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Recording of Cross-border Transactions Related to Digitized Products: An Experimental Study for the Dutch Economy, Exports

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Against a backdrop of slowing rates of measured productivity growth, questions have been raised about the conceptual basis of GDP and output and whether current compilation methods are adequate to capture output and productivity. In a time where more and more economic activities take place digitally, these questions become even more relevant. The question in this context is, how large are these types of digital transactions, how do they evolve over time, and are they well recorded in the current system of National Accounts? The objective of this study is to specify figures on the export and turnover of a few 'digitized' products. The study does not intent to quantify the extra turnover or export triggered by digitalization. It attempts to make transactions related to digitalization more visible in existing statistics and to explore where data issues exist in existing statistics.

The term 'digitized products and services' covers a wide range of activities within the present economic landscape. Because the spectrum is so wide and sometimes a bit vague, it was very challenging to define which activities fall within the scope and which do not. From a collection point of view many of the statistics available today and the different categories they recognize are not yet well suited for distinguishing between 'regular' offline economic activities and their more 'digital' counterparts. This problem is compounded when trying to identify cross border transactions of digital products and services, because in a digital world 'borders' are often much less relevant and clear.

Despite these difficulties it was possible to provide a few reasonable estimates for a few 'digital' activities. Often the estimation was done by combining available statistical data sources, augmented with external sources and further refining them by applying relevant assumptions. In most cases the estimates has been done based on already existing statistical data sources, providing a solid foundation to work with. In other cases, such a solid source simply is not available and therefore one needs to rely on external sources combined with experimental innovative techniques and assumptions to generate a statistic. In other cases data techniques such as 'webscraping and textmining' have been used to define the population of businesses that engage in the export of particular 'digitized' activities.

The exports of all explored activities show in most cases a clear growth path. The size of digitized activities is sometimes substantial, as is the case with e-commerce activities. In other cases, such as digital platform enabled taxi services, the magnitude is (still) very small. All 'digitized' activities investigated in this study are recorded in the National Accounts.

In conclusion this study provides a first reasonable experimental overview of the size and development of a few digitized activities in the Dutch economy. Further research will be needed to improve these estimates. This research could focus on possible improvements in survey design for better specification of digital activities. Alternatively, innovative methods such as use of webscraping and machine learning are very promising and could be further explored in the future.