



**Public Procurement of Innovative Solutions: How
the Public Sector can support suppliers to
innovate**

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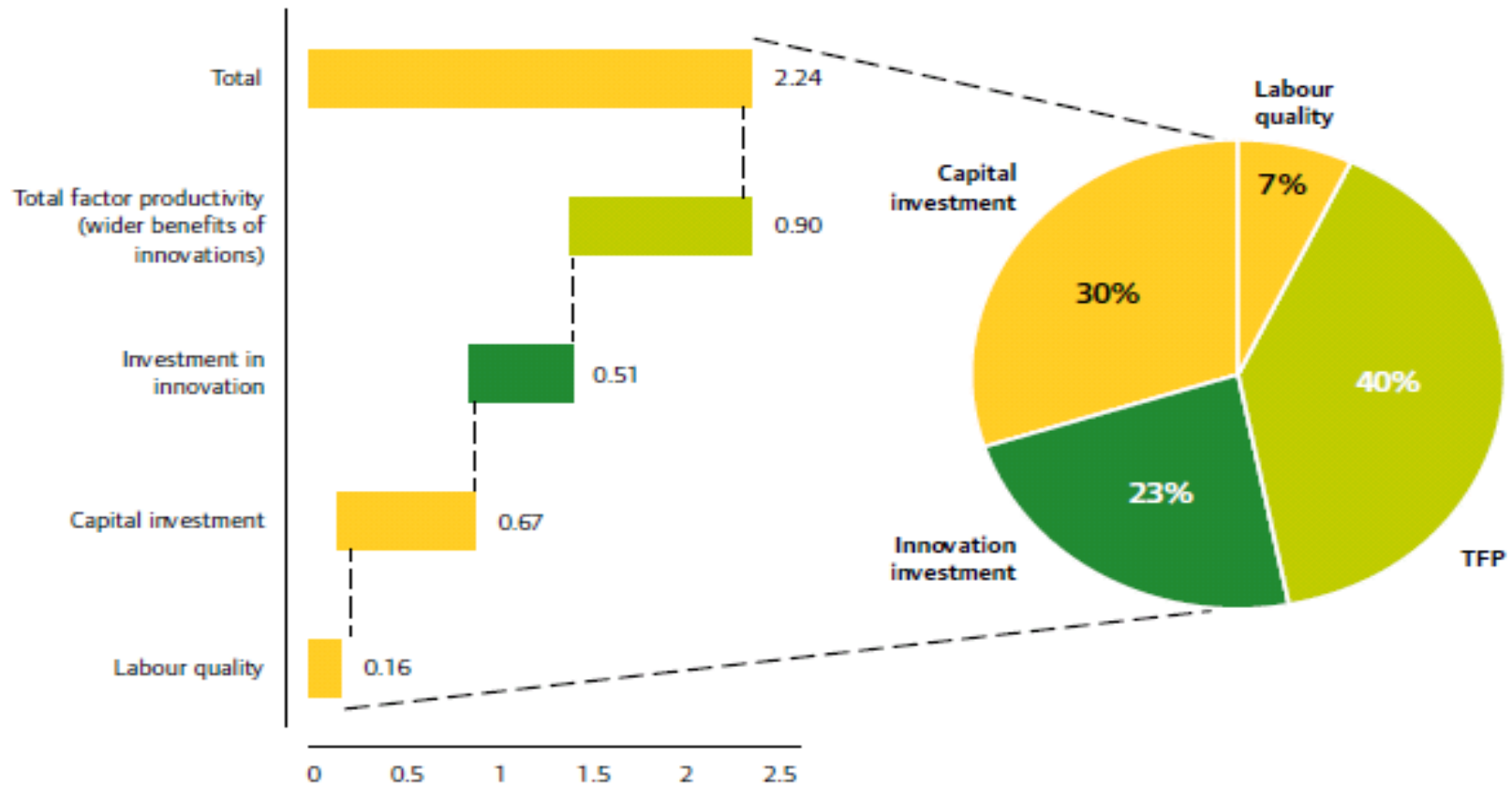
Innovation: The Public Good Argument

- Innovation Impacts
 - Productivity, competitiveness and **growth** – innovative firms grow more and quicker
 - Efficiency of resource allocation within markets
 - Skills
 - Social and environmental benefits
- Innovation achieves macroeconomic impact through **spillovers** – diffusion and adoption of technologies and techniques on a large scale

Author (Year)	Estimated Rates of Return (%)	
	Private	Social
Nadiri (1993)	20-30	50
Mansfield (1977)	25	56
Terleckyj (1974)	29	48-78
Sveikauskas (1981)	10-25	50
Goto-Suzuki (1989)	26	80
Bernstein & Nadiri (1988)	9-27	10-160
Scherer (1984)	29-43	64-147
Bernstein & Nadiri (1991)	14-28	20-110

Source: Table adapted from Griliches (1992) and Nadiri (1993)

Critical to Productivity and Growth



Breakdown of components for UK average labour productivity growth, 2000-2008

Traditional Role of Government

- **Address market failures**
 - R&D/technology investment and development
 - Knowledge Transfer
 - Supply of venture capital
 - Specialist technology capabilities (e.g. measurement)
 - Fiscal incentives for investment in specific activities, e.g. R&D Tax Credit
 - **Deliver “Public Goods”**
 - Investment in fundamental scientific research
 - Investment in education and skills development
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UK Landscape

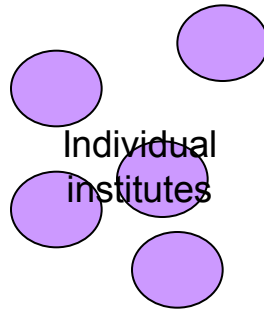
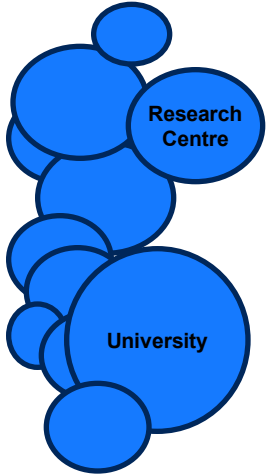
Technology Readiness Level:

1 2 3 4 5 6 7 8 9

Universities

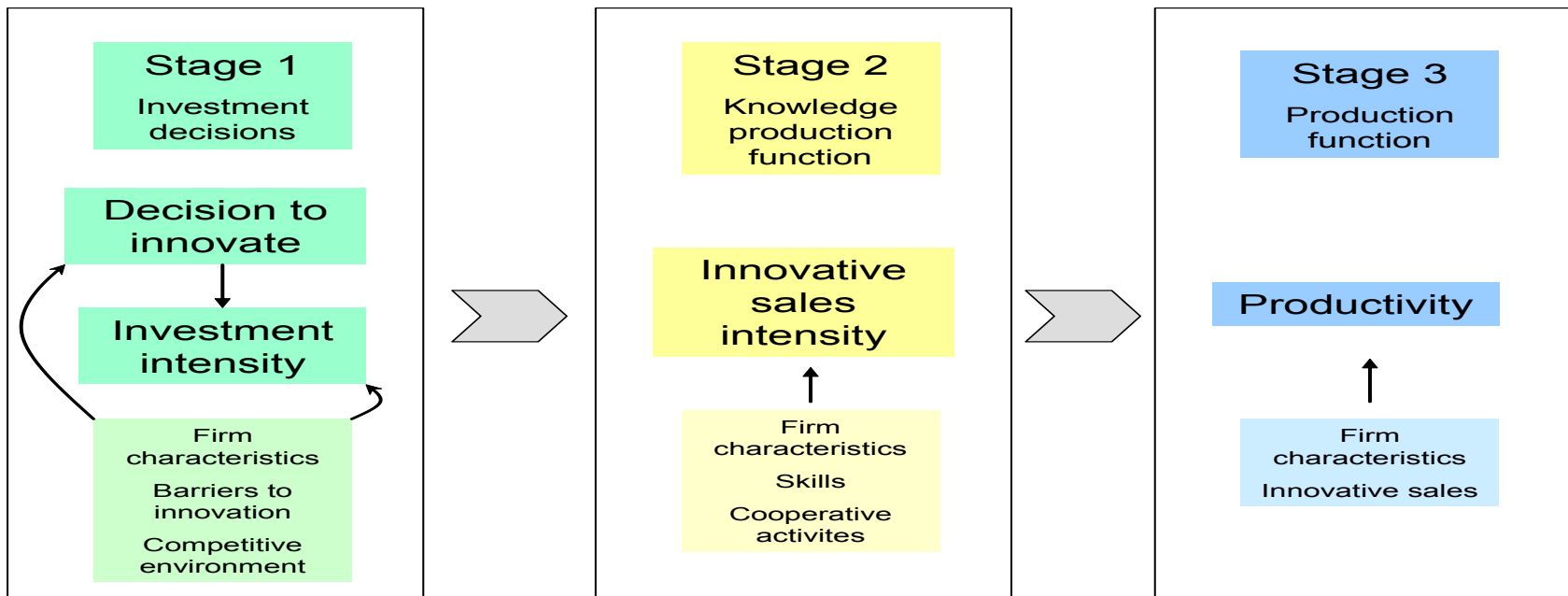
Technology Strategy Board/other public funded activity

Business investment



Research excellence	Research Centres	Individual institutes	RTOs, PSREs, Science parks, etc	Industrial R&D Centres	Industry Commitment	UK Priorities
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Delivering Returns: The Crepon-Duguet-Mairesse (CDM) Model

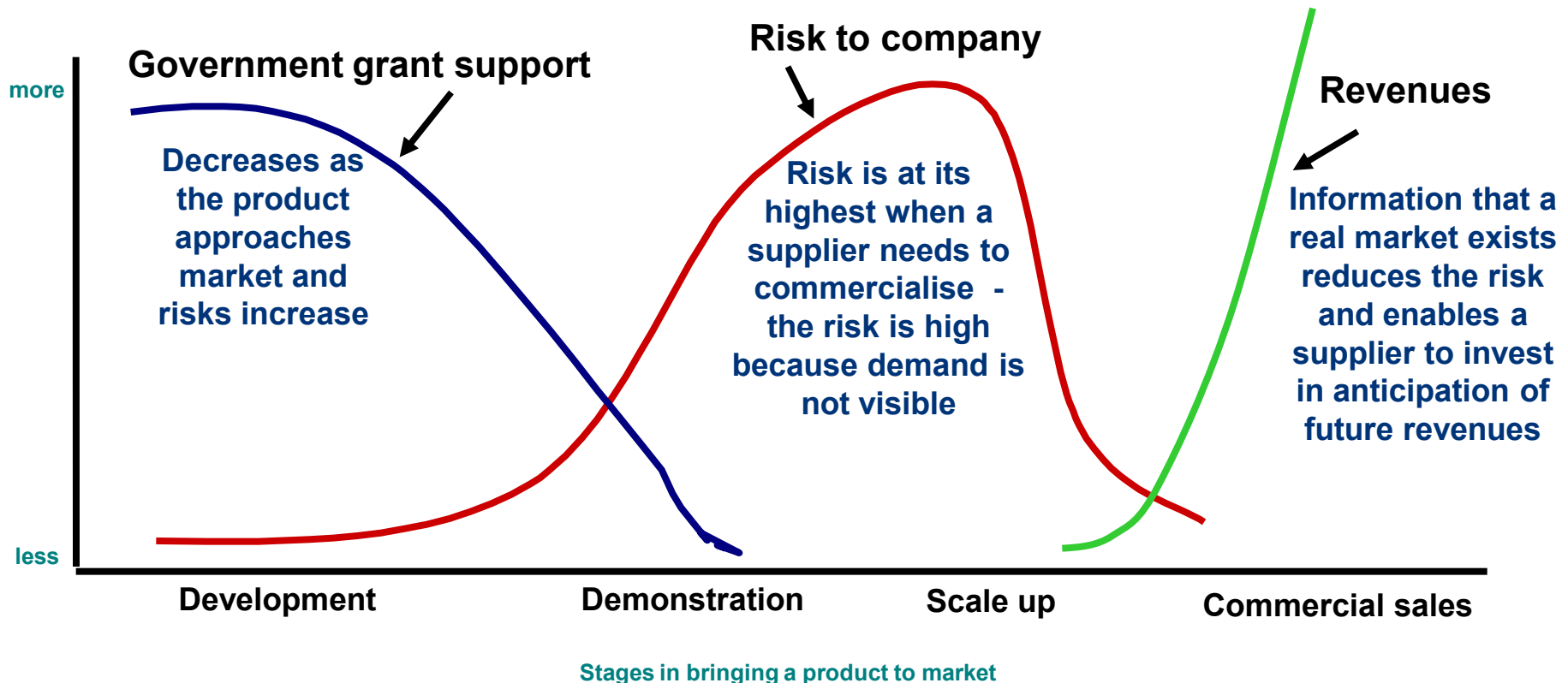


Key Findings - OECD

- Innovation rests on investment commitments – have to invest to generate returns
- A 1% increase in firms' innovation sales per employee was associated with a productivity increase of 0.5% across countries
- Co-operation with other firms and public financial support were correlated with higher innovation expenditure at firm level
- Exporting was associated with higher innovation intensity

Innovation from the suppliers side

- It is all about investment *risk* not costs
- Many products and companies fail at the demonstration and scale up stage
- The gap between development and commercial sales is often referred to as the 'valley of death'

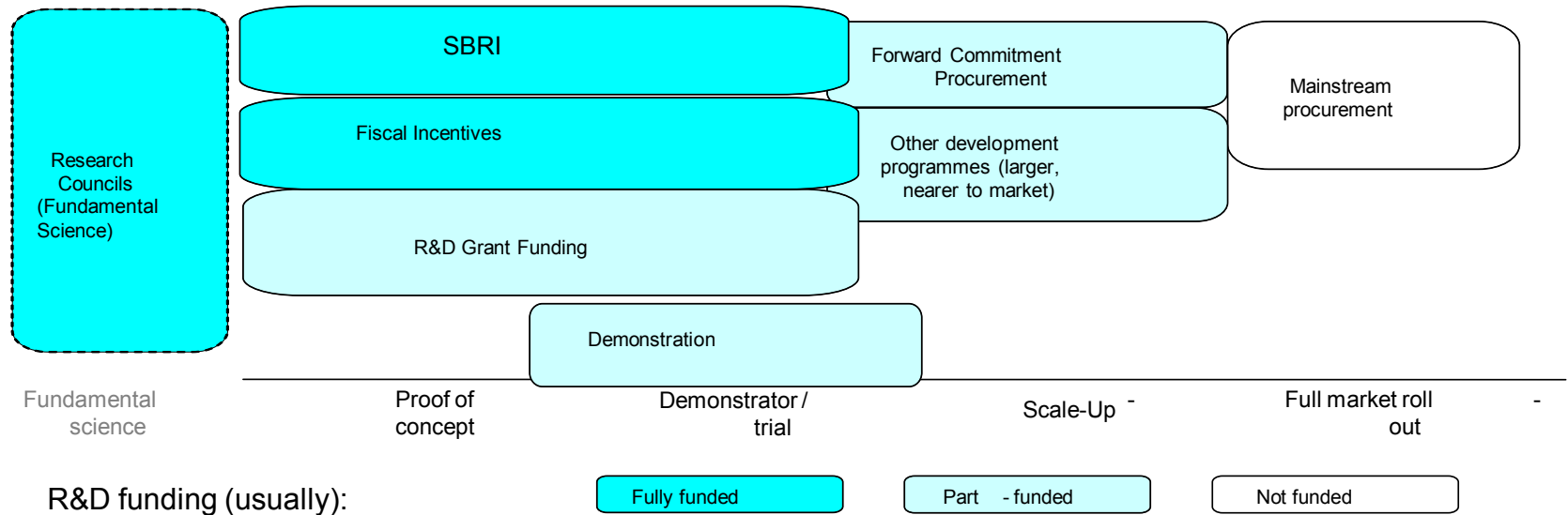


Why Procure Innovation?

- Government can influence innovation – both focus and type
- Achieves greatest influence by using levers in concert - aim of Innovation Nation
- Supply side remains key
 - support science, R&D, knowledge transfer
- Demand side important in promoting innovation
 - Public Procurement
 - Regulation
 - Strategic Policy – 2016 zero carbon homes

Procurement: Part of the Funding Escalator

Public sector support for innovation



Integrating Procurement into the Innovation System

- Procurement not the only solution – can be an effective tool when integrated with other mechanisms (grants, tax incentives, regulation)
- Works best as a tool to support commercialisation and incentivise development of a product – not fundamental science or early stage R&D
- Require committed budgets to programmes to justify admin burden and cost of capability
- Need to engage procuring organisations in public sector
- Intelligent selection of areas where use procurement as a tool and individual procurement mechanisms
- There must be a clear “line of sight” to the market for the innovation, public or private sector

Forward Commitment Procurement

- FCP harnesses the power of public procurement to transform the market, creating the conditions for investment in the goods and services necessary in the shift towards the low carbon economy
- *Public* procurement because of the special role of the public sector in being agents for the social good by being a lead market for innovation that society needs
- Conceptually Forward Commitment Procurement is simple:
 - A public sector body has an unmet need that current products and services cannot deliver.
 - Rather than compromise the public sector body offers to buy in the future a product or service that can deliver what it needs, when it needs it, at a price it can afford
- It addresses directly the key issues of information, investment and contractual risks and stimulating investment in innovative goods and services
- Transfers market risk to the procurer; technical risk to suppliers
- The public sector becomes the **supply chain manager** for the products and services required to deliver the **social or common good**

Small Business Research Initiative

- **Help Public Sector Bodies fulfil their Objectives**
 - Creating novel solutions to existing or emerging issues
 - Procuring and supporting R&D necessary to bring better solutions
 - Enabling engagement with ideas and technologies from companies that would not normally be reached
- **Accelerate Technology Commercialisation**
 - Provide a route to market
- **Support the development of innovative companies**
 - Provide a lead customer/R&D partner
 - Provide seed funding & credibility for later investment rounds

Small Business Research Initiative

- Procurement Process
 - Engaging with Innovative Companies & Procuring the R&D to :-
 - Find & eventually procure novel solution to existing problem
 - Encourage creation of solutions which meet policy objectives
- Development Contracts
 - 100% funded R&D
 - Operate under procurement rules rather than State Aid rules
 - UK implementation of EU Pre-Commercial Procurement
 - Deliverable based rather than hours worked or costs incurred
- IP rests with Company
 - Certain usage rights with Public Sector – companies encouraged to exploit IP.

To Conclude

- Public sector is improving at innovation, but there is scope to do much more
- Weaknesses in key capabilities are a barrier to innovation
- Disaggregation of public sector is a real challenge – and will remain so
- Culture of risk aversion remains a problem – no parallel reward culture for successful innovators
- Govt Investment model does not favour innovation