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How the deficiencies of the financial system reduce spending on technological innovation and diffusion

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Outline

- The tasks of the financial system for innovation in developed economies (the North)
  - Types of financial system
  - The current situation: technological revolution
- The great distraction of globalisation
- The deficiencies of the financial system for innovation in the North
- Tasks for diffusion in the South
- Deficiencies in the South
- Macroeconomic consequences: employment

The rationale of my approach

- Firms are at the heart of the national system of innovation
- At the heart of the firm is power and money:
  - Who controls the firm, and how?
  - Who finances the firm, and how?

Tylecote, 2007, “The role of finance and corporate governance in national systems of innovation”, *Organization Studies,* October. 28 (10) 1461-1481.

Tylecote and Visintin, 2008, *Corporate Governance, Finance and the Technological Advantage of Nations.* Routledge.

Key technological challenges for corporate governance and financial systems (CGFS) in developed countries

- *technological regimes:*
  - the learning and knowledge environment faced at a given time by firms in a particular sector or sub-sector. (Nelson & Winter, Evolutionary Theory of Economic Change)
- Need to define dimensions of technological regime relevant to the corporate governance and financial system – which challenge it.
- General proposition: technological innovation (and tech change generally) is hard to finance and govern well.

Table 1: Dimensions of technological regimes and financial and corporate governance systems

D	Technological regime	Finance and corporate governance	
1	Extent of competence destruction and consequent need to reconfigure 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 - thus capital requirements	Availability and acceptability of expert risk capital	
3	Opacity/slow pay-off of innovation	Shareholder/ financier engagement	
4	Stakeholder spill-overs in innovation	Stakeholder inclusion	

Table 2: Technological regimes in main higher-tech sectors

D	High-tech sectors – priority - expertise	Medium-high-tech sectors - priority - engagement, inclusion	
1	High competence destruction: package software, bio-pharma, much IT hardware. Moderate: aerospace	Automotive Chemicals Machinery n.e.c.	Generally low competence destruction
2	All high technological opportunity	All moderate technological opportunity	
3	Usually moderate opacity/slow pay-off of innovation	Generally high opacity/slow pay-off in innovation	
4	Only elite employees key stakeholders in innovation	Broad range of important stakeholders who need to be included	

Two main established types of capitalism

1. Shareholder or 'outsider' capitalism (UK, US)
   - Stress on role of financial (and other) markets.
   - Clear separation of 'finance' from 'industry'
   - Shareholding for making money rather than control
2. 'Insider' capitalism (almost everywhere else)
   - Preference for some control over markets
   - Shareholding for control first, making money second

- Subset of insider capitalism
  - Stakeholder capitalism (Germany, Japan, Nordics)

  Managers responsible to shareholders and employees
  State moulds market in agreement with business (& trade unions)

Specialisation among types of capitalism

- Shareholder or 'outsider' capitalism (US, UK)
  - Footloose capital not attached to industry
  - Can lead to high expertise (partic US venture capital)
  - Therefore strong in **high tech** (US, anyway)
- 'Insider' capitalism (almost everywhere else)
  - High in engagement
  - Therefore strong in **medium-high-tech** – particularly stakeholder capitalism (Germany, Japan, Nordics) because of its high stakeholder inclusion
- World economy gains from diversity of types of capitalism and financial system

Technological revolution: the arrival of the ICT techno-economic paradigm

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1. From around 1980, competence destruction speeds up, thus need for expertise increases
2. But technological change in the new paradigm is less tangible, more emphasis on human and intellectual capital: thus more need for engagement and employee inclusion.
3. The challenges to the financial system increase: it is harder now to finance technological innovation well

The great distraction: the arrival of globalisation

- Footloose capital can go across borders
- "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 manager, Association of British Insurers, 1999)

The great distraction: the arrival of globalisation

- We can all give him his answer now:
- “Because on global markets he won’t know what he is buying – look at the garbage he bought!”
- But this is now. During the 1990s and 2000s there was a strong pull to financial convergence on a low-engagement globalised financial system

The great distraction: the arrival of globalisation

- The strategic alternatives for finance and industry: innovation versus globalisation

	Finance	Industry
'Finance for technology'	High engagement, high downstream expertise	High innovation expenditure
'Technology for finance'	Low engagement, high upstream expertise	Exploit global cost differences

Tasks of the financial system for diffusion in the 'South'.

- Industrial expertise is useful
  - but need not be of high order since firms are not at the technological frontier
- Engagement with firms is most important
  - since the best strategies are opaque and slow to pay off
- Stakeholder inclusion is vital
  - Since the best strategies involve strong employee commitment and close co-operation with other domestic firms

Tasks of the financial system for diffusion in the 'South'.

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- Key choice for diffusion in the South:
- Dependent versus Imitative strategies
- Imitative strategies need high engagement and inclusion
- State-owned enterprises have low engagement and inclusion.
- Multinational subsidiaries also prefer dependent strategies

Globalised intellectual property protection and developing countries

- TRIPS agreement of 1994 and World Trade Organisation protect Northern IP from Southern imitation
  - Further obstacle to Imitative strategies
- Dependent strategies fail to adapt Northern technology to Southern needs
  - High capital intensity and technical sophistication
- 'Jobless growth' and high technological intensity in China
- Consequence: China holds down exchange rate to try to maximise share of labour-intensive manufacturing industries

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Conclusion

- There should be massive investment taking place in the North to drive forward and exploit the ICT revolution which is taking place
  - The financial and corporate governance system is preventing this happening. Consumption has been pumped up to fill the gap in demand left by investment
- There should be massive investment taking place in the South to transfer AND ADAPT Northern technology
  - The FCGS system (plus intellectual property protection) is limiting and distorting this investment. Exports of labour-intensive goods to the North have been pumped up to fill the gap in employment creation.

Thank you for your attention