Federal Planning Bureau
Economic analyses and forecats

NOTE

EU KLEMS: Sources of the February 2016 Release

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Abstract - Cette note présente les principales sources utilisées pour mettre à jour le volet belge de la base de données EU KLEMS.

Abstract - Deze nota presenteert de belangrijkste bronnen voor de update van de EU KLEMS databank voor België.

Abstract - This paper presents the main sources used to update the EU KLEMS database for Belgium.

Introduction

This paper gives an overview of the sources used to update the EU KLEMS database for Belgium. The database has been constructed according to the EU KLEMS methodology which is available on the project website (www.euklems.net).

1. Gross value added

1.1. Sources

Published data from the National Accounts (September 2015 release): period 1995-2014, A38 and A64 industry level, current prices and volume (chained Euros, Laspeyres index).

1.2. Comments

a. Gross value added at current basic prices (VA)

Nominal gross value added (1995-2014) is compatible with the National Accounts released in September 2015.

b. Gross value added, volume indices, 2005=100 (VA_QI)

Gross value added data in volume per A64 industry (highest level of detail) are aggregated using a Törnqvist index. Data per A64 industry are not available in 2014; estimations are thus based on A38 industry level data.

2. Compensation of employees

2.1. Sources

Published data from the National Accounts (September 2015 release): period 1995-2014, A38 industry level, at current prices.

3. Employment

3.1. Sources

- Number of employees (EMPE): Published data from the National Accounts (September 2015 release): period 1995-2014, A38 industry level ;
- Number of self-employed: Published data from the National Accounts (September 2015 release): period 1995-2014, A38 industry level.

4. Hours

4.1. Sources

– Hours worked by employees (H_EMPE): Published data from the National Accounts (September 2015 release): period 1995-2014, A38 industry level ;

– Hours worked by self-employed: Published data from the National Accounts (September 2015 release): period 1999-2014, A38 industry level.

5. Labour and Capital compensation

5.1. Sources

Published and unpublished data from the National Accounts (September 2015 release): gross value added, employee wages, other taxes and subsidies on production, households' mixed income, at current prices, period 1995-2014, A38 industry level.

5.2. Comment

To compute CAP and LAB, the mixed income of each industry is decomposed into capital and labour parts on the basis of the ratio D1/ (D1+EBE) of the industry. A constraint is however set by the requirement that, at the industry level, the return on capital (net operating surplus/net capital stock) of the household sector (S14) must not exceed the return on capital of the total economy (other than S14).

6. Labour composition

6.1. Sources

– Number of persons engaged by gender, age class, labour type [1] and educational attainment: unpublished data from the Federal Planning Bureau for the period 1999-2012 split in 38 Nace rev. 2 industries (A38) and compatible with national accounts in October 2013 ;

– Labour volumes (hours worked) by gender, age class, labour type and educational attainment: unpublished data from the Federal Planning Bureau for the period 1999-2012 split in 38 Nace rev. 2 industries (A38) and compatible with national accounts in October 2013 ;

– Labour volumes for employees by gender and age class: unpublished data from the Federal Planning Bureau for the period 1999-2014 split in 38 Nace rev. 2 industries (A38) and compatible with national accounts in September 2015 ;

[1] Distinguishing employees (blue and white collar workers and civil servants) and self employed

– Employee wage costs by gender, age class and educational attainment: unpublished data from the Federal Planning Bureau for the period 1999-2012 split in 38 Nace rev. 2 industries (A38) and compatible with national accounts in October 2013 ;

– Employee wage costs by gender and age class: unpublished data from the Federal Planning Bureau for the period 1999-2014 split in 38 Nace rev. 2 industries (A38) and compatible with national accounts in September 2015.

6.2. Comments

Starting point for the labour composition data are the national accounts totals by SUT industry of October 2013. Where possible, these industry totals have been detailed by gender and age class using administrative data sources. Thus, the number of persons engaged (both employees and self-employed), labour volumes and wage costs for employees have been detailed by gender and age class using Social Security data[2].

The remaining detail was generated using Survey data. Labour volumes for self-employed were detailed by gender and age class by combining the number of self-employed from above with estimates of their average hours worked using Labour Force Survey data for the period 1999-2012. The distribution of persons engaged as well as labour volumes by educational attainment was also estimated on the basis of the Labour Force Survey data.

Wage costs for employees were detailed by educational attainment level by combining the labour volumes above with skill premiums by education level. These skill premiums were estimated using an annual dataset from the Structure and Distribution of Wages Survey [3] for the period 2000-2010. This estimation was also used to generate skill premiums for the surrounding years 1999, 2011 and 2012.

Educational attainment separates low-skilled (primary and lower secondary) from medium skilled (higher secondary and higher short type) and high skilled (higher long type and university) workers.

For the industries Education (PP), Human Healthcare (QA), Residential Care and Social Work activities (QB), Arts, Entertainment and Recreation (RR) and a part of Other Services (SS), the Structure and Distribution of Wages Survey only has observations for the years 2006 and 2010. Despite this, skill premiums were estimated for the whole period 1999-2012. Here, any change in the skill premiums before 2006 is likely to be an extrapolation from what happened between 2006 and 2010.

Three industries are not covered in the Wages Survey. These are Agriculture, Forestry Fishing and (AA), Public administration and defence & compulsory social security (OO) and Households as employers (TT). For the industries AA and TT, which represent resp. 0.5% and 1.1% of labour volumes in 2010, skill premiums have been set to one, implying that higher education levels do not lead to higher wages. This is only acceptable given the high share of blue collar workers in these industries.

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[2] Including data from the National Social Security Office (NSSO), the National Social Security Office for Provinces and Local Authorities, and the National Institute for the Social Security of the Self-Employed (NISSE)

[3] The Wage Survey data first were connected with NSSO data by Statistics Belgium to obtain a comparable wage cost concept that includes gross wages and social security contributions for employers.

For the Public administration and defence & compulsory social security, which represents 13% of the labour volume in 2010, this is not an acceptable hypothesis. In this case, the skill premiums observed in Education (PP) have been applied, while making sure that the industry OO wage costs totals for each combination of gender and age class are respected.

Estimations of self-employed compensation by labour type are based on employees' hourly wages by labour type.

For 2013 and 2014, labour volume and wage costs for employees were detailed by gender and age class using administrative data sources. The distribution by educational attainment for employees and the distribution of labour volume and wage costs for self-employed were estimated on the basis of ratios detailed by category of labour for the year 2012 and published totals for 2013 and 2014.

7. Capital services

7.1. Sources

- Unpublished data from the National Accounts (September 2015 Release) on gross fixed capital formation (GFCF) by asset (AN) and by industry (A38), at constant prices (base year 2000) from 1853 to 2014;
- Unpublished data from the National Accounts (September 2015 Release) on gross fixed capital formation (GFCF) by asset (AN) and by industry (A38), at current prices from 1970 to 2014.

7.2. Comment

Contribution of ICT and non-ICT capital services to value added growth

Due to the EUKLEMS hypothesis setting the negative user costs to zero, the sum of the contribution of ICT and non-ICT capital services to value added growth (based on CAPIT and CAPNIT) can be different from the contribution of total capital (based on the "correct" CAP). The contribution of TFP to value added growth is estimated as residue with the contribution of total capital in the equation.