

Discussion of paper:
“Knowledge intensity and productivity in Latin
America”, by Andre Hofman.

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Summary of the paper

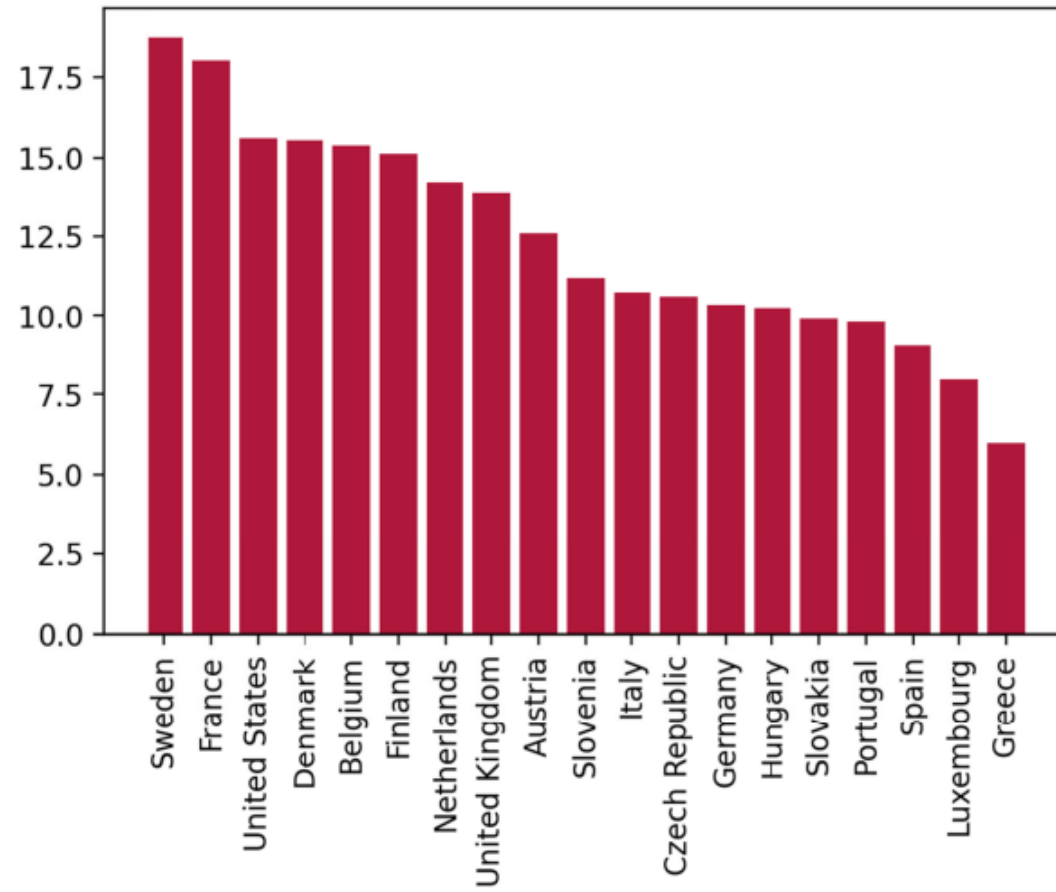
- Advances the measurement of the knowledge economy for eight LA countries, during period 1990-2016, for the total economy and at the industry level.
- Comparative perspective with two other benchmark economies: US and Spain.
- This work aims to identify “which factors contain knowledge, measure the amount used in different activities, and value their services with appropriate prices”.
- Focuses on ‘the intensity of use’ and aims to go beyond the creation of knowledge.
- M types of labour and n types of capital, some provides knowledge services and some do not. The productivity of each labour type is given by the wage, and of assets by their user cost.
- For knowledge-based factors they consider two types of assumptions:
 - Broad: High-skilled but also medium-skilled workers (higher and upper secondary education) and not only ICT but all types of machinery and equipment.
 - Restrictive: High-skilled employment and ICT assets.
- Crucially, R&D and IPP are excluded due to the lack of data for LA countries.

Comments

- Contributes to improve our understanding of the ‘knowledge economy’: Investment in ideas, knowledge, software and data, design, training, brands, networks and relationships.
- There is not a single metric and a large number of cross-country initiatives devoted to the (harmonised) measurement of the intangible economy, mainly for developed economies.
- Advances in growth accounting literature show that when the contribution of productive factors are measured more precisely incorporating knowledge this reduces the role of the unknown, and offers important policy insights.
- The approach in this paper is consistent with the idea that focusing on R&D expenditure provides only a partial image of the so-called ‘knowledge economy’, and goes beyond the use of taxonomies.
- Their approach considers expansive idea of knowledge economy, that embraces human capital, the talent and skills that underpin the spreading knowledge economy – and digital, organization, and managerial know-how.

- However, these set of assumptions appear quite extreme, with very different results on the gaps across countries.
- As a share of GVA by country, they find that the highest intensity is for the US, with 74% (in 2016), but follows a downward trend. In comparison the share of Peru is 70%.
- Among LA countries Costa Rica and Peru show a higher share of knowledge-based GVA, similar to that of US or Spain.
- With the more restrictive approach, the share of knowledge economy is 40%.
- These divergence in results perhaps make it difficult to accompany with policy recommendations on the different role of intangibles as engines of growth.
- Investment in intangibles has risen steadily as a share of total investment in the US and European economies, and since the pandemic appears that intangible investment has had another growth impulse, reflecting an acceleration in digitization: But it is below 20% according to most estimates.

Figure 2: Intangible intensity in percentage, 2016



Source: [INTAN-invest](#). Note: Intangible intensity is defined as investment in intangible assets divided by value-added.

Suggestions & questions

- While there is no a single definition, maybe we need to think a little bit more about what are we measuring when we say: 'intensity of use' of the knowledge economy. It may only exclude certain activities, and accounts for three quarters of the economy.
- Here, knowledge is embedded across most factors of production in the broad approach, and most of the assets are tangible maybe at odds with some of the literature advances, which is focused on definition of key assets.
 - Here all assets except software are of tangible nature.
- Data limitations on intangibles assets are problematic, so perhaps it may be possible to refine the human capital variable.
 - Qualification do not equal skills.
 - STEM jobs
 - Can surveys or qualitative research provide data for LA countries on specific tasks related to knowledge economy?