

Boosting R&D spending and university research will allow Europe's economies to recover faster

Briefing notes for selected journalists

Based on a memo prepared by Prof. Jonathan Haskel, Research Director, Imperial College Business School, for the July 1 meeting of the Science|Business Innovation Board with Commissioner Geoghegan-Quinn

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As EU Governments announce spending cuts and austerity packages, Professor Jonathan Haskel, of Imperial College Business School, warns that failing to continue strong investment in R&D and university-based research will hamstring future economic growth.

Said Prof Haskel: "Governments have a crucial role to achieve what should be their primary goal - growing their economies as fast as possible. The faster an economy grows the quicker deficits will be reduced. Strong growth would also obviate the need for medium and long-term austerity measures.

"But there is a huge temptation for governments to focus on what appear to be soft targets like R&D spend and research-council funded university research. The evidence shows such an approach would be foolhardy."

"My research also shows that public sector support for R&D funding is at its most potent when allocated to universities via open competition for research funding. Such a system injects competition into the publically-funded research grant process."

Prof Haskel also argues that EU member countries must move faster to achieve policy regimes that are innovation-friendly.

He added: "In knowledge economies central government support should encompass more than just R&D. Some of the new knowledge that goes into an iPad is from R&D ie the scientific knowledge in the processor.

“But the true innovation in the iPad is also about clever software, cool design and brilliant marketing. These expenditures typically dwarf R&D. The EU funded COINVEST project shows that R&D is typically between 10-20% of all spending on intangibles (where the intangibles are software, design, R&D, branding, training and business processes).

“Spending on this broader range of intangibles is now, for some faster-growing EU economies, greater than spend on tangibles. In Germany and France investment in tangibles is about eight per cent of GDP. Investment in intangibles is a little bit less.

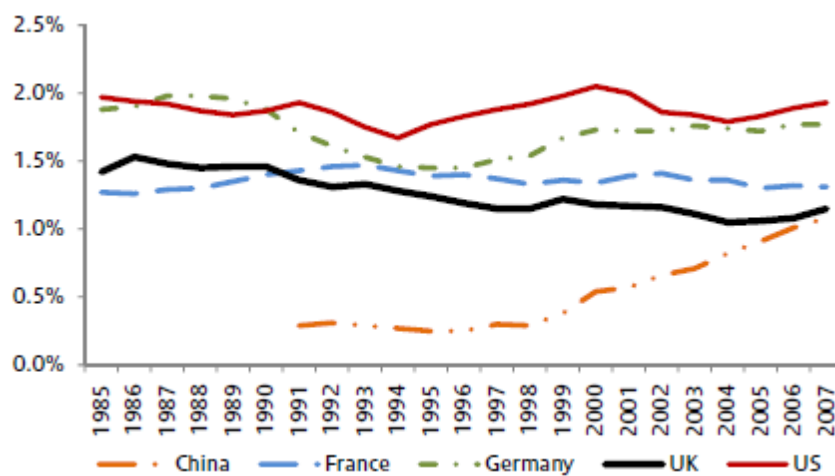
“In the US and UK by contrast, investment in intangibles exceeds that of tangibles. Now, the frequent talk of encouraging private and public investment is usually based on data on tangible investment. But in many advanced economies that seriously neglects almost equal intangible investment. That does not mean the EU R&D target of three per cent of GDP should be reduced, far from it

Appendix One

R&D spend

European countries spend less than the US on R&D (per unit of GDP) and are being caught up by China, see figure 1. This puts Europe below the three per cent target in the Lisbon agenda. Note that this is not because Europe has a particular spread of industries: in the UK, R&D as a proportion of sales has fallen in all industries (as well as there being a shift away from R&D intensive industries like manufacturing).

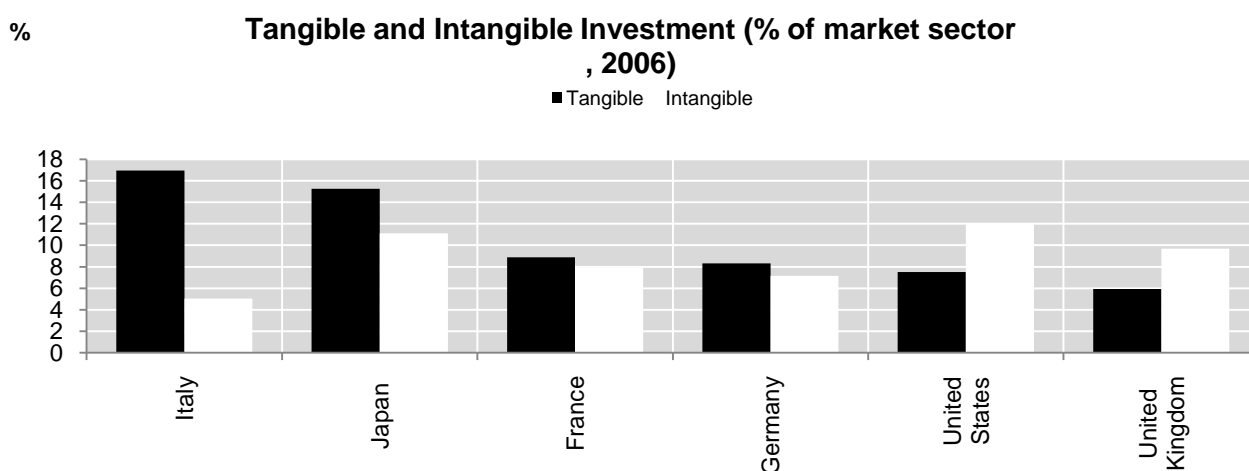
Figure 1: Business expenditure on R&D as a percentage of GDP



Source: OECD’s 2009 Main Science and Technology Indicators (MSTI) dataset. Data elaborated by IFS (Election briefing note 2010)

Appendix Two

Innovation spending



Source: OECD Measuring Innovation, based on data from FP7 COINVEST project.

Appendix Three

Research-based evidence

The bulk of evidence relating to public spending on basic R&D is that it “crowds in” private R&D (Cohen et al. 2002; Box, 2009). For example Toole (1999) showed that a one per cent increase in the stock of public basic research ultimately led to a 2 - 2.4% increase in the number of commercially available new chemical compounds.

Also both public and private R&D investment raise overall growth: a 2004 OECD analysis estimated that a one per cent increase in business R&D increases multifactor productivity by 0.13% and a one per cent increase in public R&D increases multifactor productivity by 0.17%.

More recent estimates from the UK (Haskel and Wallis, 2010) suggest that public R&D has its most potent impact when allocated to universities via open competition for research funding. That should come as no surprise for such a system injects competition into the publically funded research process.