Financial Systems and Innovation

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In: Dodgson, M. and Rothwell, R., (eds.), "The Handbook of Industrial Innovation", Edward Elgar, 1994

I. Introduction

p. 259 We define a financial system as the network of institutions which connects the owners of financial capital to that which ultimately gives them value. Perhaps the most important division within any financial system is between that capital which confers the right to control industrial management – equity, ordinary shares or more precisely *voting* shares – and the rest. This is related to the distinction between two functions which the financial system performs: that of a market for capital, and that of a market for corporate control.

The key characteristic of innovation in this context is its requirement for finance.

Any firm's willingness to invest, and thus to innovate, will be affected by the time rate discount (TR or D) which it explicitly or implicitly applies. One might define an "economically – rational" firm as one ehich applies a single TR or D (apart for allowance for risk) to all projects and all categories of expenditure within them, that rate being equal to its cost of capital. To the extent that such a firm requires external capital, the TR or D will be determined by the financial system.

p. 260 Innovation may involve not only expense but also change in organizational structures, power relationships and routines. Such change may provoke resistance, and vigorous esistance from those individuals and groups who in some sense will be adversely affected. Thus the rate and success of innovation will be affected by the nature of organizational power structures and the objectives of those in power; these in turn are affected by the operation of the financial system as an engine of corporate control.

A financial system can inhibit innovation in four ways, the first two relating to the capital market and the last two to the market for corporate control:

(1) By having high interest rates generally, through high base rates or high margins for financial intermediaries: *dear money*.

(2) By setting the effective cost of capital for innovation well above the general level of interest levels: *discrimination against innovation*.

Such discrimination is most likely to be suffered by small firms heavily dependent on loans capital from banks, where the latter feel unable to judge the prospects of success for a specific project, or of survival for the firm as a whole, and cannot find enough collateral for their loans. Large firms may also suffer from it, at the hands either of banks or of stock markets, when confidence is low and/or information flows are defective. This is most likely:

(a) in a recession;

(b) with a system of transactional as opposed to relational banking (see below);

(c) where small firms lack close relationships with one or more large firms which could guarantee loans or at least improve the information available to lenders (see Japan, below).

(3) By inducing "short – termism" within firms, i.e. a time rate of discount above the effective cost of capital: *short – termism*.

p. 261 This will take place where both of two conditions hold:

(a) Owners give more weight, in valuing the firm or assessing management's performance, to indicators of current or past profitability than to information bearing on long – term prospects. The author argues below that this is generally due not to *indifference* to long – term prospects but to lack of the necessary information, or incapacity to evaluate it.

(b) (b) Managers are sensitive to owners' views. This may due to *direct* owner – control, through votes in the AGM, or *indirect*, through a fall in the share price which would make equity funds more expensive and expose the firm to the danger of a hostile takeover bid.

(4) By inducing or tolerating managerial inability or unwillingness to overcome resistance to change which would be in the interests of shareholders: *conservatism*.

Clearly much will depend on the extent of organizational trauma which the required innovation would involve, and on cultural factors. The role of the shareholders is likely to be unhelpful if:

(a) They are personally sympathetic to the "conservative" forces – as, for example, family shareholders in a family firm may be;

(b) They are ignorant or apathetic and leave managements to its own devices.

Equally, a financial system could positively encourage innovation by low interest rates and/or preferential rates for innovation, by inducing "long – termism", or by supporting management inclined to innovate even beyond what was in shareholders' interests (see Japan, below).

II. Bank – based Versus Stock Exchange – Based Financial Systems

Existing financial systems in the developed world can be broadly be assigned to one of two categories: bank – based and stock exchange – based.

In the bank – based system, only a small number of large firms are public companies quoted on the Stock Exchange and even these companies do not rely on it heavily as a source of funds, nor do they concern themselves much with it as a market for corporate control – either fearing takeover bids or seeking to make them. Instead they – and *a fortiori* the other, private companies – look to banks as their main source of external funding. Firms' relationship with banks is accordingly close, and lending is *relational*, that is each loan is seen as part of a long – term relationship in which the firm is bound to inform the bank fully as to its position and prospects, and the bank is commited to support the firm through bad times, in return for influence over its policy and personnel. Much lending is long – term.

p. 262 The continental European countries, together with Japan, Korea and Taiwan, have long had essentially bank – based systems, although most of them are now moveing in the other direction. The more southerly European countries (France, Italy, Spain, Portugal, Greece and Austria) form a sub – category, in which the state plays a dominant role mainly through ownership of banks, and/or direct ownership of industry.

In a stock exchange – based financial system, a stock exchange quotation is the norm for any firm large enough to bear the transactions costs involved. Firms look to the Stock Market as a major source of equity and other finance, and also as a market for corporate control – seeking to establish a good reputation and

correspondingly high share price so that they can take over others rather than be taken over themselves. Banks are not used as a major source of risk capital, since their lending is *transactional* rather than relational: each loan is seen as one – off and to be secured against collateral. The Anglo – Saxon economies are stock exchange – based.

III. Influence on Innovation

p. 263 The superior performance of the continental European and E. Asian economies over the last 40 years has drawn attention to the merits of bank – based financial systems. They appear to derive largely from the superior quality of the relationship between firm and outside source of capital, where the latter is a bank with intimate knowledge of the business. We recall (Table 1.) the categories of expenditure required for innovation, arranged in order of the degree to which they are, in effect, *visible* from outside the firm.

The lower these categories are in the list, the greater the difficulty the outsider will have in distinguishing between expenses incurred for the sake of innovation and future profit, and excess costs due to sheer inefficiency.

Table 1. Elements of Innovation and their Extenral Visibility

High	Visibility	Physical Capital	
		Research & Development	
		Training	
		Marketing:	Market research
			Market testing
			Advertising and promotional expenses
			Distribution and after – sales service networks
			Under – pricing to build market share
Low		Production:	Pre – launch diversion of resources
			Post – launch “teething troubles”

p. 264 Visibility will also be lower to the extent that the activity is carried on in a decentralized manner in a divisionalized firm.

The less vivible the activity, the mpre *perceptive* the outsider must be in order to evaluate, *ex ante*, the firm’s fitness to make good use of external capital in it, and to monitor progress while using it. In general, the banks in bank – based systems can be taken to have this quality, with the exception of the southern European state –

dominated economies. In these economies the nature of state control tends to taint the relationship with firms; moreover it was in many cases precisely the unsupportive behavior of private banks which was largely responsible for state involvement in the first place – and banking traditions die hard. Elsehwere, the bank – based system will be a good backer of innovation – providing capital in sufficient quantity and at modest interest rates.

The stock exchange – based economies will clearly suffer from a lack of *perceptiveness* due to the distant relation between the firm and all sources of finance, whether banks or stock markets. On the other hand they can be expected to have an advantage in coping with innovation involving high *risk* – which tends to be associated with high technology.

The problem of invisibility has been exacerbated by diversification through acquisition: in a recently – acquired business in which the main responsibility for innovation is several tiers down from group head office, the activities involved may be largely invisible to top managements, let alone outsiders.

p. 265 The Anglo – Saxon forte is in sectors like pharmaceuticals where the key innovative activity is (centralized) R&D and risk is high.

Stock exchange – based economies may also have an advantage in some high – technology areas where major start – ups are appropriate – for example, electronics, instruments, bio – technology – since banks have no pre – existing relationship to build on and risk is high. For stock exchange capital, too, the difficulty of assessment is daunting; the problem has largely been solved in some areas of the U.S. by *venture capitalists* with expertise in a particular technological area who take an equity stake and provide or find management expertise: they help the company reach a suitable size for stock exchange flotation and provide some warranty of quality for investors who come in then. Venture capital has developed later and less in the U.K. but less still in the bank – based economies.

The state – dominated bank – based economies provide strong support in areas of high visibility which are targeted by the state.

The argument above relates both to the capital market and to corporate control: the stock exchange economies suffer from sicrimination against innovation and from short – termism, in those industries where visibility is poor. The state – dominated bank – based economies also tend to discriminate against innovation where visibility is poor. The private bank economies tend to discriminate against innovation

in high – risk and major strart – up ares. All the bank economies are virtually immune from short – termism, since whatever the relationship between management and the owners of capital there, it does not involve power in the hands of outsiders who give priority to profit but are unable to assess long – term prospects for it.