. Instead of moving vertically – up to the high-technology peaks of the economy – it could move laterally, into other economies. Thus in the second wave of French privatisation, in the 1990s, in which shares were sold on the open stock market, it was (for lack of footloose French money) the 'usual suspects' from the US and UK which ended up with most of them (Morin, 2000). More adventurously, it could go into developing economies, either as portfolio investment in their stocks or (more likely) as part of foreign direct investment: i.e. by buying shares in multinational firms, investors financed their overseas expansion. So new economies were an alternative to the new economy. There was something of an alternation of illusion and disillusion in each of these in turn: the LDC debt crisis in the early 80s caused disillusion over the new economies for a decade; recession and low interest rates in the early 90s drove investors back to them, rechristened 'emerging markets'. The East Asian crisis of 1996-7 and the Russian collapse of 1998 caused fresh wariness; this partly explains the strength of the enthusiasm for the 'new economy' in 1998-2000. However, by this time (as Perez points out) there were all the ingredients of a new-paradigm bubble on the lines of the British railway boom of the 1840s: the new paradigm had been 'around' for long enough for a considerable number of new firms and some old ones to make large profits out of it, and it did need a major programme of infrastructure investment, this time in telecommunications. The insider-dominated FCGS was not untouched by the frenzy – for example a lot of enthusiastic new German investors invested, and lost, money in the Neuer Markt, the equivalent of the NASDAQ; but, to repeat, there was not so much money available.

In the next section we shall show that the two main 'outsider' economies displayed a systematic difference in their fitness and willingness to fund the 'new economy', whether in the late 90s boom or in the previous two decades.

3 The UK and US systems compared

3.1 The 'optic' of comparison

Much of the literature has tended to focus on the similarities of the US and UK and financial and corporate governance systems, yet there are pronounced differences between the two systems, which have had great effects on the innovative performance of the two countries (Tylecote and Ramirez,

2006). We shall discuss these in the context of the framework provided by Tylecote and Visintin (2008). This is based on the proposition that a sector or sub-sector places demands on the FCGS according to the nature of the technological regime which prevails in it at a particular period. Firms subject to that FCGS can innovate successfully in that (sub-) sector only if and to the extent that these demands are met. The four dimensions of 'nature and demand' are set out in Table 2. By way of example, we shall explain the first at length. Let us suppose that Sector X has a high 'Extent of competence destruction and consequent need for reconfiguration of firm structure' (as for example many areas of software and ICT generally have had at various periods). It follows that an economy is only likely to be successful in Sector X if (or to the extent that) its FCGS has 'Availability of expert finance for new firms in areas affected by radical innovation' and/or 'Pressure from expert owners for higher value-added in such areas'. (We could certainly say that the USA has had the first of these; and we would then suppose that this has contributed to the US success in software and ICT generally.)

The first two regime characteristics, which we will label 'need for reconfiguration' and 'technological opportunity', both point to a demand for industrial expertise from owners/financiers. This is, accordingly, most valuable in high-technology sectors, where the nature of the technology and the market is changing rapidly and it is vital to understand the directions of change. (High opportunity is almost a defining characteristic of high-technology industry; high need for reconfiguration is far from uniformly present there, a point we return to in Section 6.) The third regime characteristic, low visibility/slow pay-off of innovation, points to a demand for engagement by shareholders and financiers, or (failing that) managerial autonomy. The argument here is that if the value of effort and spending on innovation is not obvious to an 'outsider', and it will not pay off quickly, then it will only be supported and sustained by shareholders and financiers who engage closely with the firm, and thus develop understanding of what it is doing and how it operates - firm-specific understanding; alternatively by managers who do not have to worry a great deal, what the former think. This matters in all sectors. The fourth dimension, stakeholder spill-overs, arises to the extent that employees and related firms can contribute to innovation in ways which cannot be easily governed by contracts: the greater the spill-overs, the greater the need for cooperative relationships. There is some tendency for more mature industries to show both low visibility and stakeholder spill-overs (Tylecote and Visintin, 2008, ch.2). There is, on the other hand, a negative correlation between stakeholder spill-overs and need for reconfiguration. High-technology firms, which see more competence-destruction than most, will need to be more ruthless than most in abandoning old relationships. However, as we shall see in the last section, there may still be some relationships on which they depend particularly heavily.

Dimension	Technological regime	Finance and corporate governance	
1	Extent of competence destruction and consequent need for reconfiguration of firm structure.	Finance: Availability of expert finance for new firms in areas affected by radical innovation	CG: Pressure from expert owners for higher value-added in such areas
2	Technological opportunity	Availability and acceptability of expert risk capital	
3	Low visibility/slow pay-off of innovation	Shareholder/ financier engagement; management autonomy	
4	Stakeholder spill-overs in innovation	Stakeholder inclusion	

Table 2 : *Dimensions of technological regimes and financial and corporate governance systems*
Source: Tylecote and Visintin, 2008, Table 1.2.

3.2 The nature of the UK system, for listed companies

It was only in the 1980s that the 'outsider' element became totally dominant in the UK FCGS [4]. The main characteristics of the UK system since then have been the overwhelming preponderance of financial institutions in the ownership of UK companies, and a management system focussed almost exclusively on the need to maximise shareholder value – over a rather short period.

Figure 1 shows the breakdown of ownership of UK shares as of the end of 2004. Approximately 56% of all UK shares listed on the London Stock Exchange were owned by insurance companies, pension funds, unit trusts and investment trusts (mutual funds), charities and 'other' financial institutions. The management of these shares however is even more concentrated, as a number of financial institutions (e.g. the smaller pension funds and charities) outsource the management of their assets to 'asset management houses' which also control most of the mutual funds. (The 'asset management houses' are often part of banks, such as Barclays and UBS; some of the largest operating on the UK stock market are now US-owned, such as Merrill Lynch.) Figure 1 also shows that 33% of all listed shares are held by international investors, most of which would also be institutional investors,

[4] Interestingly, the changes in the nature and behaviour of shareholders roughly coincided with the disappearance of one challenge to shareholder control within industry – strong and militant trade unions. At much the same time the large majority of state-owned firms were privatised. As we see below, the venture capital industry, which only began in the UK in the 1980s, constitutes a growing exception to the 'outsider' label.

an increasing trend in the ownership of UK shares. UK individuals held only 14% of all UK shares listed in the London Stock Exchange – an exceptionally low figure by international standards [5].

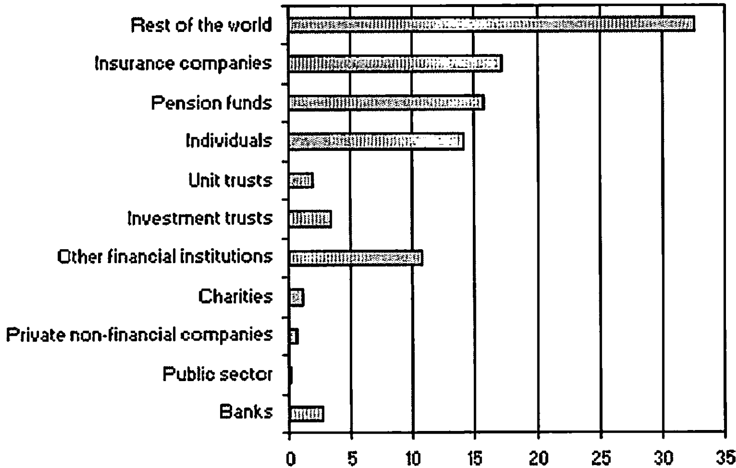

Figure 1: *Beneficial ownership of UK shares: end 2004*
Source: Office for National Statistics, 2007

To understand the obstacles to investment in innovation and new technology placed by the UK FCGS it is necessary to understand the workings of these financial and institutional investors and the nature of the relationship they establish with firms. In general institutional investors and their fund managers have seen themselves as traders of shares - buying cheap and selling dear - rather than owners of companies. As one of the fund managers interviewed said,

> It's important to note that we don't buy companies, we buy shares, which is a very different thing (Fund Manager, Mercury Asset Management [6] (MAM))

From the point of view of fund managers their business is "to defend the financial interests of our clients", that is the pension funds, mutual funds (etc) whose assets they manage, and they have preferred to do this as outsiders, operating on a portfolio investment basis, with as little engagement with the firms they invest in as possible. It is from here that the focus on the short-term performance of companies that has characterised the UK

[5] For 1992/1993 the corresponding figure for the US is 48%, for France 34%, for the UK 19%. Japan's is similar, 20%, and Germany's even lower, 17%, but this is misleading because these two countries have high ownership by non-financial corporations – 28% and 39% respectively, whereas in Britain this was only 2% in 1993 (Tylecote and Visintin, 2007, Table 9). So, for example, the Piëch family controls Porsche and Porsche now largely controls Volkswagen (Economist, 2007b): thus the Piëch family largely controls VW but do not figure in VW's share register.

[6] MAM has since been taken over by Merrill Lynch.

FCGS, arises, as can be seen from the remark of one of the fund managers we interviewed:

> We have to see our clients (for example the pension funds) every three months to show them how the portfolio is performing and that puts a lot of pressure on fund managers. You feel that you have to show out-performance every quarter, and that is a relatively short time horizon. If you are buying a share with a two-year view, then you may have some period of under-performance in that time, but your clients are demanding quarterly out-performance. (Fund Manager MAM)

This preference for trading has shaped the arms-length 'outsider' relationship between institutional investors and the firms they invest in, and has been central to the policy of non-engagement which has characterised UK institutional investors. A very important consequence of this policy from our point of view is that it places important limits on the amount and nature of information that firms can give and that fund managers can receive. The point to emphasise here is that the limitation to the development of a greater understanding of the firms they invest in, that is of firm-specific understanding (as opposed to knowledge of its sector more generally), is a result of their preference for 'outsider' involvement. So for example, all fund managers interviewed had very good access to senior management but their questioning and probing was limited by their desire not to receive information considered market-sensitive [7] or 'insider information'. This constraint meant that managers could not give investors information that they didn't want to make generally available to the public (for instance information that the firm doesn't want competitors to know) nor did these investors want to receive such information, which would restrict their trading. As the Head of UK Investments at Mercury Asset Management explained,

> Here (at MAM) we are anxious not to become 'insiders'. This makes it difficult to discuss properly because companies can't give information and we can't receive information that we need.

Yet there is no doubt that these investors have the power to question and probe senior management:

> Normally we meet the Chief Executive, the Chairman, the Finance Director and Investor Relations. We also go to City presentations and we go and visit the companies when they organise meetings at their own facilities or we ask to have a look at their sites. If we want information about a company further down, for example about a drug, we would ask to see the scientists.....The position is such that as shareholders we are in quite a powerful position, either because we have the shares or because we have the opportunities to buy shares. So it is very much that we can call and ask, if not demand, informa-

[7] Market-sensitive information is information that could influence the short-term share price if it became public. Thus receiving it before it becomes public gives the opportunity to make a profit by buying or selling shares: insider-trading, which is of course illegal.

> tion to be given and as long as that is not putting us [this particular set of investors] at a competitive advantage, the company has to give that information to all investors (Fund Manager Schroder)

This investor goes on to explain how they question the management of firms:

> We ask to have public information explained in more detail, public information being the general result statements, information from competitors, the accounts... We often ask their opinions of where they think the company is going, on consolidation issues within the sector, on their strategic products versus their competitors (Fund Manager Schroder)

However, institutional investors in general do not want information that could limit their trading:

> But even if we bought 27% of a company we are only the financial owners of that company. We wouldn't demand a place on the Board and we wouldn't have a say in strategy. If we did we would receive insider information and we wouldn't be able to deal in that share until the information became public. The managers that we meet know that if they say anything at meetings, we are not going to react well because it restricts us. (Fund Manager at MAM)

> There is also the criminal offence of 'insider dealing'. This has discouraged communication between the City and industrialists. People [fund managers] are more interested in running their portfolios and don't bother to find out what companies are doing. People [fund managers] don't want to receive information (Senior representative of Association of British Insurers (ABI))

What then if managers think they need to explain something to their shareholders which they do not want to make public more generally?

> They could say to you at the beginning of the meeting - and this very rarely happens - 'we want you to become insiders'. And if you say yes, that means that you are totally restricted in what you do, so our answer most of the time is 'No, we don't want to be made insiders'. (Fund Manager at MAM)

It is also quite clear from our interviews that many fund managers do not see any reason for developing firm-specific understanding.

> Why should the analyst want to spend a lot of time trying to find out what is going on down there? [inside the firm] Why should the fund manager who has access to global markets and who has a remit to maximise the returns on his assets, bother about the company down the road? (Senior investor ABI)

But if the UK CGFS does not encourage the development of firm-specific understanding, to what extent do institutional investors develop knowledge of the sectors in which 'their' firms operate: industrial expertise? Our interviews indicate that financial investors only develop a cursory understanding of the industries they are investing in. Most fund managers have little in-depth industry knowledge or understanding of the technologies the companies whose shares they own are investing in. One of the reasons for this is

the rapid turnover of sectors for which fund managers are responsible, which impedes the development of a long view of an industry and its technological trajectory.

> You go through your training [this refers to financial training] and after 9-12 months you will be analysing a sector and managing funds. Every fund manager changes sector every 1-2 years. (Head of UK investment MAM).

> The City and the analysts can't do this [develop a deep understanding of technologies and markets]. This knowledge is too specialised. However, management should be able to explain it so that the City can understand. (Senior manager Prudential Insurance.)

The 'City' - the institutional investors – do have some help in understanding the technological aspects of firms' plans and projects, from the 'industry analysts' of stock-brokers [8], the 'sell-side', who as a means of winning their custom often provide research services which include industry and technology expertise. According to one of the institutional investors interviewed, their own job was to "filter the information provided by the [broker] analysts".

> Generally speaking the information sources [information provided by brokers] are pretty good and if a company can't get its ideas across, quite frankly, then maybe they're not as good as the company thinks. (Fund manager Schroders)

The disadvantage arising from this dependence is that there are few actors in the system who have both industry expertise and engagement with, that is understanding of, individual firms. (The brokers are not shareholders and they cannot demand meetings with top management.) Those who do happen to have both, cannot act on them, and thus through arbitrage move the market in the right direction, because they are being monitored by those who have neither:

> My own view is that [firm A] in the long term is likely to ... be more successful than [B]. I may be wrong. I also know that that view isn't going to drive the share prices over the next five years.... I will be happier holding [A] in the longer-term rather than [B] but I have to think that [B] is the better investment short-term than [A] at the moment. Equity markets need short to medium term payback (Fund Manager Schroders)

This fund manager (whose preference for Firm A turns out, seven years later, to have been justified) had (as we pointed out above) to get performance from her portfolio which would, quarter by quarter, please her customers.

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[8] Brokers are those who are entitled to trade shares in the London Stock Exchange. Financial and institutional investors buy and sell their shares in the Stock Exchange through these brokers.

3.3 Intervention without engagement in the British FCGS

Despite the reluctance of UK institutional investors to engage in the firms in which they invest, their increasing dominance of the London Stock Exchange has forced some of the larger houses to intervene in the management of firms. In every firm's share register there will be houses which have 'gone overweight' in the firm's shares – that have invested relatively heavily in them. Three or four of the larger 'overweight' houses might well then be able to deploy 20% or more of the shares. With so large a combined stake, they would easily be able to put pressure on the management. If such investors become disappointed in the performance of the firm, they may still prefer 'exit', following tradition, if this is possible without affecting the share price. But they may well conclude that 'voice' is the better option. Voice in favour of what?

> Maybe we would put pressure for example to sell bits of the firm or to buy back shares (Head of UK investment MAM).

However the preference for takeovers was clear:

> The market includes takeovers. Exit includes takeovers and this is the way to change management, this is the market mechanism (Senior investor Prudential)
>
> If there are a few big holders of company shares and the management are not accepting a takeover, then we will gang up and bring pressure to bear and that pressure is quite powerful. However these things happen only in exceptional circumstances. Generally this is not the norm. The norm is that we hold less than 5% of a company's shares. We let the company perform and we take a view on that. If we don't like what the company is doing, we sell. It's hands-off. (Fund Manager Schroders)

3.4 The US FCGS, by contrast

Amongst the senior managers of industry we interviewed, all of which had regular contact with financial analysts and fund managers in the UK and US, there was a strong perception that US analysts were much better informed about developments in their industry than their UK counterparts.

> The quality of the questions in New York is much, much better than here [the UK] about everything; about technology, about gossip, about potential side-effects, about a molecule, you name it....There are a couple of really good ones but UK analysts tend to be very young...they've been in the industry for 9 months or something. US people have been around for a decade, they're as smart as hell and they've got contacts. They can put us through a tough time. I never have an easy time in the US with an R&D presentation. There are good analysts in the UK, it's just that en masse here it's like 20% while over there it is 80% (R&D Director top UK pharmaceutical company)

> The Americans are streets ahead. Buy side definitely [these are the institutional investors]. Sell-side [the brokers] it varies, there are some very good sell-side analysts here. But the depth of knowledge in the USA you can't match. We always find the discussions with US analysts are much tougher. (Finance Director of top UK pharmaceutical firm).

When US fund managers and analysts visit firms in which they have substantial holdings (even in the UK), some of them probe deeper than is the norm in the UK:

> When my major UK shareholders come to see us, they arrive in mid-morning, speak to me, the finance director and maybe the chief executive about our strategy and the financials.... make a short day of it and go home. When Fidelity (US) came, they came early, stayed late, and went round the plants talking to the middle managers there about the detail of their operations. (Chairman, mid-sized electronics firm.)

The superior industrial expertise of US analysts reflects the far greater size of US-owned high-technology industry: expensively-earned specialist expertise can be deployed over many more firms. The electronics chairman's experience reflects the diversity of US capitalism, rather than any uniform tendency to engage. Not only are US institutional investors more diverse than in the UK – with Berkshire Hathaway under Warren Buffett taking large long-term stakes and directorships with them. The ownership and control situation of large US firms is also extremely diverse. Many large firms, a much larger proportion than in Britain, are controlled by founders and their families (reflected by the much larger proportion of household shareholdings shown in Table 1). Their control, and security against takeover, is maintained (with less than 50% of shares) by a wide range of 'shark repellents' (takeover defences), few of which are allowed in the UK; also by large employee shareholdings, scarcely known in the UK. Other large firms (such as GE) have highly fragmented shareholdings. In these firms the shark repellents help to entrench managerial autonomy greater than has existed in the UK since the late 1970s (Tylecote and Visintin, 2008).

3.5 UK and US Venture Capital markets

Venture capital, a subset of private equity (see section 4.2 below) has been the main source of finance for new and young technology-based firms in the UK FCGS. It is important to bear in mind that the term venture capital used to have a different meaning in the UK and Europe from that in the USA. In the USA the term has always been used only in the context of investment in new firms with high growth potential (mostly high-technology). In the UK and Europe it also includes (or included: American usage is now common) buy-out capital - equity invested in existing listed firms, or divisions of them, in order to take them for a time out of the stock exchange. Whilst 75% of venture capital investment in the US goes into the

high-technology sectors of information technology, communication and health/biotechnology, the equivalent figure for the UK is just over 30% (OECD 2005). These figures do not include the investment by "business angels" (usually wealthy individuals experienced in business and finance who invest directly in firms) who in the USA have tended to invest much more ('informal' venture capital) than venture capital funds ('formal' venture capital) (Gill et al. 2000). The proportion of 'informal' venture capital is much lower in Britain and Europe. Though much smaller and a later development than in the USA, the UK venture capital market was in 2000 still providing the largest venture capital investment into high-technology in Europe (Tylecote and Ramirez 2006). However, our interviews with industry suggest that UK venture capital is also under short-term pressures which they can pass on to new high-tech firms:

> Venture capitalists, if they are investing funds that they have raised publicly, usually they want to exit within five years. This is a problem for small companies because the time frame for developing a product is typically 7-10 years. So if you've got a major investor who wants to drive your company to the point where there is financial exit for him after 7 years, you have a mis-match between your objectives and his. There is a mis-match between the time frame that the investors want to apply to the money they are lending and the time frame that the companies need to develop a product. (Head UK BioIndustry Association)

The situation vis-à-vis an individual venture capitalist is not necessarily different in the United States. The crucial difference arises with respect to the opportunities for exit. If other investors are happy to buy all or most of the early investor's stake after five years, with the pay-off still to come, there is no problem. For that, however, it is necessary to have new investors with strong industry expertise, and/or trust in the reputation of the early investor. Both are more likely in the US. Nonetheless, as we said above, the UK venture capital industry (even in the strict sense) is the strongest in Europe, no doubt due to the greater British openness to US influence.

Venture capital is an interesting challenge to categorisation: 'outsider' or 'insider'? The key 'outsider' aspect of venture capital in either country is that it is, to use Perez's term, footloose: it is available for new firms in new industries, and having helped them into existence, or to growth and glory, is recycled into new new firms in those or different industries. On the other hand, venture capitalists most certainly engage with the firms in which they invest:

> The reality is that venture capital is mostly a matter of managing and nurturing firms. . .in many cases, along with the equity stake comes a seat on the board. Even without that, the venture capitalist is likely to stay deeply involved in the management of the company for years. Mr Doerr, for example, considers himself a 'glorified recruiter'. The people he backs may not know much about management and finance, but he knows people who do.
>
> (Economist, 1997, p.20)

This quotation refers to the US: venture capital in the UK may be somewhat less inclined to engage. Venture capital also promotes engaged control, by helping new firms to grow large very much faster than they might otherwise be able to. Huge yet still young firms like Microsoft and Google are still run by their founders, who are at the very least major shareholders in them.

3.6 The UK system: a brief evaluation

We have argued elsewhere (Tylecote and Ramirez, 2006) that the performance of the UK FCGS, and therefore of large listed UK-owned firms, is lamentable in high-technology and medium-high-technology areas. The main exceptions are in pharmaceuticals, where there are just two very large 'UK-owned' firms, GlaxoSmithKline and AstraZeneca, which are in fact only partly-British in ownership (and GlaxoSmithKline has moved its HQ to the USA; Astrazeneca's R&D HQ is in Sweden), and in aerospace, where again there are just two very large UK-owned firms, BAe and Rolls-Royce. AstraZeneca's corporate governance has been examined in detail by Ramirez and Tylecote (2004) and the British shareholders found wanting. BAe and Rolls-Royce are still mostly British in ownership (though BMW hold an important stake in R-R) but are exceptional in that, until very recently, the British government has held a 'golden share' in both, which has protected them from takeover and allowed them therefore to carry on a relatively 'long-termist' technology strategy.

Such implied criticism of the City of London (the financial heart of the UK) is most unfashionable, since the 'City' is regarded as the main economic dynamo of the UK. A recent government report (DTI 2005) finds 'limited evidence that where UK firms do R&D, they do less than one would expect given the markets they serve' (p.1). It does, however find that 'outside the Pharmaceuticals and Aerospace and Defence sectors, large UK-owned firms are more likely to be concentrated in sectors that have lower R&D intensities or do no R&D at all. A common feature of all the R&D intensive sectors where UK owned firms are less well represented is that UK-owned firms struggled in these industries to retain a competitive edge in the past.' Quite. We have, we hope, shed light on what those firms were struggling against. We might note that R&D is only one element of innovative expenditure, and not the least visible: at least it is conventional for firms to publish their R&D spend, and shareholders might recognise that it would be short-sighted to spend less than rivals on this. Other elements of innovative expenditure like (for example) design and engineering are not normally summarised and published. With disengaged shareholders it would be such less-visible expenditures which were most liable to be squeezed.

4 How the UK system is developing

4.1 From active management to activist investing

Before the crash of 2000-01 the dominant investment form in the UK was 'actively-managed' funds, that is share portfolios selected and regularly renewed in the hope of achieving above-average returns. Over the last five or ten years actively-managed funds focused on the UK stock market have not significantly outperformed 'passively-managed', 'index-tracking' funds (funds which hold a portfolio of shares whose proportions are determined purely by the weight of each share in the relevant stock index). Indeed, net of management fees the index-tracking funds have performed better (their annual fees are typically around half of 1% of fund value, as against over 2% for actively managed funds - Sahakian and Tyrell, 1999, Figure 6).

So active management as defined in the City of London – trying to buy before a rise in share price and sell before a fall – does not work. This is hardly surprising given what we have shown about the dominance of the market by professionally-managed institutional investors. Who is the successful active manager to sell to and buy from?

One might imagine that such disappointments would have led to a different sort of active management: real engagement with firms in which a 'house' held, in total, substantial holdings (and five or even ten per cent of major firms is not unusual), with a view to above-average returns because the engagement led to improved performance (Tylecote and Visintin, 2008, ch. 9). Not at all. We conducted two further interviews in the City of London in winter 2004-5. One was with a Senior Adviser in a major pension fund, the other with a recently-retired director of two FTSE 100 companies – thus one on the City side, the other on the industry side. Both told us that investors were changing their strategies due to disappointment with the decline in returns, but not in the direction of any real engagement with firms. There is a trend instead to what is called 'activist' investment, in which shareholders demand changes in strategy such as the selling of a division – or indeed of the whole firm – whose value (to the share price) can be gauged without engagement (Young and Scott, 2004; Tylecote and Ramirez, 2006) [9]. One category of new activist investor is the hedge funds – some of them at least. Hedge funds are funds which are free (because of their restricted ownership and accountability) to trade in a variety of financial instruments, in particular futures/forward markets. They have seen enormous expansion in the last decade. Because they can sell shares forward that they do not hold, they can make large profits by engineering a speculative run against a firm – which could only be one which had disappointed the markets. (The parallel

[9] They can gauge it without engagement because the value to the share price depends on what their peers think.

expansion of index-tracking portfolios which are not traded, simply accumulated, gives hedge funds disproportionate influence over price: their activity already accounts for about 40% of trading in the US and UK equity markets (Woolley 2004).) The fear of such a run must add to short-term pressures on any under-performing firm.

More conventional institutional investors may put similar pressure. Senior executives described to Young and Scott (2004) the influence of senior analysts and fund managers. 'If Y [a senior industry analyst] says we should get rid of a particular business, we will most likely get rid of it' (p.173). As in the United States, analysts and fund managers frequently have a severe conflict of interest problem, when they are employed by investment banks to manage the banks' mutual funds and/or provide external management for the portfolios of pension funds:

> In some years, top bankers, analysts, brokers and fund managers can count their annual bonuses in multiple millions of pounds. When the employing banks are profitable, the bonuses flow. How do banks earn profits? One of the largest sources is the fees earned for corporate finance advice, usually in the form of success fees for supporting transactions.....No wonder these influential individuals prefer 'active' corporate executives! (Young and Scott p.181)

In other words, they prefer top managers who will buy and sell at their bidding. How do they get such managers? The obvious conduits of pressure are the chairman of the board – normally, quite unlike the United States, a non-executive director – and the finance director. Neither of these individuals need have any background in the firm or even its sector, so they can more easily represent 'City' interests – or be replaced by someone who will. But even CEOs can be replaced by someone known to be amenable to City pressures:

> There is a definite bias towards external appointments....we found a well-developed belief...in the financial markets and the executive search community that top managers should not remain in post for too long....five years in a CEO post is about right. A typical process of recruitment...will start with the selection of an executive search consultant.....the shortlist will be compiled.....The absolutely key question 'What will the City think?' has to be answered....if there is more than the slightest hint of hesitation from influential figures in the investment community, the chances of an individual being appointed decrease markedly". (Young and Scott, 2004, pp.171-172.)

Just under two thirds of CFOs of FTSE100 firms had been appointed from outside their companies, half of chairmen, and approximately one third of CEOs; about half of all CEOs, CFOs and chairmen had been employed by their firms (in any capacity) for seven years or less. This is new: 'Twenty years ago, the norm was for top managers to spend the bulk of their careers with one company, and if they moved, to do so in the early part of their careers.' (p.187) In the UK, such mobility, and familiarity with the City

decision-makers who control it, is very much facilitated by the almost universal practice among large listed firms of having their headquarters in central London, not far from the City.

4.2 Private equity: solution to the engagement problem?

The role of private equity in global financial markets is now well known, and well known to have increased remarkably over the last ten years. Figure 2 shows its increase in the UK, where it had a relatively early start. As external risk capital invested in unquoted firms, private equity includes venture capital, but most of it is 'buy-out' or 'buy-in' finance, capital invested in existing firms, or divisions of existing firms, whether initially listed or unlisted. Private equity (of whatever category) has two sides. On the one hand it involves real control, since what emerges is an unlisted firm in which one or a few private equity firms take a dominant equity stake, and with that, non-executive directorships with which to watch over their capital in the classic manner. They have, at least, every opportunity to engage, and no 'insider-trading' inhibition in doing so because there is, for the time, no trading in the shares. (Moreover alongside their equity stake, management is required to take a stake which is substantial at least as a fraction of their own wealth.) On the other hand, its involvement with the firm is normally intended to be brief. The aim is to make a large capital gain from the investment after a few years by selling to someone else: either as a 'trade sale' to another firm, or as an Initial Public Offering, to the stock market. In fact most commonly the firm will be broken up and parts sold off, with an IPO only (if at all) for the core. It is the great advantage of private equity that it has no compunction over breaking up empires whose configuration reflected managerial egos or past industrial logic.

It is clear that private equity (unlike 'active management') is capable of achieving high returns for its own investors:

> From 1969 to 2006, the top quartile US private-equity funds had annual rates of return ranging from an average of 39% to well over 200%, through good times and bad. (Gadiesh and MacArthur, 2007, p.13).

Clearly there is expertise in something relevant to profit. That expertise may vary, from that required for the crudest asset-stripping to that required for long-term organic development. 'Over the years...the barbarians have morphed....Today they count among their number many talented operational managers.' (London, 2006, p.10).

> Top private equity firms are much more committed [than investors in listed firms] to effective oversight of their investments.... They have longer time horizons than the quarterly earnings treadmill of public markets. But they tend quickly to bring in new management where needed (including the chief executive).... They also commit much time to influencing the effectiveness of

> the board and researching their view on the direction the company should take, using their block vote to speed up decision-making. This assertion of ownership is the crucial difference between theirs and ordinary corporate governance. (Beroutsos and Kehoe, 2006, p.15.)

The above relates mainly to (part of) US private equity. There is some evidence of what might be called 'developmental governance' by UK private equity, too. According to the BVCA (2007), in the five years up to 2005/6, R&D expenditure in management buy-outs increased at an annual average rate of 21%. One should note however that the BVCA is a private equity association. David Walker's recent report (Walker 2007) is far more cautious about the economic impact of private equity.

Whatever positive contribution private equity may have made, has to be kept in proportion. During 2006 and 2007 a great wave of money washed into private equity, largely attracted by the tax advantages attached to it, and the availability of cheap debt capital. Even in May 2007, however, Gadiesh and MacArthur found that 'private-equity investors control assets worth less than 3% of the assets held by the world's public companies'. The proportion controlled by the 'talented operational managers' of the well-established US top quartile - already operating in 1969 - must have been far less. It would be naïve to suppose that their success could be multiplied by whatever factor the available capital increased by. Moreover, the 'governance services' provided by private equity firms are very expensive. It is partly in response to this that the largest Canadian pension funds have recently switched to taking direct stakes in acquired firms, rather than in the private equity firms that acquire them (Economist, 2007a). We conclude that private equity provides, not the solution to the problem of effective governance for large companies in the new paradigm, but conclusive evidence that there is a problem with the conventional model.

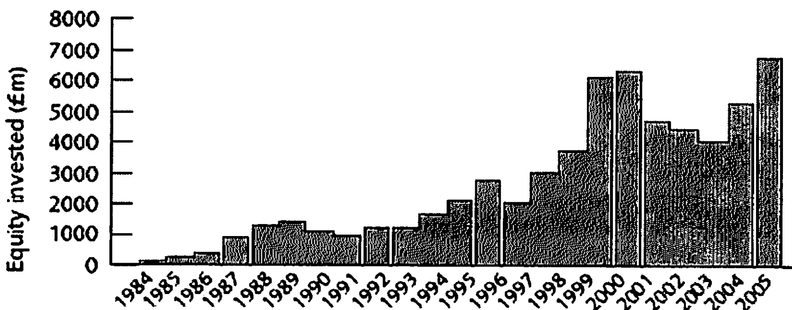

Figure 2: *Value of Private Equity Invested Annually in the UK*
Source: BVCA 2006

5 Trends and pressures in the new globalising financial and corporate system

'Why should the fund manager who has access to global markets and who has a remit to maximise the returns on his assets, bother about the company down the road?' This part of an interview quoted above, shows how with regard to finance, globalisation may, rightly or wrongly, be seen as an alternative to engagement. 'Active managers' who cannot make super-normal returns on the London stock market, because they could only do so at the expense of others with similar expertise, may yet hope to make such returns by the skill with which they move into and out of asset classes and countries. An analogous choice exists for the managers of large firms. They may strive to grow organically through long-term new product development, spending heavily on R&D and other innovative activities. Or they may increase their profits by redeploying assets within their existing activities or newly-acquired firms: closing a factory in England, say, and opening one in China, or outsourcing to a Chinese firm; holding down wages in the factories they keep in England by threatening to switch to China. The latter strategy will be far more easily understood by disengaged shareholders, than the former.

Disengaged shareholders may thus have good prospects of high returns through pressing the firms in which they invest to exploit global labour markets. The firms which do so may themselves prosper: that is to say, their top managers may. Their other employees are unlikely to be treated as significant stakeholders in the business. This is 'shareholder capitalism' of the purest kind. In many of the insider-dominated economies, on the other hand, employees are key stakeholders, as are other firms with established market relationships. Germany, Japan and the Nordic countries are or have been 'stakeholder-capitalist' economies in this sense (Tylecote and Visintin, 2007). Globalisation places stakeholder-capitalist firms under stress, since profits can be increased by sacrificing domestic stakeholders for cheaper foreign employees and suppliers [10].

A globalising world economy increasingly requires common rules. These are likely to be made to suit the requirements of the dominant power, now the United States. The US has opted, first at home and then abroad, for very tightly-drawn rules of intellectual property (Pagano and Trento, 2002; Macdonald, 1990). These make it easier to separate the ownership and location of manufacturing activities, from that of marketing and R&D. They also give more value to formal title to intellectual property – the ownership of patents, copyrights and trademarks. All this increases the visibility of value: it makes it easier for disengaged shareholders to assess the value of

[10] For evidence of this in the case of Germany see Deutsche Bundesbank (1997: 76) cited in Witt and Lewin (2007).

the firms they own, and indeed the value of their component parts, assisted by the development of knowledge management as a discipline. It also reduces the value to the firm of high-trust relationships with employees, suppliers and customers, which may serve as alternative ways of protecting intellectual property.

6 The challenge of the new paradigm for the FCGS

After twenty or thirty years of German and Japanese economic miracles, their 'stakeholder capitalism' became fashionable. The Japanese bubble of the late 1980s, and the botched reunification of Germany after 1989, began a period of at least fifteen years of relative failure, during which fashion has swung round to favour American (or Anglo-American?) shareholder capitalism. The main theories of corporate governance, at least within the American and British scholarly communities, reflect this situation. The principal-agent school (Jensen and Meckling 1976; Fama and Jensen 1983) sees the manager as an agent whose incentives need to be aligned with the interests of shareholders, to prevent his/her selfishness leading him in a different direction. The stewardship school (Davis et al. 1997) concurs on the shareholder as principal, and only demurs on the selfishness of the agent.

If there is a simple hierarchy from the shareholder through top management to those who do the work, the new challenge for this hierarchy is that in the new paradigm the value of the firm inheres less and less in tangible assets – equipment and buildings – whose ownership cannot be doubted and whose value can be quite easily monitored by conventional systems of internal and external accounting. Instead it rests increasingly in intangible assets. From 1974-84 the share of intangible investment (restrictively defined to include little more than R&D, advertising and software) in the GNP of the seven largest OECD economies except Canada, rose from 2.6 to 3.7%, while over the same period the share of tangible investment fell from 17.6 to 15%. (OECD 1995, ch.1). Other estimates using broader definitions have found larger shares but the same trend. For the Netherlands in 1990 it was found that intangible investment amounted to 40% of tangible investment - 70% in manufacturing and 5.7% of GNP compared with 32.3% and 3.8% respectively in 1975 (OECD 1995). In the older consumer goods industries these are mostly brands, but in the sectors which lead the new paradigm they are human and intellectual capital. Thus in a survey by ISTAT (1988) the two leading high-technology sectors shown, office and computing equipment and pharmaceuticals (now much influenced by biotechnology) have figures of 24.7% and 31.8% respectively for the share of fixed capital in innovation spending, whereas the other four sectors shown (machinery, motor vehicles, metal production and transformation of non-metallic minerals), all

'older', range from 46.3% to 83.4%. Around 50% of the total innovation expenditure in Finland, Germany and Italy in recent years has been on intangibles. Moreover a 1988 Finnish survey showed that rather over half of all intangible investment was attributable to the innovation process (OECD 1995a, ch.3).

Shareholder capitalism, as we saw above, must strive to assert as far as possible the shareholders' ownership of this capital, and at the same time find ways of monitoring it. Both revolve around the codification of knowledge [11]. Both appropriation and monitoring are difficult and dangerous. As fast as old knowledge can be codified, new tacit knowledge develops. The codification which helps the firm to assert ownership vis-à-vis the employee, exposes the firm to much easier imitation by rivals. The patenting which protects it from that, has substantial deadweight costs and when aggregated across an industry reduces competition – which will suit incumbents but not public policy. In general patents are much easier for large firms to defend – and attack - than small, which also reduces competition. Monitoring, and the incentive structures associated with it, faces a trade-off: methods which are simple enough to inform the top of a large firm about the bottom, and to do so quickly, are inevitably highly misleading. The main actions which go unmeasured, or are mis-measured, are those which are future-oriented or cooperative. The informal forms of R&D, market research and training, investments which can and should contribute massively to product and process change, will be recorded (if at all) as costs, to be squeezed out. So will the informal transfer of knowledge to other profit centres in the firm. As the Beyond Budgeting movement among management accountants has argued, such desirable behaviour is strongly inhibited by conventional budgeting and accounting methods (Hope and Fraser, 2003).

The monitoring methods which have been shown to be far more effective both in assessing unit performance and in encouraging desirable behaviour – in the Swedish bank Handelsbanken and the Danish chemicals firm Borealis, for example (Hope and Fraser, 2003) – are inevitably more complex, and slower to provide a picture of performance at unit level. It is difficult to see how they can be consistent with conventional outsider-dominated arm's length corporate governance. They require at least some key shareholders to engage with the firm so that they have enough firm-specific understanding to appreciate low-visibility innovative activities. If engagement were enough, the insider-dominated FCGS in which insider shareholders have traditionally shown just that, would have few problems. One difficulty that insider shareholders have, however, is that (due largely to their

[11] Universities are not exempt from these trends. So far as teaching is concerned, the knowledge and skills which used to be in a lecturer's head, and which would thus necessarily depart if (s)he did, are now, in the UK, to be bottled as far as possible in a set of powerpoint files, reading lists, etc., owned at least partly by the university, and surveyable by authority at the click of a mouse.

long commitment to a particular firm) they generally lack the industrial expertise which is needed in the fast-changing industries which lead the new technological paradigm, such that they can appreciate the high novelty the firm faces in technologies and markets. This partly explains the weakness of the insider-dominated systems in high-technology sectors (Tylecote and Visintin, 2002). In fact some 'insider' economies have been successful in some (parts of) high-technology sectors – Japan for a long period in much of ICT (Taylor 2004), Germany more recently in part of biotechnology (Kaiser and Prange, 2004). However, as Tylecote (2007) has argued for Japan, and Casper and Matraves (2003) and Casper and Whitley (2004) for Germany, these successes have come in the more stable sub-sectors, where though opportunity may be high, competence destruction is low. As we have seen, the American FCGS has evolved a sub-system, venture capital, which combines close engagement with high industry-specific expertise, and has been imperfectly copied by others, particularly the 'insider' systems.

In the new circumstances of technological revolution, however, the weakness of the insider-dominated systems extends beyond the high-technology sectors. The need for radical change is everywhere, because each firm in every sector has an opportunity to get competitive advantage by becoming an e-business. For that, radical organisational reconfiguration is required, which is common enough in high-technology sectors. The difference is that in such sectors this reconfiguration has been accompanied by the adoption of technology which is highly advanced and more-or-less specific to the sector – such as biotechnology and bioinformatics in the pharmaceuticals industry. The organisational convulsions which are needed in most of the economy will go hand in hand with the adoption of relatively modest applications of ICT. What shareholders there need in order to understand what firms are or should be doing is *cross-sectoral* expertise in ICT.

There is another peculiarity in the changes now generally needed: they require initiative to be taken at a strikingly low level in the managerial hierarchy. It is well known that new ICT systems almost always fail when they are designed either by outside experts or the internal IT department without the close involvement of the functions which will have to use them. It is, moreover, not enough to involve the senior management of the user departments. These people simply do not have the 'gut' understanding of IT to see what it could do for them and how they would have to change their operations in order to let it. Their juniors, however, often do, having grown up with ICT. They have to be allowed to take the lead.

Senior management is unlikely to be comfortable with this. The shareholders should be, since it promises profit. But how can they engage with this level of the enterprise? They have the right collectively to choose the whole board, and individually or in groups they have the right to nominate individual non-executive directors – as venture capitalists and other

private equity firms do. Outsider-investors in listed firms generally do not; but they could. One or more non-executive directors with enough cross-sectoral expertise could certainly generate some very useful initiatives by discussing possibilities with middle managers – although both parties involved would need the protection of the shareholders. (One of the authors knows a non-executive director with a great deal of x-sectoral expertise who dared to take such initiative without the protection of the shareholders; he is now, of course, an ex-director of that firm.) To make middle managers (and those below them, right to the bottom) the reliable allies of the shareholders (and, to be fair, of progressive top managers), there needs to be wide employee inclusion, in the sense of Tylecote and Ramirez (2006). This is not easy to contrive. The old structures of German-style co-determination are cumbersome, particularly for multinational firms. Employee shareholding is a more flexible alternative but needs to be topped-off with some kind of mechanism for electing non-executive directors, for inclusion to be complete. It also increases the employee's risk, should the firm fail; from this point of view share options, usually reserved for top management, are more suitable for rank and file employees (Blasi, Kruse and Bernstein, 2003).

7 Conclusion: globalisation versus exploitation of ICT

We asserted in Section 1 that the institutions of the micro-economy were in general likely to be reformed relatively quickly in response to the demands of the new techno-economic paradigm, but that this could not be expected in the financial and corporate governance system. Why? Any change which can be easily made, one firm at a time, and which will be clearly beneficial to that firm, is subject to the Darwinian, and Lamarckian, mechanisms of selection: the 'progressive' firm will grow faster organically, will be able to take over others, and will be copied. But financial and corporate governance systems involve a network of practices and laws which relate to, and institutions which have power over, many firms. The unit which must change is much larger. In principle the changes in practices could take place, one investment institution at a time, and indeed such an institution could experiment with a few firms. The question is, however, would such piecemeal initiatives benefit those who took the lead?

We have seen the dominant position, in the London stock market and thus the British economy, of asset management firms. A striking feature of these financial institutions is the extent of divorce between ownership – beneficial ownership – and control. The beneficial owners are mainly investors in mutual funds, and contributors to pension funds which are too small to manage their own funds. Insurance companies and large pension funds,

like Hermes (the BT fund), employ their own asset managers, who operate on behalf of the policy holders and contributors. All those in charge of the assets are under some pressure, legal, moral, or otherwise, to get a good return from them, but the devil is in the term over which that return is judged. 'External' asset managers (of other institutions' money) in particular compete, year by year and even quarter by quarter, to show the best return. Woe betide the asset manager who shows decidedly below average returns for even two or three years – (s)he is unlikely to be given time to show that the long-term investment strategy was sound; the funds entrusted to him or her will be taken away. This obliges them to follow fashion, an important ingredient of bubbles. It also gives incentives to be 'activist' in the manner described above – as opposed to real engagement, which takes too long.

The further disincentive to progressive change in the British financial system is that the classic shareholder capitalist firm, with disengaged shareholders, can make money by taking ruthless advantage of globalisation. When that involves mergers and acquisitions, as it often will, there is a double gain for the institutional investor, where it has an investment banking arm which can take a handsome fee for advising on the transaction.

There is thus a clear disjunction between the interests of the British economy, on the one hand, and the interests of those who dominate the British FCGS, on the other. The former drags along in the wake of the US economy, persistently failing to narrow the substantial gap in productivity or to generate new products at a rate which would reduce the very large trade and current account deficits. The latter have continued to prosper, though the current global financial crisis may prove the nemesis for many of them.

How far can we generalise the British situation? Will other countries converge on Britain or rather the converse? The United States clearly has large 'engaged' and 'included' elements of its much more diverse FCGS, which are entrenched by their success in high technology industry, and by various favourable laws (Tylecote and Ramirez, 2006). (To call it an 'outsider' system is, accordingly, a serious over-simplification.) Nonetheless, there are signs of convergence on Britain: for example the proportion of US firms with 'poison pills' protecting them against takeover has fallen from 60% of the S&P 1500 in 2002 to below 40% in 2006 (Institutional Shareholder Services, 2007). The stakeholder capitalist countries likewise have various well-entrenched elements with an interest in avoiding convergence on the British situation, and if they are converging, it is at least as much on the United States – for example by 'shark repellents' and employee shareholdings. The clearest case of convergence on the British model is France, as it has retreated from its state-led model (Tylecote and Visintin, 2008); even there, new takeover barriers are being erected, such as poison pills (introduced in

in France in 2006, in the US in 1984 (Institutional Shareholder Services, 2007). While globalisation pulls towards the outsider model, there is no clear-cut established model which is favoured by the new paradigm.

In time – after much lost time – we may expect the 'mismatch' between the demands of the new techno-economic paradigm, and the nature of the financial and corporate governance system, to wane. The great gains from ruthless shareholder capitalism arise from exploiting the current movement to globalisation in the real economy. With a more-or-less stable global division of labour, there will be relatively few employees in advanced countries doing jobs which could profitably be moved away. There will be relatively more to gain, then, from employee inclusion, as fostered by employee shareholding and stock options. The mass of highly-competent venture capitalists will grow, as it has been doing in Britain. The 'developmental' element in the rest of private equity may also grow, as opportunities for profit through ruthless reconfiguration and financial engineering are exhausted.

The great prize would however be the education of the institutional investor in general - the acquisition of industrial expertise and firm-specific understanding such that innovative activities and strategies, even if they are in high-tech areas and/or of low visibility, could be intelligently evaluated and where appropriate, supported either by 'voice' or by a 'buy' decision. It may seem odd that we are looking forward to education when investors have chosen to be uneducated. We argued, however, in 3.2 that investors able to appreciate what would pay off in the long run were too weak in the British market to operate as arbitrageurs and move the whole market in the right direction. In consequence the individual investor whose performance is evaluated over a short period – hedge fund managers, activist asset managers – has no incentive to use or acquire an education. To paraphrase Keynes discussing the British market of the 1930s in the General Theory, the real money is to be made not by correctly anticipating what will happen in the real world – which innovative strategy will succeed – but by correctly anticipating what the average investor will anticipate. We may however reach a situation where an established path to what we can call 'e-business' – the full exploitation of ICT, as sketched in section 6 – becomes apparent, even to the average investor. This might help the market to pass a 'tipping point' beyond which (so to speak) the 'highly-educated' investor becomes strong enough to support a 'long-term profit' strategy for a year or two, confident that by that time the 'moderately-educated' investor will recognise that the pay-off is on its way, buy, force the price up, and thus validate the highly-educated investor's strategy.

Winston Churchill once said about the Americans that they could be counted on to do the right thing once they had exhausted all alternative courses of action. With luck, we may say the same about the investors of London. As we write, the global financial crisis is providing an answer to the question, 'Why should the fund manager who has access to global markets

and who has a remit to maximise the returns on his assets, bother about the company down the road?' – because when you buy the pieces of paper which are traded on global markets, you don't know, in most cases, what you are buying. With this crisis, as with that of 2000-2001, investors like Warren Buffett who insist on buying only what they fully understand – and then monitoring it carefully with a view to long-term ownership – will emerge stronger. Governments may be able to encourage their rise to dominance of stock markets by taxing share transactions and thus discouraging disengaged 'active' investing.

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