European Research Area

EUROPEAN POLICYBRIEF

SPINTAN – Policy Brief No. 9

SPINTAN smartpublicintangibles

Estimates of intangible investment in the public sector: EU, US, China and Brazil*

April 22, 2016

EUROPEAN POLICY BRIEF

Objectives of the research

The main goal of SPINTAN is to produce harmonized measures of intangible investment in the public sector coherent with National Accounts Principles (System of National Accounts (2008)). The SPINTAN working paper *Estimates of intangible investment in the public sector: EU, US, China and Brazil*, provides an overview of the methods adopted to estimate measures of intangible investment for the public sector of 22 European countries in 1995-2011 and for US, Brazil and China over the period 1995-2013.

Scientific approach / methodology

The paper sets out the methods used to generate measures of public intangible investment and the architecture of the SPINTAN database. The estimation methodology is consistent with the theoretical framework developed in WP1 (Corrado, Haskel, Jona-Lasinio, 2015) and it is organized into two different steps depending on whether the intangible assets are capitalized in National Accounts. The paper also offers preliminary evidence for the EU economies, US, China and Brazil.

New knowledge and/or European added value

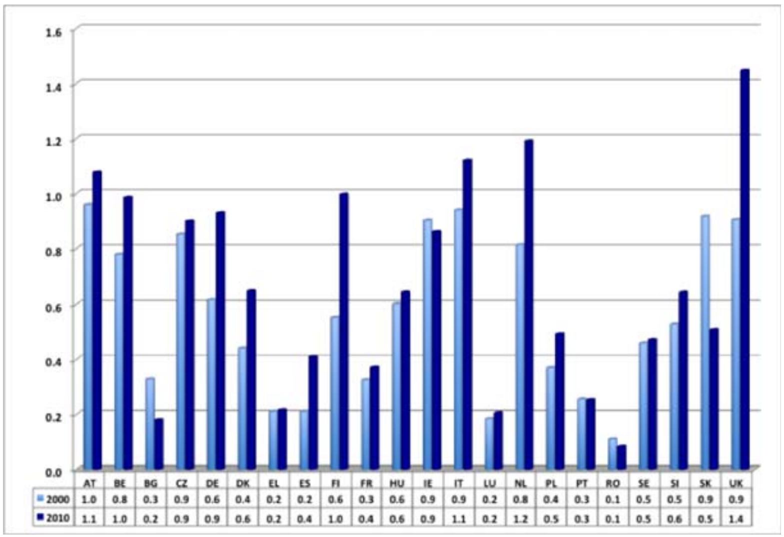
Existing measures of intangible investment, INTAN-Invest, cover a subset of industries: the market sector. SPINTAN covers the nonmarket sector thus completing the coverage of intangible

* This Policy Brief is based on the SPINTAN Working Paper No. 11: Bacchini, F., C. Corrado, J. Hao, J. Haskel, R. Iannaccone, M. Iommi, K. Jager and C. Jona Lasinio (2016): 'Estimates of intangible investment in the public sector: EU, US, China and Brazil', available on the SPINTAN website http://www.spintan.net/c/working-papers/.

investment by industry and making possible productivity by industry and making possible productivity analysis for the total economy based on a complete accounting of intangible capital inputs.

The first set of SPINTAN estimates show that the GDP share of intangible investment in the nonmarket sector accounted for 1 percent of GDP in EU countries, on average, in 2010 (Figure 1). In most countries, the nonmarket intangible investment rate increased by about 1 percentage point between 2000 and 2010.

Figure 1 - Public sector intangibles in the EU economies (GDP shares)



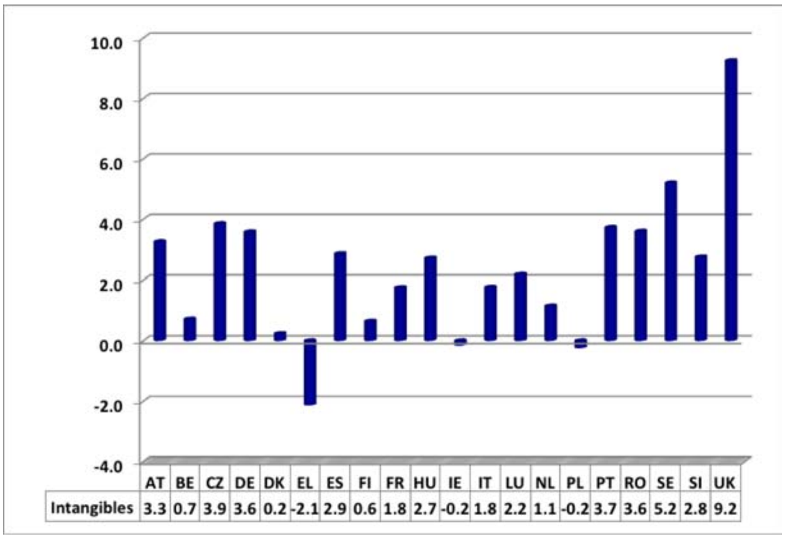
Source: SPINTAN Database.

Figure 2 illustrates the dynamics of intangible investment in the nonmarket sector of 20 EU countries over the years 1995-2011.

The evidence suggests that the most knowledge intensive economies, UK and Sweden experienced faster accumulation of intangibles in the nonmarket sector compared to most of the other EU countries. Most of the other countries show positive rates of growth above 2 percent with Denmark and Finland showing rates below 1 percent. Greece and Ireland experienced decreasing growth rates.

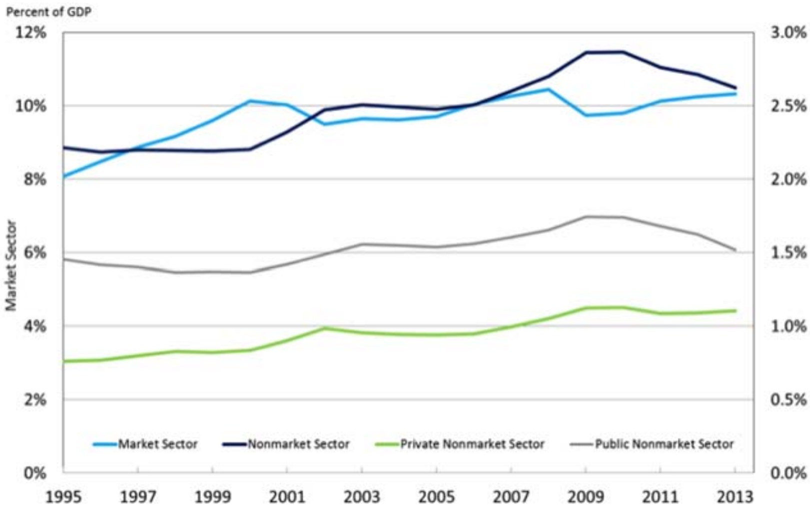
Figure 3 illustrates how much the US “market sector” and “non-market sector” invested in intangibles from 1995-2013. The “non-market sector” is furthermore split into its public and private components as described in the working paper.

Figure 2 – Nonmarket intangible investment in the EU economies
(volume measures - average rates of growth - 1995-2011)



Source: SPINTAN database.

Figure 3 – Intangible Investment in the United States 1995-2013



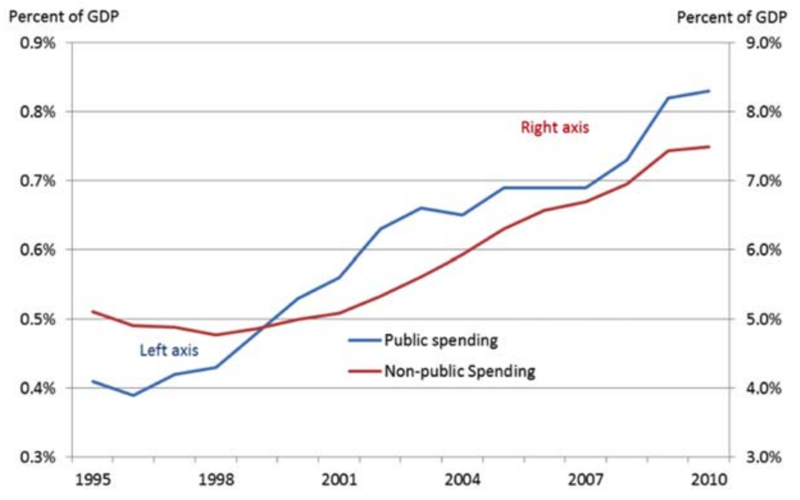
Source: Authors' elaboration of data issued by the U.S. BEA

Intangible investment in the “market sector” grew at an average annual growth rate of 1.4 percent from 8.1 percent to 10.36 percent between 1995 and 2013 while total public intangible grew slower at 0.9 percent on average from 2.2 percent to 2.6 percent at the same time. “Non-market” intangible investment was mainly driven by the public “non-market sector” and only to a lesser extent by private “non-market sector”. It is interesting to see that “market sector” intangible investment declined during the financial crises and continued to rise afterwards whereas "non-market" intangible investment kept growing until 2010 and fell strongly thereafter.

Intangible investment in the whole economy of China is relatively high according to international comparison, but it only amounts for about a quarter of tangible investment, implying that China is still a typical developing economy that relies mostly on tangible rather than intangible assets and thus probably not a knowledge-intensive economy.

In China public investment on intangibles increased from 0.39% of GDP in 1995 to 0.81% of GDP in 2010 (investment in SPINTAN industries accounted for 0.70% of GDP in 2010) (Figure 4).

Figure 4 - Public and non-public intangible spending in China 1995-2010

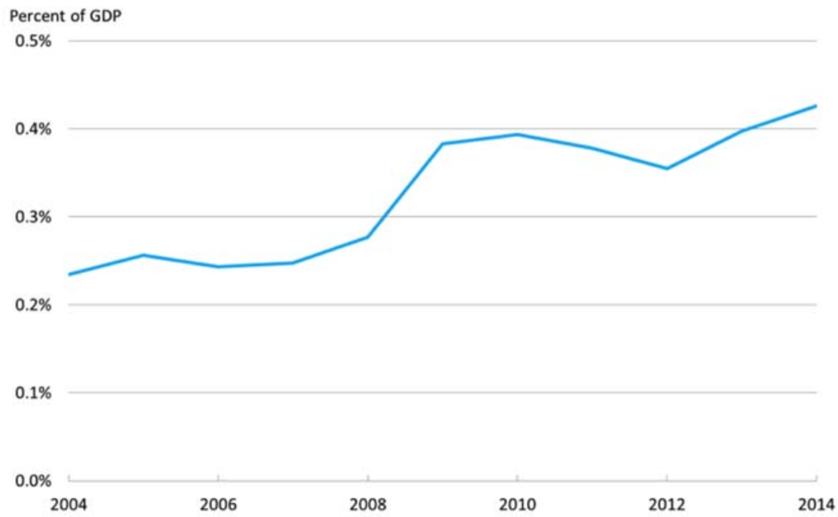


Sources: NBS, CEIC, Hulten & Hao (2015), and Hao & Wu (2015).

Figure 5 shows the dynamics of public intangible investment as a percentage of GDP in Brazil over the years 2004-2011. Brazil invested on average 0.33 percent of GDP in public intangibles from 2004 to 2014. Intangible investment grew at an average annual growth rate of 6 percent from 0.23 percent to 0.43 percent in this period. Public investment did not decline and continued to grow during the financial crisis like in the United States and most European countries.

Interestingly, investment dropped in the United States and Brazil after 2010. Brazil's investment rose again from 2012 onwards and continued to decline in the United States until 2013.

Figure 5 - Public intangible investment, Brazil 2004-2011



Key messages for policy-makers, businesses, trade unions and civil society actors

Intangible capital accounts for one-fifth to one-third of labour productivity growth in the market sector of the US and EU economies and for one-third of labour productivity growth in the nonmarket sector in the EU economies intangibles appear to be counter cyclical particularly in the nonmarket sector. A primary characteristic of intangible capital, widely supported by growth accounting exercises and macroeconomic studies, is to be growth-promoting. Promoting core intangible investment is consistent with the goal of attaining a higher level of productivity and therefore a higher living standard. But traditional capital estimates are understated because not all intangible assets are counted as investment in National Accounts (Corrado, Haskel, Jona-Lasinio, 2015). Policymakers need an expanded framework and better data to design effective growth and innovation policies.

SPINTAN – Smart public intangibles

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Duration	Project started on December 2013 and will end in November 2016
Funding Scheme	SSH.2013.1.1-2. Intangibles in the public sector - an unrecognised source for innovation, well-being and smart growth
Budget	3,260,536.40 €
Website	www.spintan.net
Further reading	
Related websites	
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