Measuring the Income to Intangibles in Goods Production: a Global Value Chain Approach

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Considerable progress has been made in tracing expenditures on intangibles in the macro-economy. But much less is known about their returns. In this paper we outline a new strategy to estimate returns to intangibles in the context of globalised production networks. We view intangibles as inputs that allow a firm to generate surplus value from tangible factor inputs. This is in contrast to the standard treatment of intangible capital as yet another factor of production which can be separately valued. We propose an instrumental definition of the returns to intangibles as the residual value after subtracting the costs of labour and tangible capital. Given international fragmentation of production processes, this residual can only be measured when all stages of production (including distribution) are considered. To this end, we rely on the global value chain (GVC) approach introduced by Timmer et al. (2014). This approach allows for a decomposition of the value of a product into value added at each stage of production. We extend this approach by splitting value added into returns to labour, tangible and intangible capital. We focus on final manufacturing products for the period 2000-2014 using the world input-output database (WIOD) 2016 release and additional data derived from national accounts statistics. Our main findings are that: (1) the share of intangible income rapidly increased in the first half of the 2000s, levelling off after 2008. In 2014 it stood at about 31 per cent, which is much higher than tangible capital income share at 18 per cent; (2) for all 19 manufacturing product groups, intangible income share in 2014 is higher than the tangible share. For some product groups the intangible income share is even more than double the tangible share, such as pharmaceuticals, chemical products and oil refining products; (3) we also find large heterogeneity across products. For products like textiles and furniture, more than half of the intangible income is realised in the distribution stage, that is, in delivery of the final product to the consumer. In contrast, in GVCs of machinery this share is less than a quarter.