

## **Draft abstracts for Conference on Advancing the Study of Innovation and Globalization in Organizations (ASIGO), submitted by UK Office for National Statistics**

We have two pieces of recent work on innovation and organisation investment (one still being completed) that you might like to consider. One is a UK study, by the ONS economist team and Professor Jonathan Haskel of Imperial College Business School to test approaches to measuring firm level investment in intangible assets associated with innovation. The other is a 13 country study, funded by Eurostat, with Professor Eric Bartelsman, of Free University of Amsterdam, to develop firm level linked data, and industry aggregate approaches to assessing impact of ICT investment and use, and its interaction with other complementary inputs to business change.

### **1) Interviews with firms on innovation investment**

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The new revision of the System of National Accounts (SNA) recommends inclusion of R&D as an intangible fixed asset. This reflects the increasing role of knowledge in the economy. Increasing analytical work is also being done on the possible effects of moving the asset boundary beyond just R&D and software, to include other non technical, knowledge based, activities, with interesting results on investment and productivity (Corrado et al 2004 and Giorgio Marrano et al 2007).

The definition of an asset within the National Accounts is to deliver benefit to the owner for more than a year; a characteristic that R&D and other non technical activities often demonstrate. Under NA definitions assets can be recognised provided they have an 'economic owner' even if legal ownership cannot be defined.

The result on the production account of capitalising intangible investments is to increase the level of GDP and adding to sources of productivity growth. Output is increased as stocks of intangible assets are recorded in the balance sheet. The flow of capital services rises as the new stocks provide capital services to the asset owner. To capitalise intangible investment in a national accounts framework it is necessary to estimate the levels of stock, and to estimate service lives.

The UK Office of National Statistics (ONS) and its academic partners have undertaken considerable research into developing measures of intangible assets. Recent papers have focussed on:

- Software investment - both purchased and own account (Chamberlin 2007)
- R&D capitalisation - for the OECD IPPTF, (Galindo-Rueda 2007, Evans et al 2008)
- International comparisons of intangible investment - for the EU FP7 programme on 'International comparison of Intangibles and growth accounting' (Haskel and Giorgio Marrano 2007)
- Innovation investment and an innovation measurement framework - for NESTA's measurement programme (Clayton, DalBorgo and Haskel 2008).

Such work typically *assumes* asset lives. The innovations in this paper are:

- to gather data on asset lives from direct questions to firms, using a framework developed by the OECD
- to test whether companies are capable of providing data on non-technical innovation activities, in addition to data provided on conventional R&D.

In the pilot phase, reported here, we test a questionnaire, based on a suggestion of the OECD and used in Israel by Peleg. The key to the questionnaire is the following. The UK R&D question is (a) essentially about “scientific” or “technical R&D” and (b) does not gather direct data on asset lives. The questionnaire we pilot can be thought of as an extended R&D questionnaire, and is in two sections. After defining “technical” and “non-technical” R&D, we ask about technical R&D and its service life and non-technical R&D and its service life. We are interested both in the results, and in how capable respondents felt answering the questions.