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Estimating the value of data in the Netherlands

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The value of data has recently been a topic of interest from both micro and macro-economic perspectives. The micro-economic perspective looks at single businesses and tries to establish the value of data (e.g. Li, Nirei and Yamana 2019) for each. The macro-economic perspective mainly focusses on the value of data by either bringing together expenditures and revenues from data (Ker, Spiezia and Weber 2019) or by aiming to estimate investments in data (Statistics Canada 2019). The debate on data as an asset is still ongoing. In strict SNA-terms most data does not conform to the definition of an asset and is placed outside of the asset boundary. As many already have pointed out (ISWGNA sub-group on digitalization 2020; Rassier, Kornfeld and Strassner 2019; Statistics Canada 2019) there is a case to be made to expand the definition of assets to encompass data, thereby removing the distinction between databases that are sold (includes the value of data) and databases developed on own account. Data then can become a separate asset category, or can be put in a new intellectual property product category together with databases. The research in this paper focusses on the Netherlands and makes an estimate for business investment of data. Specifically, the model developed by Statistics Canada is used (Statistics Canada 2019) and adapted to the data sources available in the Netherlands. Separate estimates are made for each of the stages of the knowledge pyramid (data, databases and data science) as identified by Statistics Canada. As is the case in the original Canadian model, only the own-account expenditure is calculated by using labour input plus a markup for other associated expenditure. Specifically, combining and pooling together labour force survey data with tax data on wages at the personal level provides relatively stable estimates of the cost associated with the production of data assets. The professions selected in the Canadian study were mapped to Dutch (ISCO) ones, with a few alterations. To calculate total labour input, the original weights from the LFS were recalculated by replicating the methodology developed in the Statistics Netherlands paper on free services (Van Elp and Mushkudiani 2019).
Noting the very recent nature of this topic, the paper concludes on the issues to be resolved before data fulfills all national accounts asset criteria. Of importance are the need for real-world measures of the time-factors, estimates of overlap between data on the one hand and own-account software and R&D on the other. Other important issues are practical guidance on purchases and sales of data assets and the question has to be answered whether the government can own data, akin to freely available R&D (De Haan and Haynes 2018).

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