

The Economic Impact of Standards in Belgium

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ABSTRACT

While several past studies have measured the impact of standards on indicators such as output and productivity for a variety of countries, a quantitative analysis that focuses on Belgium has not been performed yet. Based on a dataset containing sector level data spanning 25 years (1994-2018), the authors find that, next to capital investment and the number of patents, standards make a statistically significant, positive and substantial contribution to Belgian GDP as well as to labor productivity. More specifically, one additional standard will on average increase GDP by €2.04 million per year and will increase labor productivity per person employed by €11.5. In addition, standards contribute to about 0.2% of GDP, 19% of GDP growth, and 19% of labor productivity growth.

KEYWORDS

Economic Impact, GDP, Knowledge Dissemination, Labor Productivity, NBN, Panel Data, Regression Analysis, Sector, Standards

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1. INTRODUCTION

For many companies and the economy to benefit most from innovation, new knowledge needs to be broadly disseminated. Standards facilitate this dissemination process and constitute a “*formula that describes the best way of doing something, ... standards are the distilled wisdom of people with expertise*” (ISO, 2020). Standards, that are by nature developed through cooperation and consensus of large companies, SMEs, public institutions, federations, societal stakeholders and industry experts, clearly facilitate the dissemination of knowledge as they are available to all.

Intuition as well as scientific literature indeed confirm the social and economic benefits of standardization. Ramdani et al. (2019) explain that reference standards directly impact overall efficiency, minimal admissibility standards mainly protect the consumer, whereas product compatibility standards benefit the consumer as well as the firm (although the impact can differ across firms). Regarding the macro-economic level, we also learn about the positive impact of standardization as “*codified technological know-how contributes to economic growth*” (Blind & Jungmittag, 2008, p. 51). As such, standards contribute to productivity and growth by improving efficiency and interoperability, facilitating innovation and increasing trade as documented by for example Hogan et al. (2015).

In general, the theoretical and empirical examination of the role of standards is a relatively recent phenomenon in the economic literature (de Vries et al., 2018; Haimowitz & Warren, 2007). Especially empirical evidence on the macroeconomic impact of standards is scant. While several studies measure the impact of standards on indicators such as output and productivity, the link between standardization and economic growth has not yet been analyzed in depth and has not taken all country differences into account (Blind & Jungmittag, 2008; de Vries et al., 2018; Heikkilä et al., 2020). This article aims to shed more light on this research gap and contributes to the literature in three ways. *First*, our study focuses on Belgium, a country for which – to the best of our knowledge – a quantitative analysis is not yet available. The Belgian case is interesting, given its distinct characteristics, as a small, very open economy ranking 3rd on the KOF Globalization Index (Gygli et al., 2019), with inward FDI exceeding outward FDI, which is considered atypical for a developed economy with a savings surplus (Duprez & Van Nieuwenhuyze, 2016). Furthermore, its economy is characterized by very high labor productivity (4th in the 2019 OECD ranking), coupled to high real wage levels and low productivity growth, which has pushed companies located in Belgium to increasingly substitute labor by capital (OECD, 2019; Schwellnus et al., 2018). In such a context of high labor productivity with limited growth potential, and high ongoing substitution of labor by capital, and with country competitiveness under pressure at a global level, it is worthwhile to isolate the impact of standards on GDP and labor productivity growth. This allows to determine whether results of previous studies on the impact of standards on economic growth, hold in this particular context. *Second*, whereas the majority of existing publications take into account only one indicator of economic growth, we econometrically study the

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