

## Appendix

### Data Construction and Estimation – Labor Share

#### *AMECO Database*

AMECO is the annual macro-economic database of the European Commission’s Directorate General for Economic and Financial Affairs (DG ECFIN). AMECO contains data for EU-28, the euro area, EU Member States, candidate countries and other OECD countries (United States, Japan, Canada, Switzerland, Norway, Iceland, Mexico, Korea, Australia, and New Zealand).

Data for Member States and candidate countries are based on the ESA 2010 system for the last period and on ESA 95 and ESA 79 for the earlier years. Data for other OECD countries are based on the SNA 2008. Discontinuities of the levels of all series have been removed by applying the growth rates of the old series to the levels of the new series.

The main data source is Eurostat (the Statistical Office of the European Commission), complemented, where necessary, by other appropriate national and international sources.

Directorate General ECFIN produces, under its own responsibility, short term economic forecasts twice a year, in the spring and in the fall. These forecasts are included in AMECO. The version of the data used in our analysis was updated on May 3rd, 2018. It includes forecasts for years 2018 and 2019, as well as a preliminary estimate for 2017.

In our calculations for labor share, we use the variable “adjusted wage share” (series ALCD0) which is calculated as:

$$\frac{\frac{\text{compensation of employees}}{\text{number of employees}} \times \text{total employment}}{\text{gross domestic product at market prices}} \times 100$$

Notice that the adjustment is implicitly based on the assumption that the composition of self-employed is constant over time. Moreover, it assumes that self-employed’s share of labor income is the same as the compensation for employees, a similar assumption made by the BLS’s headline labor share.

In order to weight our least squares estimations, following Karabarbounis and Neiman (2014), we use the series of gross domestic product at current market prices in which values were converted to euros based on current market exchange rates (series UVGD). Finally, also following suggestion by Karabarbounis and Neiman (2014), we normalize our results in order to have the starting labor share in the graph represent the weighted average “global” labor share for the sample in that year.

Our estimates for total labor share include the following countries: Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

## ***UN Database***

The Economic Statistics Branch of the United Nations Statistics Division (UNSD) maintains and annually updates the National Accounts Official Country Data database. This work is carried out in accordance with the recommendation of the Statistical Commission. The database contains detailed official national accounts statistics in national currencies as provided by the National Statistical Offices.

The statistics for each country or area are presented according to the uniform table headings and classifications as recommended in the United Nations System of National Accounts 1993 (1993 SNA). Different series numbers (dimension “Series”) are used to store different time-series versions of national accounts statistics. Series numbers with two digits (10,20) refer to data compiled following the 1968 SNA national accounts methodology, while series numbers with three digits (100, 200, etc.) refer to data compiled using the 1993 SNA national accounts methodology, and series numbers with four digits (1000, 1100, etc.) refer to data compiled using the 2008 SNA national accounts methodology. In addition to different methodologies, different series numbers are used when data are reported in different currencies, fiscal years, or by different sources. Furthermore, data are stored under a new series number whenever there are significant changes in compilation practices which make the time series no longer comparable. Due to that, in our calculations we focus on series that follow the 2008 SNA national accounts methodology and are coded Series=1000. The drawback of using this restriction is that it limits us to the 1997-2015 period. However, most of the data pre-1997 for the countries of interest is not only calculated using 1993 SNA methodology but are also coded as different series. By inspecting the data for countries in which we had multiple observations for the same year that were calculated using different methodologies allowed us to conclude that the series are not comparable.

Moreover, for the industry classification 2008 SNA uses the international standard industrial classification revision 4 (ISIC Rev. 4).<sup>1</sup> We then classify an industry as part of the services sector following the classification of the statistics division of the European Commission. Consequently, we consider part of the service sector the following industries: public administration, defense, education, human

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<sup>1</sup>Differently 1993 SNA uses ISIC Rev. 3.

health and social work activities; wholesale and retail trade, transport, accommodation and food service activities; real estate activities; professional, scientific and technical activities; administrative and support service activities; financial and insurance activities; information and communication; arts, entertainment and recreation; other service activities.

We use this database to calculate the percentage of the gross value added that it is contributed by each sector (Manufacturing and Services) as well as the sectors' respective labor shares. For the first exercise, we use information from table 2.4 (following the 1993 SNA codes). The latter exercise uses information obtained in table 2.6. Finally, in order to obtain weights at current prices adjusted using market exchange rates, we use the information from the National Accounts Estimates of Main Aggregates which is maintained and updated by the Economic Statistics Branch of the United Nations Statistics Division.

Calculations for both percentage of GVA and labor share in all graphs using UN data follow the same methodology presented by Karabarbounis and Neiman (2014) described above.

### ***Penn World Table (PWT) and relative price of investment goods***

We follow the calculations presented by Karabarbounis and Neiman (2014) using the PWT9. In particular we divide the PWT relative price of investment ( $pl_i/pl_c$ ) of each country by the PWT relative price of investment in the United States. We then multiply this ratio by the ratio of the investment price deflator to the personal consumption expenditure deflator for the United States, obtained from the BEA. Moreover, we normalize the result, such that the first observation for each country is equal to one. Finally, we take logs and standardize results such that the value at 1980 is 0 .

### ***World Bank's World Development Indicators (WDI) and relative price of investment goods***

We follow the calculations presented by Karabarbounis and Neiman (2014) using the WDI. In particular, we divide the fixed investment deflator by the private consumption deflator, where the deflator are created as the GDP deflator, i.e. (Nominal/Real)\*100. Moreover, we normalize the result, such that the first observation for each country is equal to one. Finally, we take logs and standardize results such that the value at 1980 is 0.<sup>2</sup>

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<sup>2</sup>All specifications described by Karabarbounis and Neiman (2014).