

InterTradeIreland
Economic Forum 2010

Shaping Recovery

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The need for an Innovation Revolution

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InterTradeIreland Economic Forum 2010

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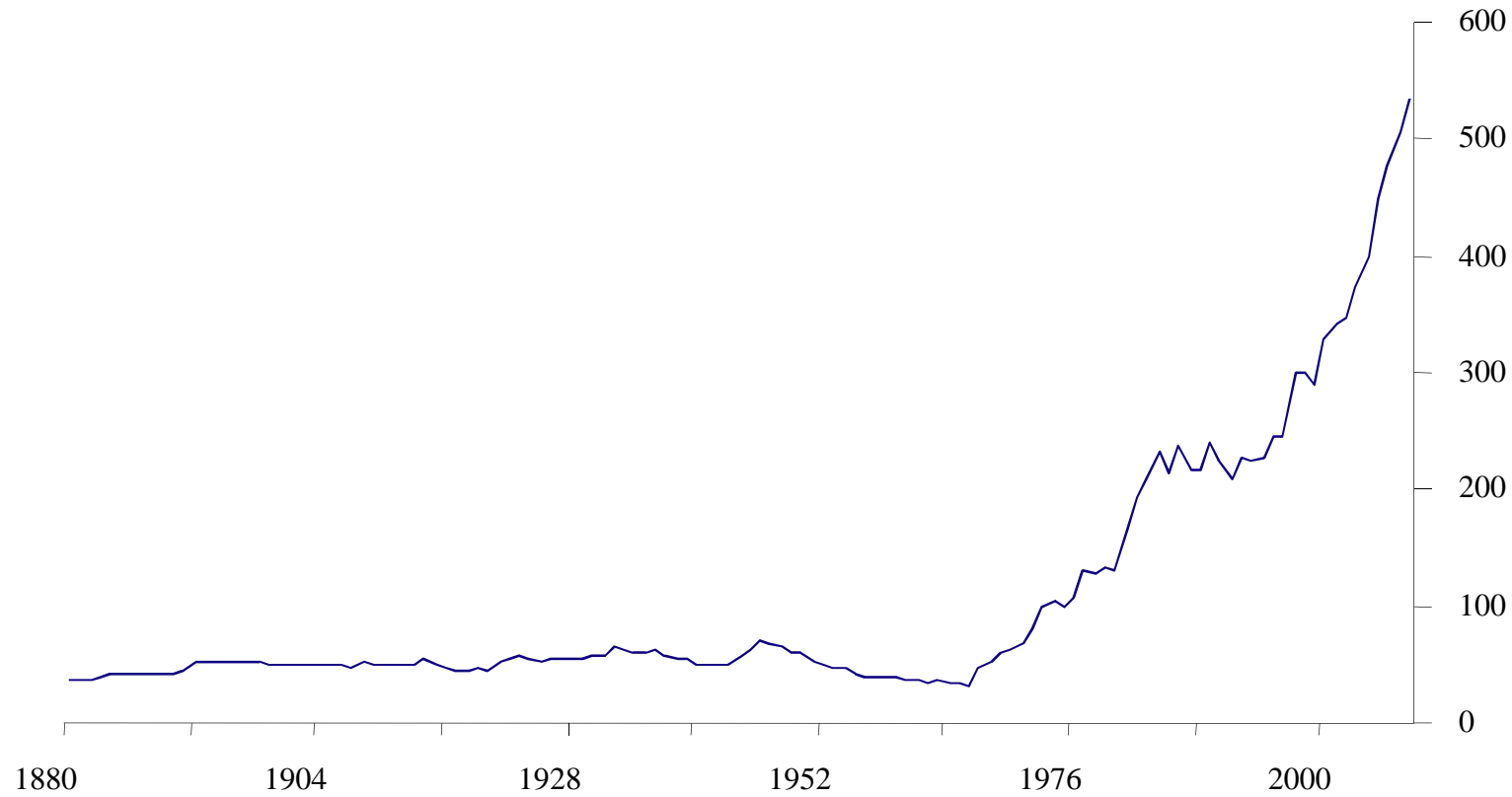


The rise of “ unproductive entrepreneurship”



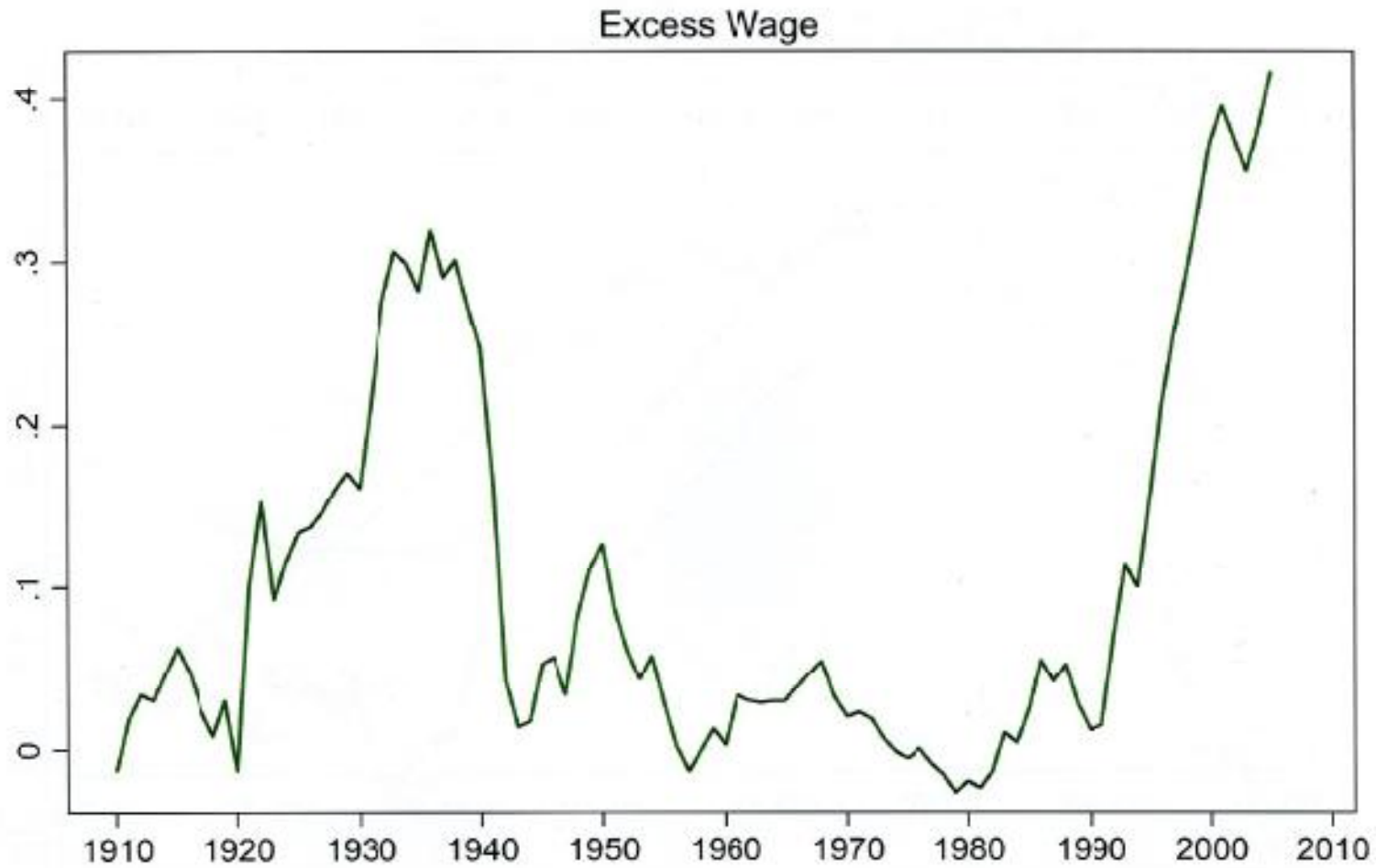
Size of UK banking sector

Banking sector assets (per cent of GDP)



Source: Sheppard, D. K. (1971) and Bank of England.

And financial salaries boom...



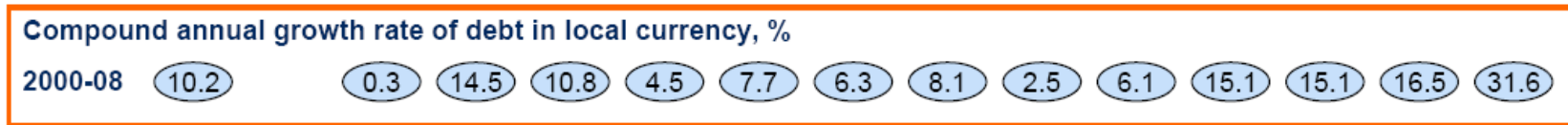
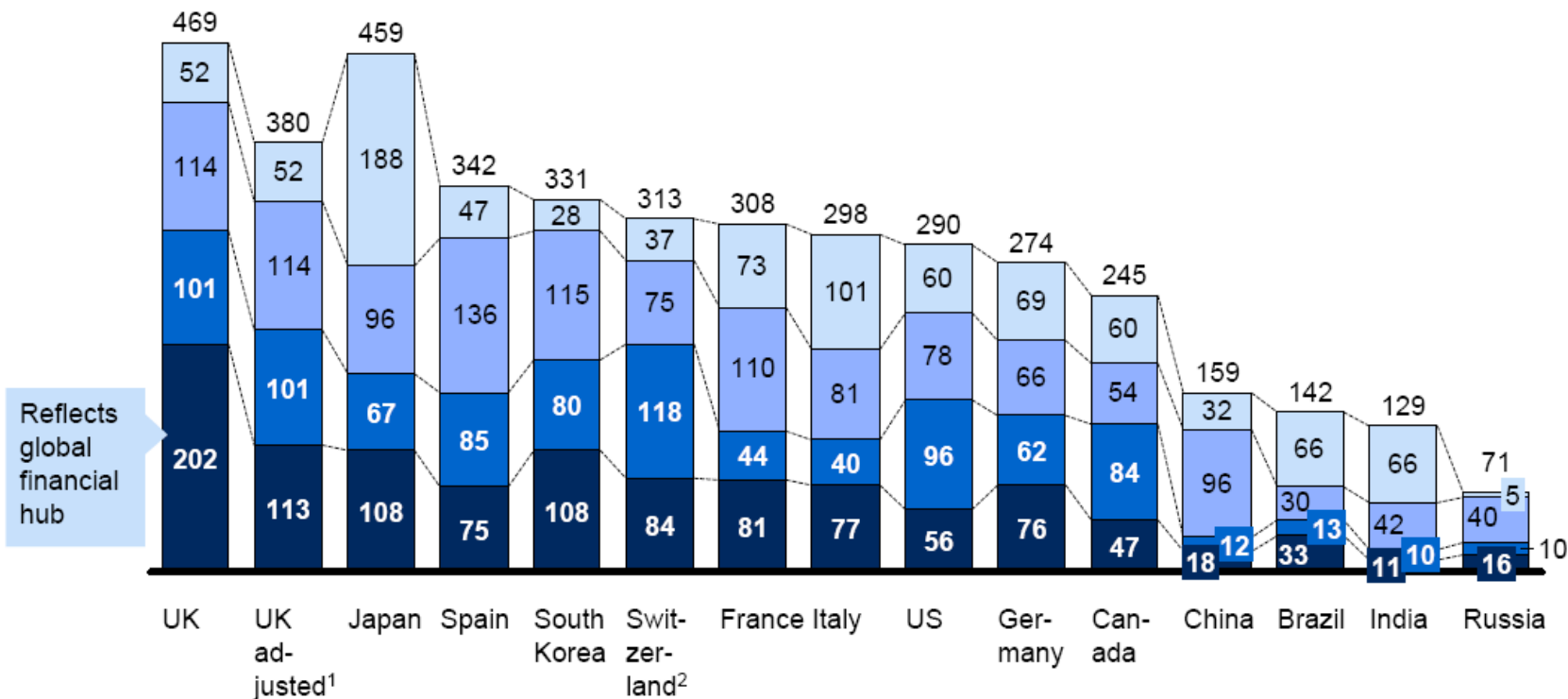
Britain is private debt capital of the world



Debt by country, 2008

% of GDP

Government Households
 Nonfinancial business Financial institutions



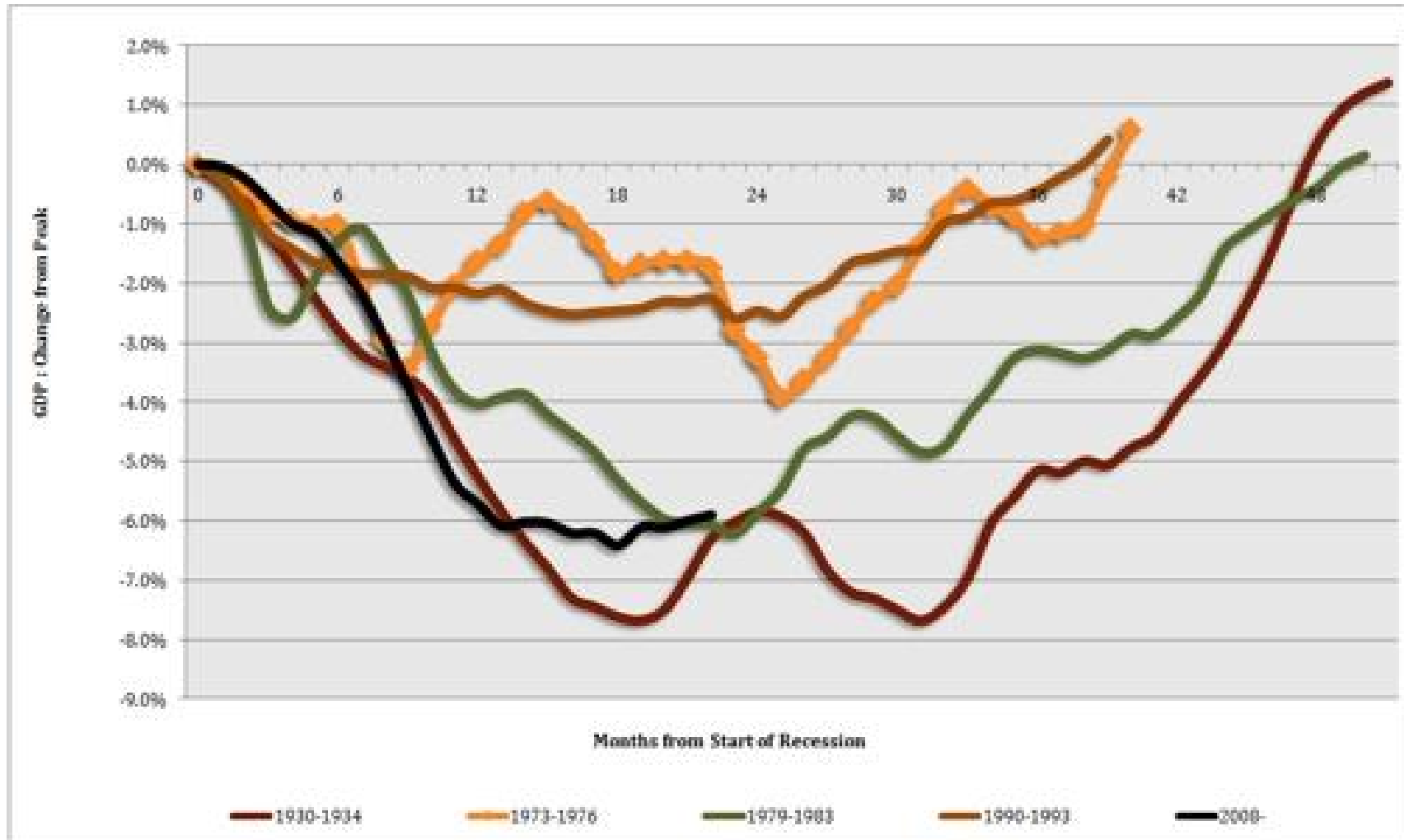
1 The UK financial sector was adjusted to reflect its position as a financial hub. See the technical appendix for details.

2 Data for Switzerland represent year-end 2007.

SOURCE: Haver Analytics; McKinsey Global Institute

Recessions compared

Note: In the past it has taken between 36 and 48 months to return the level of output to where it was at the start of the recession. Source: NIESR



The tough 2010s



- “ Minimum 5 per cent of GDP lost for ever. Loss could be as high as 10 per cent.
- “ Trend growth rate 1991 to 2009 (trough to trough) was 2.0 per cent but contained bubble effects. Note between 1997 and 2007 half GDP growth financial services, property and construction.
- “ Barclays worst case forecast in IFS Green Budget is trend growth of 1.75 per cent
- “ There will be deleveraging and build up of saving
- “ Yet 3 million economically inactive, 2.8 million involuntarily idle and 2.45 million unemployed.
- “ Public sector has generated half jobs growth since 1997. Cannot be repeated 2010-20.

õ õ .Where are growth and jobs to come from in the 2010s?

Some headline numbers...



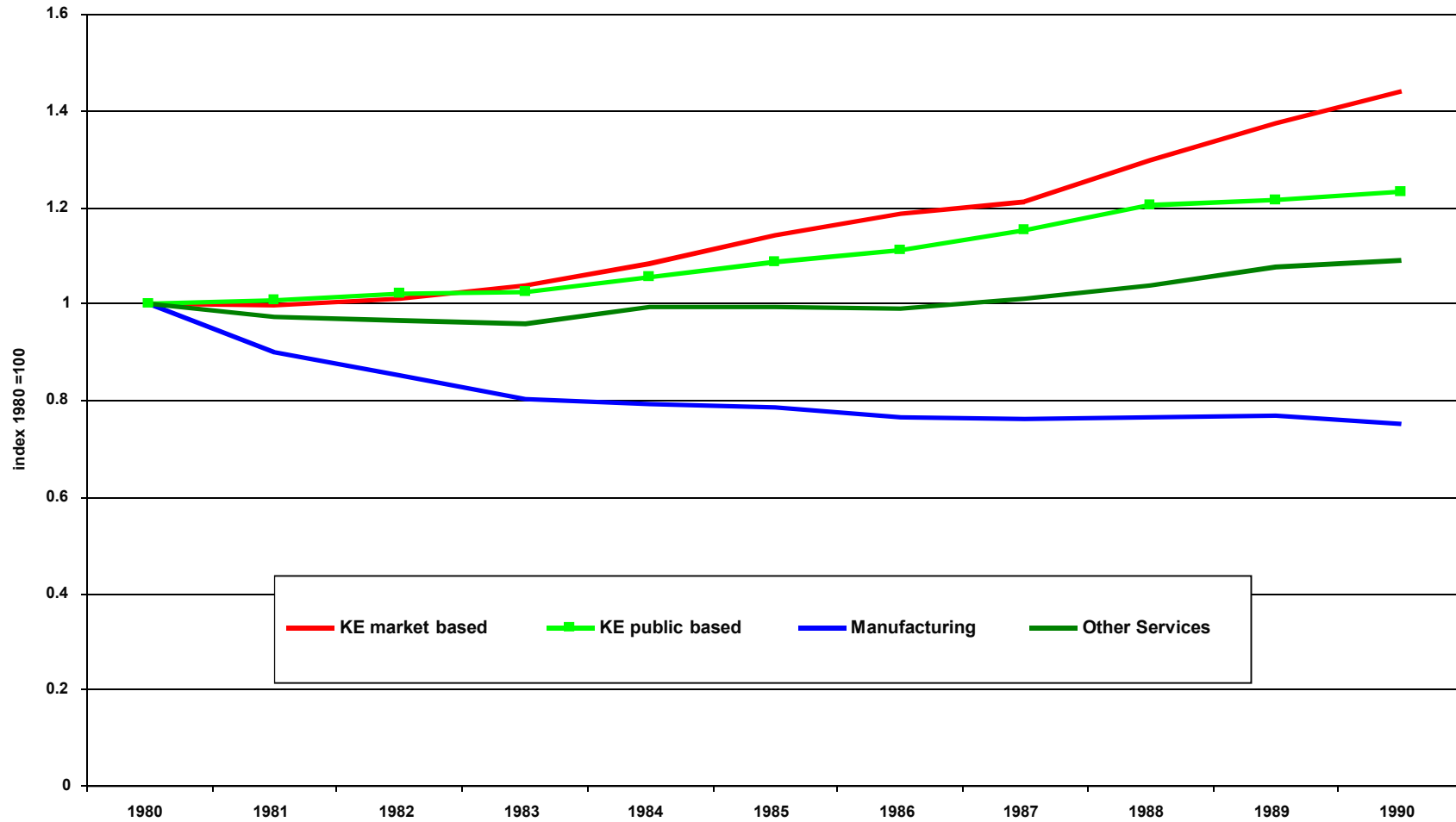
- “ Deficit large but not existential . it can be managed
- “ Don't believe that even 2/3rd of adjustment can come from spending cuts. There will be tax increases
- “ Taxation . VAT to 20 per cent plus fewer exemptions. Basic rate of income tax to 22 per cent
- “ Pension age to 67 by 2020
- “ Intense squeeze on public sector pay and employment

The Republic of Ireland



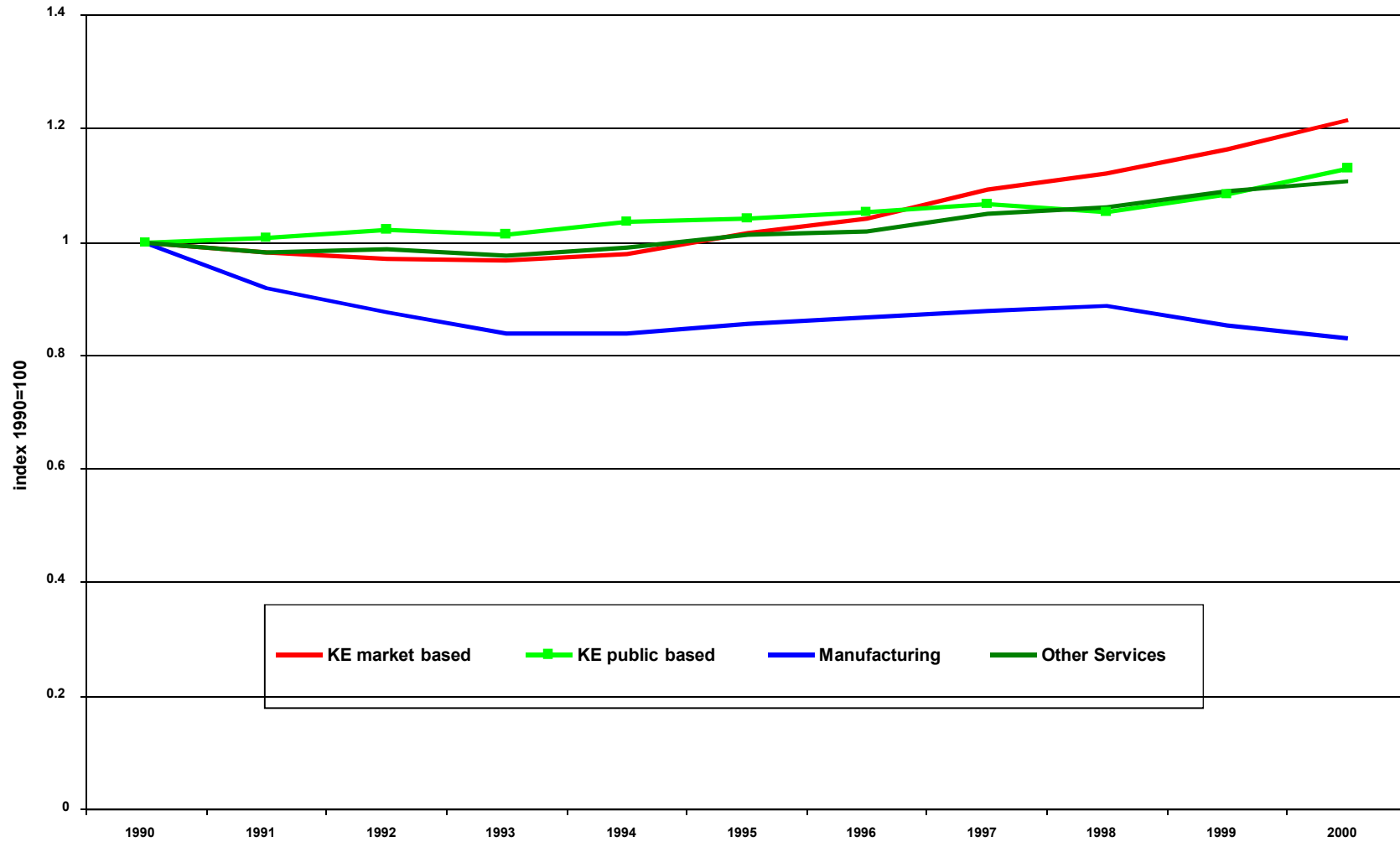
- “ Deficit interlocked with private debt does present existential threat to Ireland
- “ Policy challenge close to impossible . to deleverage private sector, manage down size of banking sector and reduce public sector deficit with no inflation and no devaluation.
- “ The 2009 Budget start of difficult journey. If Greece forced out of euro or restructures debts, markets will assume the same very likely in Ireland
- “ Butõ the financial sector could recover and Ireland forced to think hard about Innovation and Investment

Knowledge economy and the 1980s recession and recovery



Total employment, EU KLEMS database definition 1980=100. KE market based is telecoms, high tech, business, financial, and cultural services; KE public based is education and healthcare

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Knowledge based industries defined by the OECD

Note: manufacturing classified by R&D intensity; services classified by ICT use and employment of graduates. Recreational and cultural industries recognised as knowledge based by EU but not OECD, and includes libraries and museums.



Market based Knowledge industries	Public based knowledge industries	Other market based industries	Other public based industries
<ul style="list-style-type: none"> “ High to medium high tech based manufacturing “ High tech services (telecommunications, computer services, R&D services) “ Financial services “ Business services (real estate, advertising, accountancy, legal, technical, consultancy) “ Cultural and creative industries 	<ul style="list-style-type: none"> “ Education “ Health and social work 	<ul style="list-style-type: none"> “ Low to medium low tech based manufacturing “ Distribution, hospitality “ Transport “ Other services (dry-cleaning, hairdressing, refuse collection) “ Recreational and cultural services* 	<ul style="list-style-type: none"> “ Public administration

Key drivers of the knowledge economy

Growing as proportion of GDP in all western & advanced Asian economies



Driver One

New technologies, especially General Purpose Technologies (GPTs), create new goods, services, processes and business models with multiple spill-overs.

Driver Two

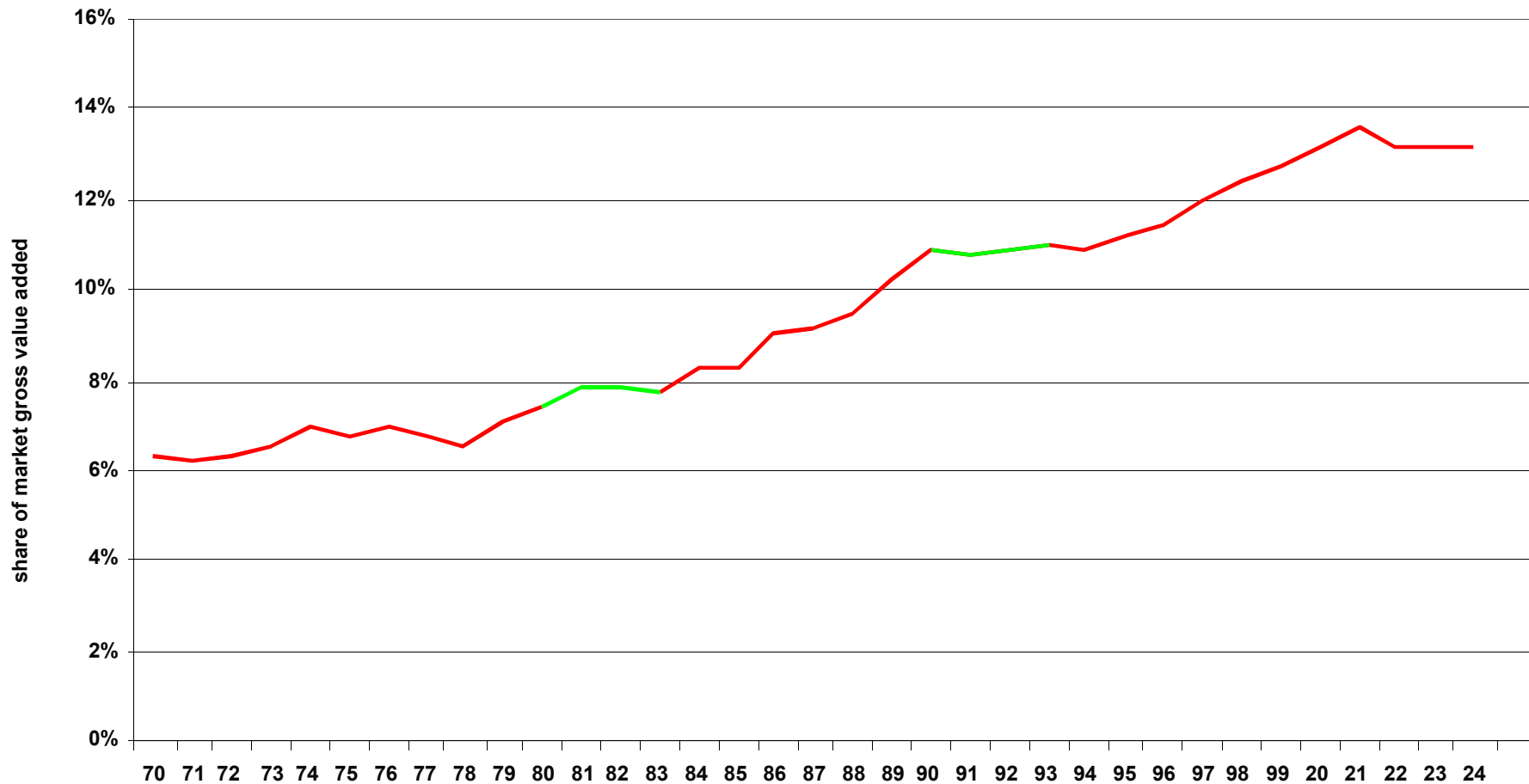
Shift in demand towards higher value added, experiential services and tech based goods as consumers have become more sophisticated and diversified.

The rise and rise of “intangibles” – proof positive of the emergent Knowledge Economy

Intangibles investment share 1970-2004

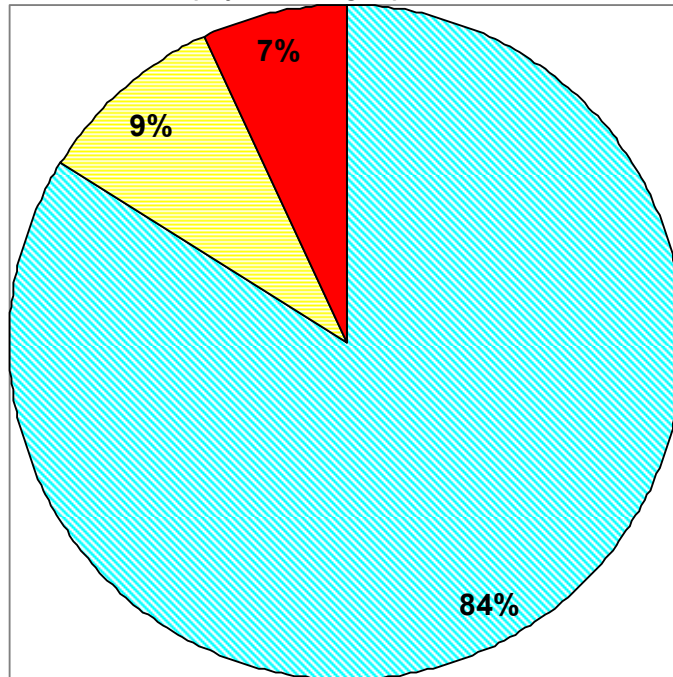


Business investment in intangibles as a share of market sector value added adjusted to take account of intangibles. HMT October 2007.



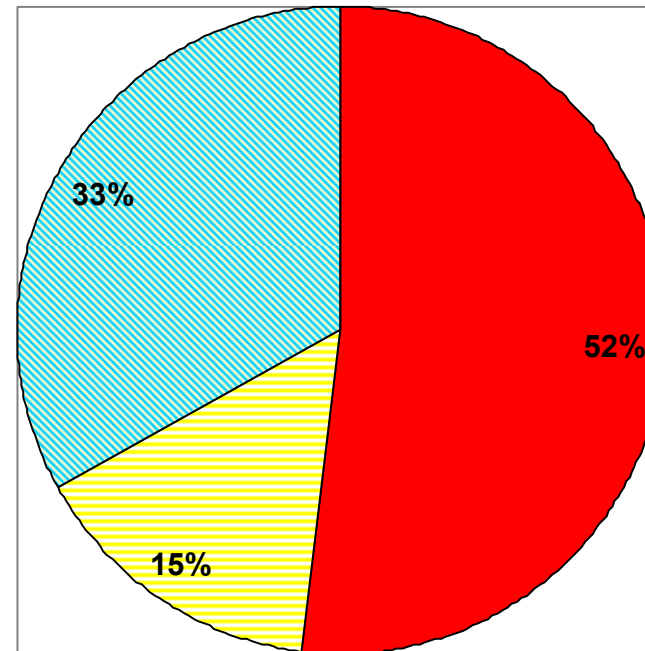
Jobs: 2008 – 2009 and the 2020 workforce

Recession speeds up structural change
total employment change Apr-June 2008-2009



Manual, unskilled, admin Care and sales Knowledge associated

Workforce in 2020



Knowledge associated jobs Care and sales Manual, admin, unskilled

A short history of general purpose technologies (GPTs)...



“ 9000 BC – 1400AD

Seven GPTs

domestication of animals & plants; wheel; smelting of ore; writing; use of bronze; iron & steel; creation of water wheel

“ 1400 – 1750

Two GPTs

three masted sailing ship and printing

“ 1750 - 1900

Five GPTs

steam engine; factory system; railway; iron steamship; communications

“ 1900– 2000

Nine GPTs

internal combustion engine; electricity; motor vehicle; airplane; mass production; computer; lean production; internet; biotechnology

“If I have seen further than other men it is because I have stood on the shoulders of giants”

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Innovation depends on cumulative stock of scientific and technological knowledge – and inventions tend to happen simultaneously

“ Elisha Gray and Alexander Graham Bell

“ Alfred Wallace and Charles Darwin

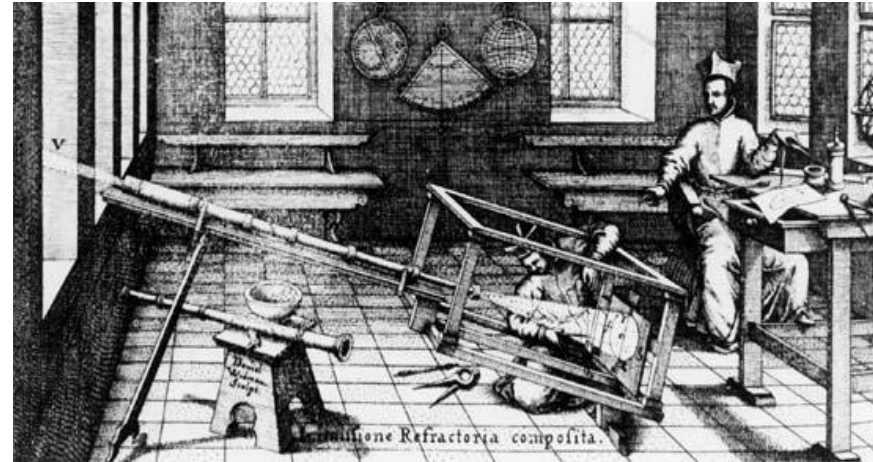
“ Linus Pauling and Crick/Watson

“ Galileo and sunspots

“ Konrad Zuse and John van Neumann

“ 46 per cent of 2000 research scientists say their work has been anticipated once or twice

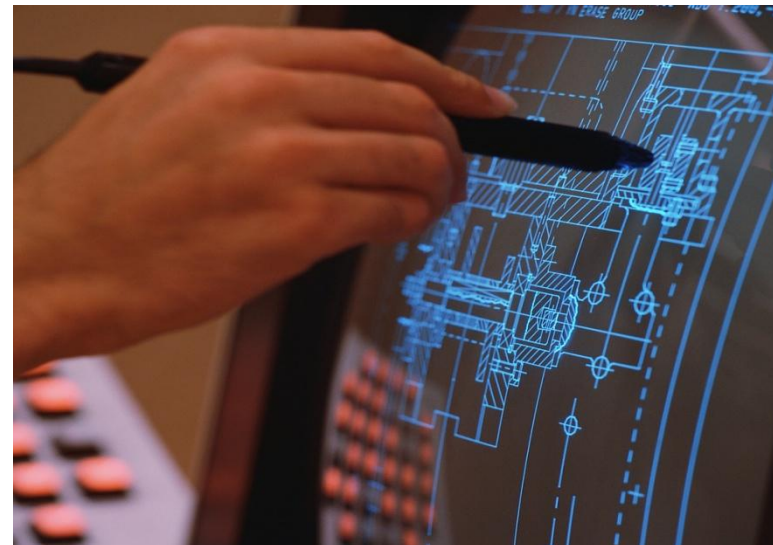
“ High, mid and ground level innovation



Twenty-first century prospects ?

Grand Challenges for Engineering

- " Nanotechnologies
- " Energy from fusion
- " Advanced materials
- " Carbon sequestration
- " Manage the nitrogen cycle
- " Water
- " Health informatics
- " Durable customised infrastructure
- " Customised medicine
- " The brain
- " Cyberspace security
- " Enhance virtual reality
- " Personalised learning



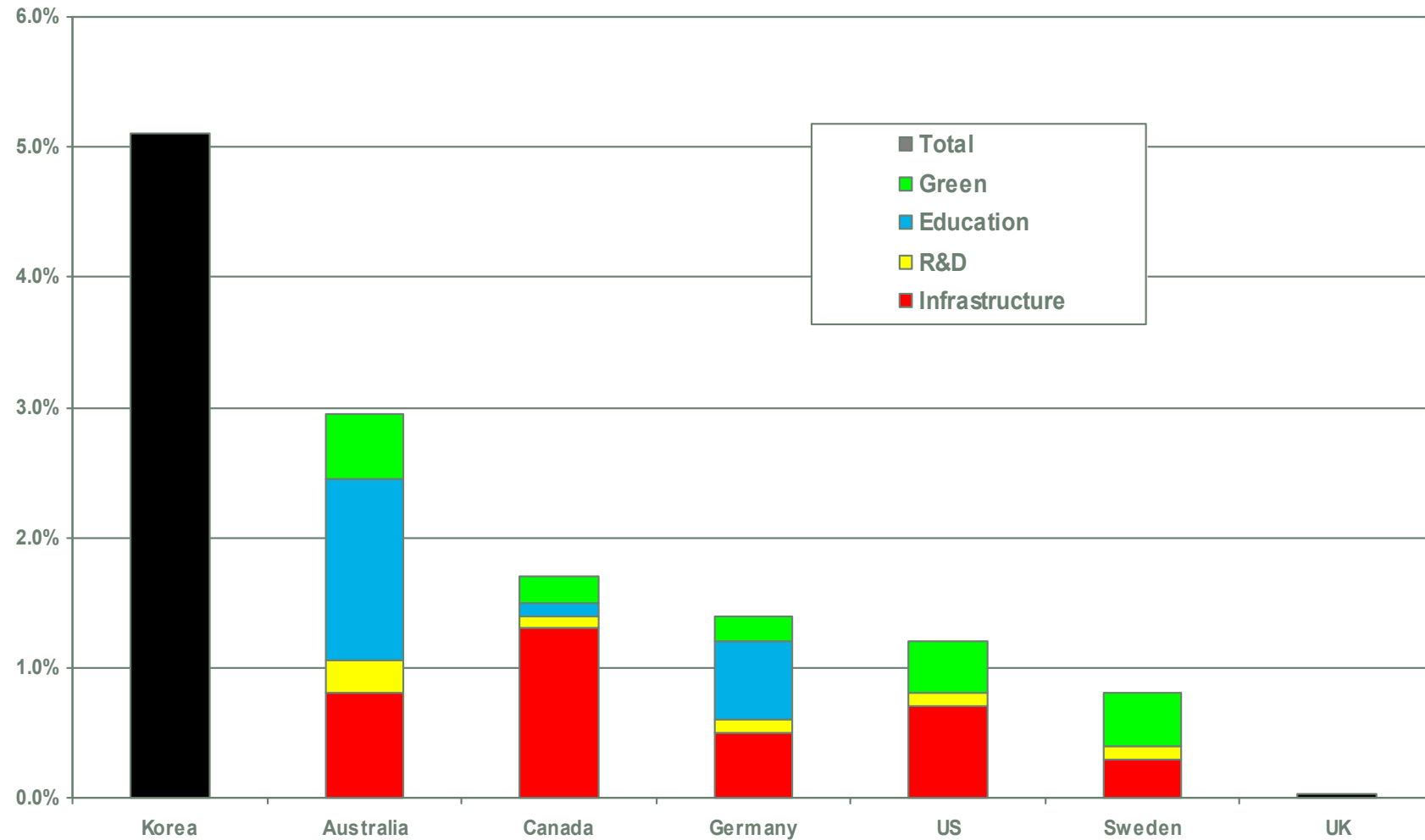
Potential sectors for Britain and Ireland include....



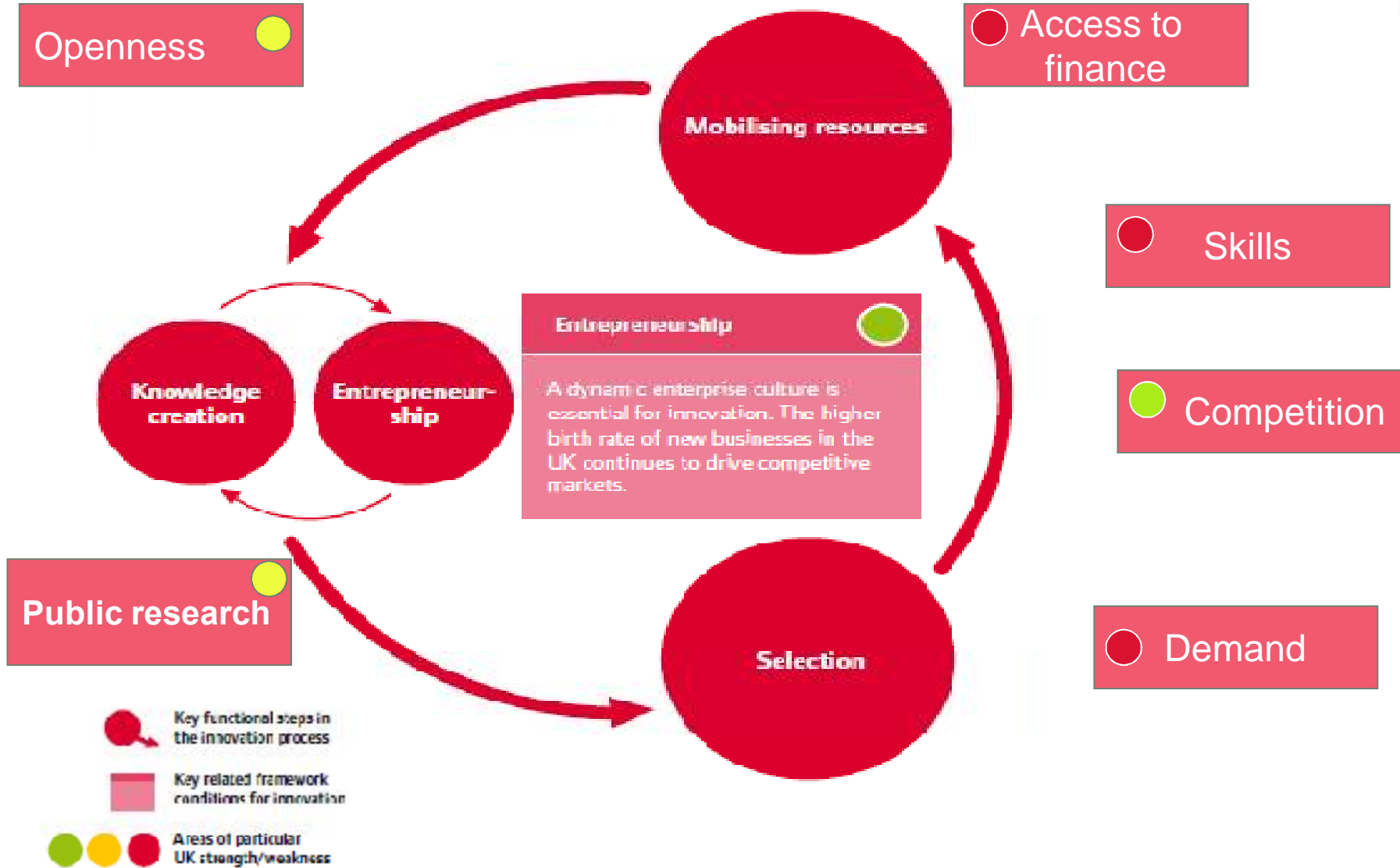
- “ Average life expectancy of S and P 500 company 45 yrs in 1955 . 11 years today
- “ %Manuservices+in aerospace, pharmaceuticals, defence, high tech engineering(cars, chemicals)
- “ Low carbon economy . energy production, energy efficiency, green manufacturing plus associated services
- “ Creative and cultural industries . design, electronic/digital media and publishing, games
- “ High tech and business services . computer, business to business services

Support for innovation and investment in OECD stimulus packages

Note: all figures percentage of GDP. Break-down for Korea not available. Source: OECD, except for UK which is estimate by TWF.



The Innovation Ecosystem



A national innovation eco-system to support productive entrepreneurship – A “ new economic model “

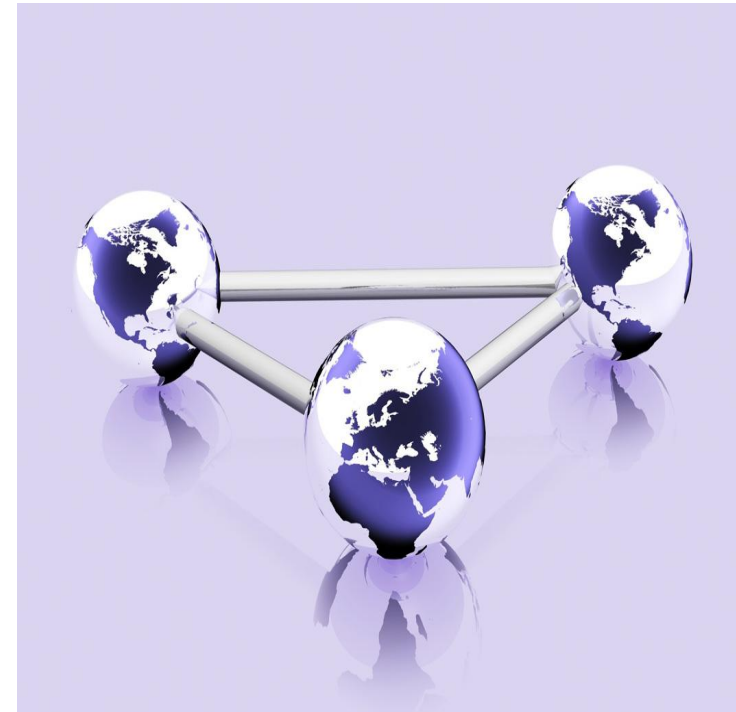


- ” Productive Entrepreneurship
- ” Knowledge Creation and Diffusion
- ” Selection and Dissemination of Research
- ” Market Formation
- ” Financial mobilisation
- ” Human Capital Development

A new architecture of “intermediate institutions”



- “ Russell Group Universities
- “ British %Fraunhofer+Institutes
- “ Creative hubs
- “ Network of intermediate financial institutions
. Green Bank, Creative Industries Bank,
Infrastructure Bank, new 3i
- “ Long term ownership, anchor companies
- “ Comprehensive lifelong learning
- “ Intermediate employment insurance
mutuals, residential FE colleges, vocational
academies to support flexi-security
- “ Cities with innovation %anchor+institutions

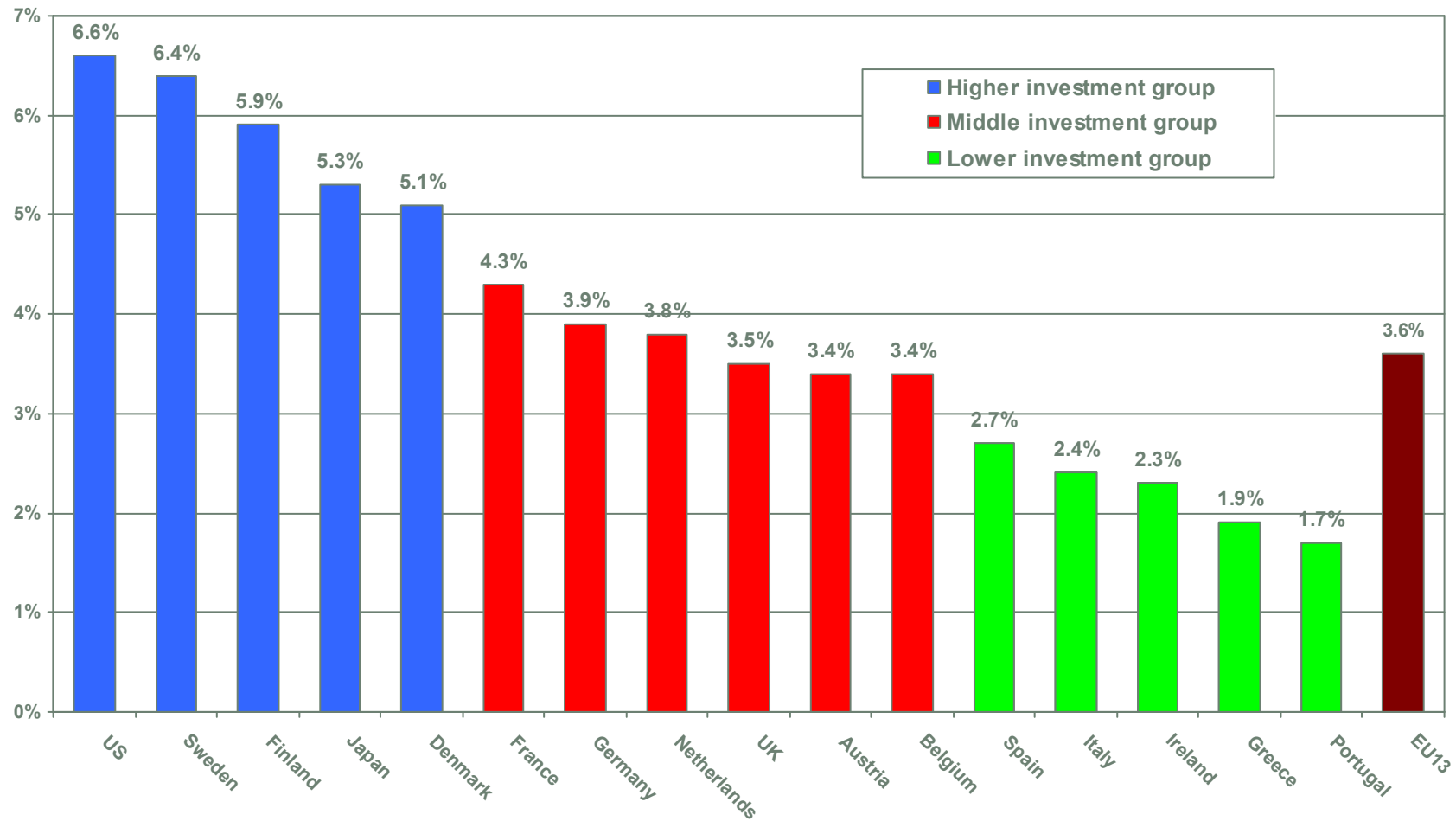


Investment in some knowledge assets (R&D, higher education, software) in 2003-2004



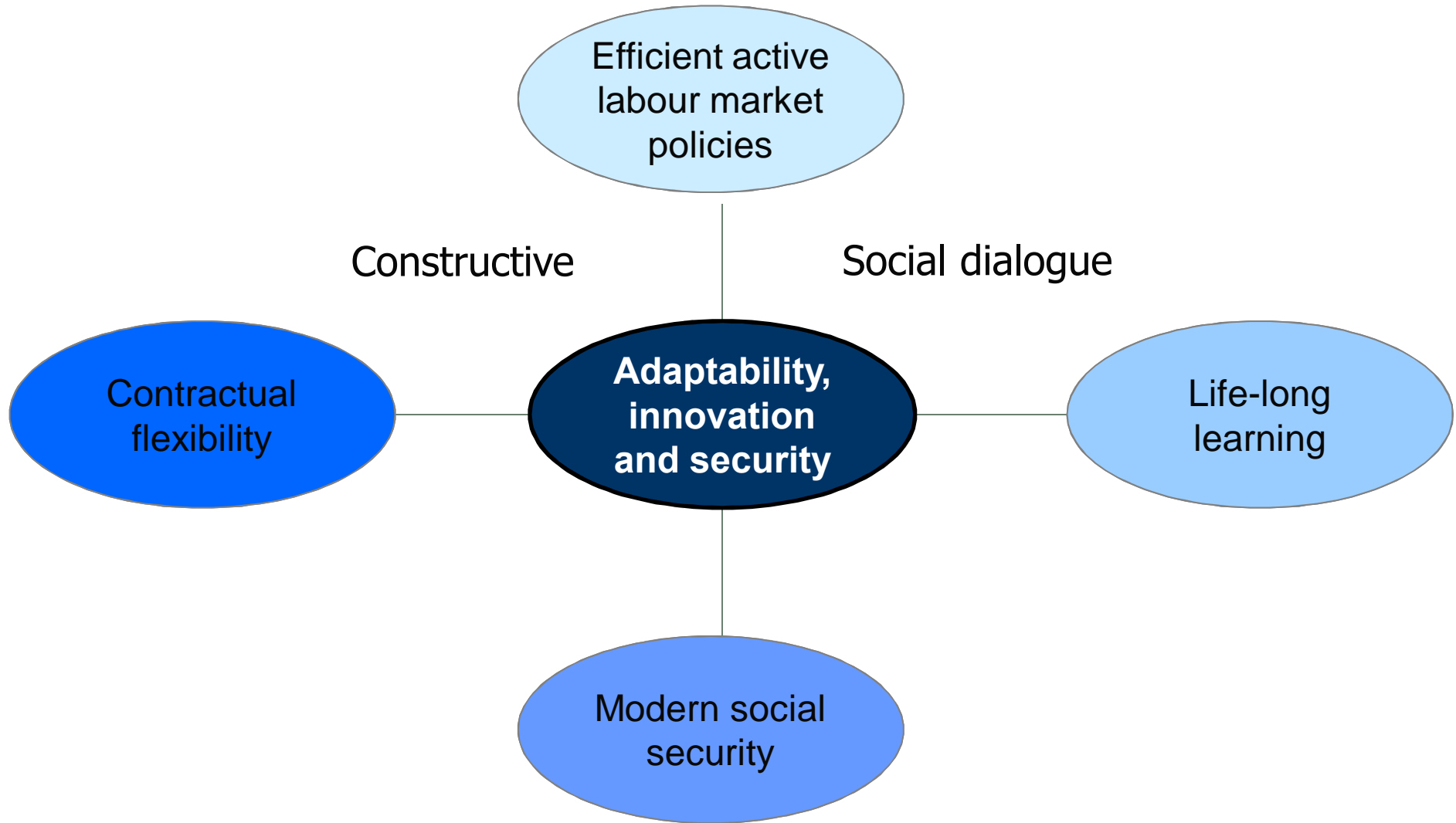
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OECD composite indicator, share of GDP: EU13 excludes Greece. US, Japan, Germany are 2004, rest are 2003. OECD STI Scoreboard 2007.



Flexicurity Capitalism

Flexicurity components...



Where do we go from here?



- “ The need to construct an innovative capitalism less reliant on finance
- “ The return and importance of business purpose
- “ Finance must have less weight driving reward
- “ Proportional desert for genuine effort
- “ Ireland needs to think much more cleverly about small state strategies – joint ventures, state spin-outs,

Strategies for firms in small state knowledge economies



- “ Natural-resource vertical integrators
- “ Local optimisers
- “ Low cost partner
- “ The global consolidator strategy
- “ Global first mover

Implications for Labour market



- “ Revolution in skills . synthesising, disciplined, creative, respectful and ethical minds
- “ Moves to %flexicurity+very likely. From job as property to authoring one's own career. Employment insurance. Comprehensive lifelong learning
- “ Retirement age rising to 66 in 2016 and 67 in 2020 certain
- “ Growing importance of fairness . in pay determination, negotiation of changing job role, performance pay, bonuses, dispute resolution.
- “ Fairness not just process, but ensuring that effort is proportionally rewarded

The Irish Opportunity

- “ Productive entrepreneurship
- “ Focus on knowledge economy sectors
- “ All Ireland Intermediate institutions to build an innovation eco-system
- “ A reframed macro-deal
- “ A new bargain on work . supporting workers as risk-taking authors of their own lives
- “ Think small state strategies

