EU KLEMS Growth and Productivity Accounts March 2011 Update of the November 2009 release

Description of methodology and country notes

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Introduction

The March 2011 update of the EU KLEMS November 2009 (09I) release provides a more detailed industry breakdown of output and employment variables. This document describes the general methods and sources by country used to create this breakdown. The 09I release only provided data at the highest level of industry-detail at which growth accounts can be made, that is 32 industries. However, the March 2008 release provided data at the 72 industry level. This update serves to provide a breakdown of the 09I data to this original 72 industry level.

The original EU KLEMS database is constructed 'bottom up', that is data for higher industry levels, or parent industries, are always an aggregate of the underlying, or child industries. In this update we take values from the November 2009 release as given at the 32 industry level and use industry shares to calculate the values for the lower child industries to arrive at 72 industries. Since these shares all sum to one, the 'bottom up' structure of the EU KLEMS database is preserved. The only exception is the variable Labour Compensation (LAB).¹

The growth accounting variables are given at the 32 industry level and are identical to those in the 09I release.

Methodology

Nominal variables

The O9I 32 industry level aggregates are split up using industry shares that are based on the data from the March 2008 (08I) release. Since this release provides data for the period up to 2005, the shares need to be extended to include shares for 2006 and 2007, based on external data. For most countries OECD's Structural Analysis Database (STAN) is used as the external source. However, this database does not provide the full set of industries included at the 72 industry level. For lacking industries data from the EUROSTAT Structural Business Statistics (SBS) are used. In the list of country notes below, the sources for each country are given.

The industry shares from the external data need to be linked to the shares of the 08I release to avoid breaks in the series. Therefore the growth of the shares from the external data is applied to the

¹ Labour Compensation (LAB) is derived by adjusting the values for the Compensation of Employees (COMP) for the compensation of the Self-Employed. This is done at the lowest level of available industry detail, and higher level industries are calculated through nominal aggregation. Since the lowest level for the 09I release was the 32 industry level, the LAB variable is consistent at this level only.

shares from the 08I release from a link year onwards. The resulting shares are normalized to sum to 100%. The data in the 09I release was linked to the data from the 08I release at the 32 industry level. Therefore we take the same link year for the shares as was chosen in the 09I release for each country. This ensures that the data in this release is identical to the data in the 08I release up to the link year. The link year for each country is indicated in the country notes.

Extrapolating shares and normalizing them can yield consistency problems for the labour input variables. It is possible that applying these shares to the industry aggregates, results in level values where labour input by employees becomes larger than that of the total number of persons engaged. These inconsistencies are generally close to zero, but whenever they arise this is indicated in the country notes below. To minimize these inconsistencies, external shares were calculated for the variables Gross Output (GO) and Compensation of employees (COMP) only. The growth rates of these external shares were applied to all output and labour variables respectively.

Data in the output files denoted in grey are data for lower level industries for which no previous data was available in the O8I release. These data are always based on EUROSTAT SBS shares.

Deflators

In order to calculate volume indices at the lower industry levels price information is needed. The deflators at the 72 industry level from the 08I release are used up to the link year. After the link year the deflators for the lower industry levels are calculated by applying the growth rate of the parent industry. This ensures that, up to the link year, the volume indices are identical to those in the March 2008 release as well.

Country Notes

- 1. Austria
 - Link year: 2005 (no revisions)
 - Main external source: OECD Structural Analysis database (STAN)
 - Additional sources: EUROSTAT Structural Business Statistics (SBS)
 - Minor Labour inconsistency in industries 65 and 66 for 2006 and 2007.

2. Belgium

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- For Belgium Capital compensation is supplied by FPB, therefore the EU KLEMS identity that capital and labour compensation sum to value added does not hold. For Belgium CAP is not split to the 72 industry level.
- Minor Labour inconsistency in industries 66 and 745t8 for 2005 to 2007.
- 3. Bulgaria (pending)
- 4. Cyprus (pending)
- 5. Czech Republic
 - Link year: 2004, revisions for 2005
 - Main external source: OECD Structural Analysis database (STAN)

Additional sources: EUROSTAT Structural Business Statistics (SBS)

6. Denmark

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

7. Spain

- Link year: 2005 (no revisions)
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

8. Estonia

- Link year: 2002, revisions for 2003-2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

9. Finland

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

10. France

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- STAN shares in industry O deviate substantially from EU KLEMS

11. United Kingdom

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

12. Germany

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- Minor Labour inconsistency in industries 65 and 66 for 2004 to 2007.
- Negative value added in industry 10.

13. Greece

- Link year: 2005 (no revisions)
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

14. Hungary

- Link year: 2005 (no revisions)
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

15. Ireland

- Link year: 2002, revisions for 2003-2005
- Main external source: OECD Structural Analysis database (STAN)
- STAN VA shares were used instead of GO, due to data availability

16. Italy

- Link year: 2003, revisions for 2004-2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

17. Lithuania

- Link year: 2003, revisions for 2004-2005
- No STAN data available, all shares stem from EUROSTAT, 60 industries and SBS data.

18. Luxembourg

- Link year: 2002, revisions for 2003-2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

19. Malta (pending)

20. Latvia

- Link year: 2005 (no revisions)
- No STAN data available, all shares stem from EUROSTAT, 60 industries and SBS data.
- Labour inconsistencies for industries 21 to 28

21. Netherlands

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

22. Poland

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- Total VA is has slightly changed due to an aggregation error in LtQ. The same holds for II and LAB.

23. Portugal

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- Data up to 2006

24. Slovak Republic

- Link year: 2004, revisions for 2005
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)

25. Slovenia

- Link year: 2005 (no revisions)
- Main external source: OECD Structural Analysis database (STAN)

- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- Data up to 2006

26. Sweden

- Link year: 2005 (no revisions)
- Main external source: OECD Structural Analysis database (STAN)
- Additional sources: EUROSTAT Structural Business Statistics (SBS)
- 27. Romania (pending)
- 28. United States (pending)