**Markup and price dynamics: Linking micro to macro**

*by Jan De Loecker, Catherine Fuss and Johannes Van Biesebroeck (2018)*

We construct a firm-level dataset covering all private firms that have to submit their annual accounts to the Belgian authorities, covering the period 1980-2016. The advantage of observing such a long time series of firm-level variables taken from the balance sheet and incomes & loss statement comes at the cost of dealing with changes in reporting standards and requirements over time. Annual accounts are collected for (nearly) all companies located in Belgium, but small firms do not have to report as detailed information as large firms. In particular, only large firms have to provide information on turnover and intermediate inputs consumption and its break down into two components: (i) raw materials and goods, and (ii) services inputs. In the case of Belgium, we have three distinct samples of large firms.

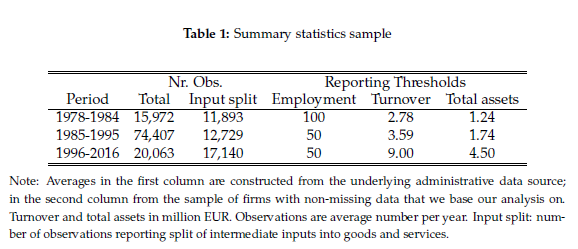
First, the information for the period 1978-1984, for which the firm-level annual accounts have never previously been used in research, is very limited. We only observe total assets, sales, and total input use, which is further broken down into the two types of inputs. Unfortunately, we do not observe labor input, making it impossible to include this period when we estimate production functions. We also do not observe a sectoral classification for these firms, which means that we have to omit these first few years in any analysis conducted within an industry. While the data made available to us already start in 1978, there were too many observations with dubious statistics to include the first two years in the dataset for now.

Second, in the period 1985-1996, we observe firm-level annual accounts for a much broader set of firms thanks to a decrease in employment reporting threshold used to define large firms. Indeed, over 1978-1984, a company was considered as large, either when the yearly average of its workforce is at least 100 or when either turnover (excluding VAT) amounts to at least EUR 2.48 million (BEF 100 million) or total assets exceed EUR 1,24 million (BEF 50 million). While over 1985-1996, large firms are those that exceed at least two of the following criteria: (1) yearly average of workforce of 50, (2) least 3.59 million (BEF 145 million) for turnover (excluding VAT), (3) EUR 1,74 million (BEF 70 million). As before a company employing at least 100 workers is classified as large.

Finally, we observe the annual accounts for the period 1996-2016. This firm-level information for Belgium has been widely used previously in academic research. The coverage has been reduced because, the turnover and total assets thresholds have been raised to, respectively, EUR 9 million and EUR 4,5 million. Given that we want a consistent sample over the entire time period, we limit the sample to firms reporting input use broken down in the two components.

As far we know, we are the first to construct a panel that covers all private Belgian firms over the period 1980-2016. This dataset uses administrative data sources accessed through the National Bank of Belgium (NBB). In terms of variables, we only use the wage bill, employment (in number of full-time equivalent employees), tangible fixed assets at the beginning and end of the year, intermediate input use (total, and also broken down by goods or services), and sales. A small set of corrections concerning dates and years or an apparently erroneous number of months in the annual accounts have been performed. The resulting annual account information was annualized and missing values extrapolated. From 1985 onwards, each firm is allocated to one of ten sector which are defined in a time-consistent manner over the entire sample period using industry concordances. Deflators on value added, investment and intermediate consumption at the 2-digit NACE are based on published data in the National Accounts and sector classification information reported in the annual accounts database.

In Table 1 we report the average yearly number of observations in the sample. These are all firms that report non-missing values for both sales and total input use. In the second column we show the average yearly numbers of firms reporting the breakdown in input use, which will be the sample we work with that has a relatively consistent coverage over time. The increase in this average is the result of firm entry and firms growing enough in sales or total assets to trigger ‘large-firm’ reporting requirements. [[1]](#footnote-1)



**International competition and firm performance: Evidence from Belgium**

*by Jan De Loecker, Catherine Fuss and Johannes Van Biesebroeck (2014)*

To make the sample, firms must at least once over the sample period report positive employment, a physical capital stock (tangible fixed assets) above 100 euro, and positive total assets. The initial analysis is limited to firms that report manufacturing as their primary sector of

activity. [[2]](#footnote-2)

The annual accounts provide firm-level information on the wage bill, employment (in number of full-time equivalent employees), tangible fixed assets at the beginning and end of the year, and value added. These statistics have been corrected, annualized, and extrapolated when necessary.[[3]](#footnote-3) The VAT database reports firm sales (total revenue over all its products) and intermediate input consumption. For large firms the same information is also reported in the annual accounts, but the coverage is far more extensive from the VAT reports. Deflators are taken from national accounts and are available at the 2-digit NACE Revision 2 level.

1. In particular, the average of 17,140 for the 1996-2016 period masks an increase from 14,757 firms in 1996 to 21,480 firms in 2015. The total is slightly lower in 2016 as not all annual accounts information had yet been added to the administrative data source we rely on. [↑](#footnote-ref-1)
2. For firms that change their main activity over the sample period, we use the NACE code observed most frequently for the entire period. If several NACE codes are observed with equal frequency, we use the most recent one. [↑](#footnote-ref-2)
3. A few changes are made to the date, year, and number of months in the annual accounts where the reported numbers would lead to errors. For example, a closing date of January 2, was change to December 31 of the previous year in order to attribute the reported (ow) values to the previous year. When the accounting period identifiers from the calendar year, flows are adjusted by taking a weighted average of t and t + 1 flows. Stocks are adjusted by adding to the current year stock the weighted stock variation between current and next year. [↑](#footnote-ref-3)