

Planned changes to the MEI “Hourly earnings” subject table

For the May 2005 edition of Main Economic Indicators (MEI), the OECD plans to entirely revise the subject table in Part One entitled “Hourly earnings (manufacturing)”, with the implementation of the following major improvements:

- » Changing the target series to seasonally adjusted average hourly total earnings in manufacturing paid per employed person;
- » All country series as well as area totals (Euro area, OECD-Total, Major seven, OECD-Europe and EU15) will be seasonally adjusted;
- » As with the Consumer price indices and the Producer price indices, area totals will be annually chain-linked Laspeyres indices;
- » Weights used to compile area totals will no longer be derived from civilian employment in manufacturing but from compensation of employees in industry excluding construction;
- » Weights will be recalculated every year instead of every 5 years for the purpose of chain-linking;
- » The length of area totals series (except for Major seven) will be increased;
- » New countries will be added: Mexico and Portugal;
- » Japan will now be taken into account in the compilation of area totals. Previously, its non-seasonally adjusted monthly earnings in manufacturing were extremely volatile and were consequently excluded from the compilation of area totals;
- » The series used for Australia will be the average weekly earnings of full-time adult employees in manufacturing.

These planned changes are the outcomes of detailed reviews of each country series and the area totals. External users are invited to provide feedback on these changes prior to their implementation by contacting richard.mckenzie@oecd.org.

Whilst there are still some departures from the ideal target series across countries, the new table will maximise the international comparability of the series within the constraints of national data availability.

A more detailed description of the changes described above is provided below on seasonal adjustment, the earnings series used to build the new table and the compilation of area totals by annual chain-linking and re-weighting. In addition, the impact of these changes on historical area total series for OECD, Major seven and EU 15 is shown. Enclosed at the end of this article is the new table as it would appear if it were published in this edition of MEI. Finally, there is also a brief outline of plans for future work on expanding data availability in the MEI for labour compensation statistics.

Seasonal adjustment

As the earnings series for most countries show strong seasonality, publishing seasonally adjusted series ensures better international comparability and enables area totals to be compiled with the inclusion of Japan.

Canada, Japan, the United States, Turkey and the United Kingdom provide seasonally adjusted earnings series. The OECD will seasonally adjust the earnings series of Mexico, Australia, Korea, New Zealand, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain and Sweden. Earnings series for manufacturing are currently unavailable for Greece, Iceland and Switzerland.

Review of series availability by country

The criteria used to select earnings series when the target series is not available for a country is to select the closest series to the target. For example, where hourly earnings series are not available, a series could refer to weekly or monthly earnings. In this case, a series for full-time or full-time equivalent employees is preferred to an all employees series to minimise the impact that compositional changes in the proportion of full-time to part-time employees may have on the comparability of average earnings series across countries. Also, for some countries, wage rate series may need to be used if earnings series are not available or series coverage may be for total industry excluding construction instead of manufacturing where this is not available. MEI also pays particular attention to the length of the series for each country, to obtain long time series to support historical analyses and the compilation of area totals.

As a result of this review, two new countries will be added to the table: Mexico and Portugal. Portugal provides an index of hourly earnings in manufacturing from January 2000 which is already published in Part Two. For Mexico, the OECD will multiply the currently published (in Part Two) real monthly earnings in manufacturing series with the Consumer price index - All items to obtain a nominal monthly earnings series. In addition the series for Australia which currently refers to non-seasonally adjusted average weekly earnings of employees - all activities will be replaced with a seasonally adjusted (by the OECD) average weekly earnings of full-time adult employees in manufacturing series as this is better aligned with the target series.

More information on the target series for hourly earnings and the deviations from this ideal across OECD countries is given in the Explanatory notes at the back of the MEI publication.

Compilation of area totals

» Chain-linking

When time series are nominal (i.e. affected by inflation), such as earnings series, the optimal methodology is to use annual chain-linking to derive area totals. This involves updating countries' weights each year and weighting together countries' growth rates for the series in question to derive the area total indexes. This process is used to compile area totals in the MEI for Consumer price indices and Producer price indices, and addresses two major problems of the *fixed weight at base year* approach currently used to compile hourly earnings for area totals, namely:

- If some countries have substantially higher inflation over their time series compared to others the fixed weight at base year index will display an exponentially upward bias from the latest weighting update and base year (i.e. 2000) and an exponentially downward bias before the latest base year (i.e. 2000);
- Currently weights are revised every 5 years and this does not account for structural differences experienced by countries between these periods (e.g. relative increases or decreases in the size of the manufacturing sector across countries). Updating weights annually and chain linking correctly accounts for structural changes as they occur.

Therefore, like Consumer price indices and Producer price indices, area totals for Hourly earnings in manufacturing will be annually chain-linked Laspeyres indices. The weights for each individual link will be based on the previous year's data for compensation of employees and relevant purchasing power parity (PPP). Weights for the latest year, i.e. 2003, will be presented in the new table (see table on page viii) and are obtained from National Accounts data based on the 1993 System of National Accounts (SNA 93).

» Choice of weighting variable

Weights will be derived from PPP-adjusted compensation of employees in USD for industry excluding construction. Ideally, the weight of a country for an earnings series should be proportional to the relative (i.e. PPP-adjusted) total earnings of all manufacturing employees between countries, just as the weights used for countries in the Consumer price

indices area totals are based on PPP-adjusted household final consumption expenditure (HFCE). Therefore an ideal series for weighting hourly earnings area totals would be PPP-adjusted total gross wages and salaries in manufacturing, rather than civilian employment in manufacturing which is currently used. However, more data are available for National Accounts aggregates such as GDP, HFCE, compensation of employees etc. than for detailed aggregates such as gross wages and salaries in manufacturing. After assessing the availability of data and the number of data points needing to be imputed, it was decided to use PPP-adjusted compensation of employees in USD for industry excluding construction. Compensation of employees is PPP-adjusted in order to eliminate the differences in price levels between countries that affect the purchasing power of earnings.

This new methodology to compile weights will result in the following significant changes:

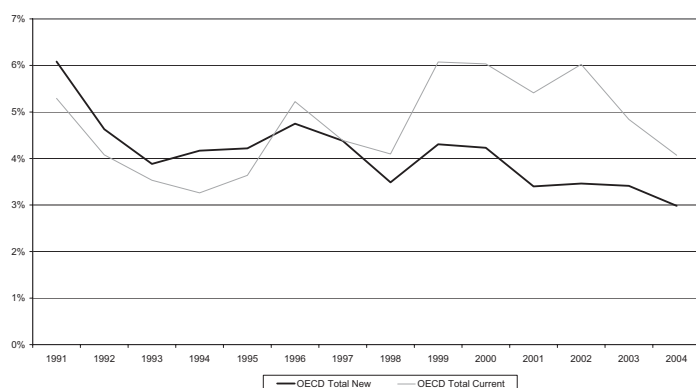
- Japan will have a weight of 12.8% instead of being excluded from the calculation of area totals;
- The weights for Korea, Turkey and Poland will significantly decrease from 7% to 3.5%, 5.4% to 1% and 4.3% to 1.6% respectively.

The reduction of the weights for these latter three countries reflects the fact that whilst employment in manufacturing may be high relative to other OECD countries the level of average earnings are relatively much lower - hence the lower weight when using total compensation of employees. The table at the end of this article gives the weight of each country under this new methodology which can be compared to the weights currently published in the hourly earnings subject table.

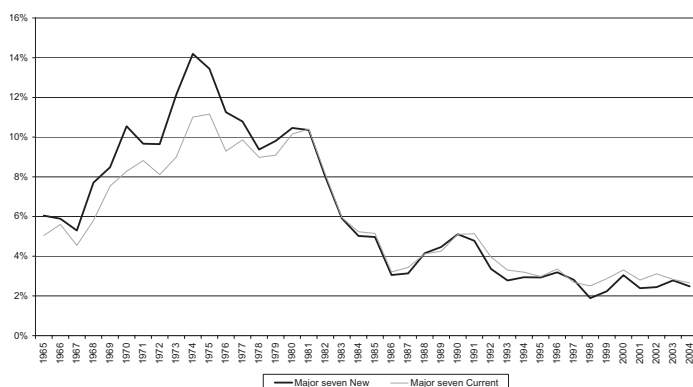
Difference between old and proposed new series for area totals

To analyze the impact of annual chain-linking and re-weighting, one can compare the annual growth rates of the currently published non-seasonally adjusted area totals with those of the new seasonally adjusted area totals. The graphs on page vii show the difference of annual growth rates for OECD-Total, Major seven and EU 15. Several impacts affect the comparability of these graphs, most notably the inclusion of Japan, Mexico and Portugal and the use of a different weighting variable. However, one can observe a tendency for the current series to have lower annual growth rates compared to the new series the further back in time one goes, but to have higher annual growth rates from the current OECD base year (i.e. 2000) onwards. These impacts reflect the bias as explained above of the current series relative to the methodologically superior annually chain-linked Laspeyres indices planned for the new series.

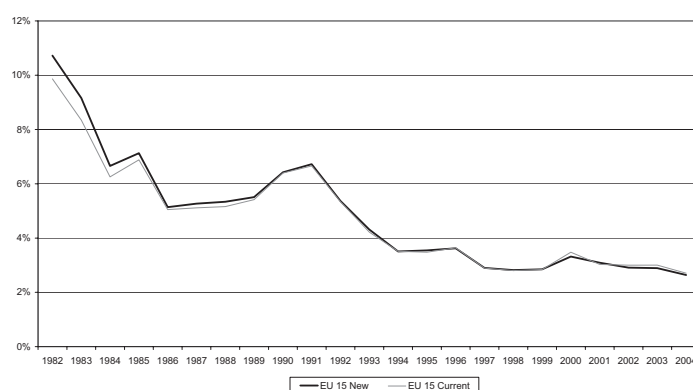
Annual growth rates for hourly earnings in manufacturing - OECD Total



Annual growth rates for hourly earnings in manufacturing - Major seven countries



Annual growth rates for hourly earnings in manufacturing - E15 countries



Time series length for area totals

The length of time series available for the seasonally adjusted area totals will change as follows, with respect to the former non-seasonally adjusted area totals:

- » Euro area - First quarter 1971 (previously first quarter 1981);
- » OECD Total - January 1989 (previously January 1990);
- » Major seven - January 1964 (previously January 1963);
- » OECD Europe - First quarter 1989 (previously first quarter 1990);
- » EU 15 - First quarter 1972 (previously first quarter 1981).

Series for OECD-Europe less high inflation countries and OECD-Total less high inflation countries currently provided in the MEI database will be suspended pending a review of the methodology used to construct the historical time series.

The decision as to the starting point for each new area total series is based on the existence of time series for a minimum number of the relevant countries (not less than 75% by weight). If the starting date for a countries' data is posterior to the starting date of the relevant area total, these countries are linked to the others and integrated in the compilation of area totals when their series commences. The area totals referring to Europe (i.e. Euro area, OECD-Europe and EU 15) will still be quarterly time series as three major European countries (Germany, France and Spain) only provide quarterly earnings series.

The new table, on the following page, will have the same format as the table currently published in Part One of MEI but it will incorporate the changes mentioned above. This will result in a significant increase in the quality, coverage, comparability and length of historical time series for area totals. The enclosed table contains the new figures and weights as they would have appeared if they had been published in this edition of MEI.

Future work and related issues

In the near future, MEI intends to provide additional time series on earnings for total private sector (or the broadest sector available in cases where data covering total private sector are unavailable) in the MEI database. MEI will also consider adding additional series such as labour cost indices, measures of labour compensation for the services sector and unit labour costs by broad industry groups. MEI will review the methodology used to compile historical data for OECD-Total less high inflation countries and OECD-Europe less high inflation countries for the Hourly earnings, Consumer price index, Producer price index and Monetary aggregates subject tables with a view to introducing a consistent methodology across these subjects.

Proposed new table for HOURLY EARNINGS (manufacturing)

	Weight in 2003	2002	2003	2004	2004Q1	2004Q2	2004Q3	2004Q4	2004M7	2004M8	2004M9	2004M10	2004M11	2004M12	2005M01	2005M02
		2000 = 100, sa - 2000 = 100 cvs														
Canada	3.3%	104.4	107.7	110.6	109.3	110.5	111	111.8	111.2	110.8	111	110.8	111.8	112.7		
Mexico - Mexique	1.8%	121.4	128.7	134.8	131.8	133.9	135.6	136.7	135.3	135	136.5	136.7	137.2	136.1		
United States - États-Unis	33.7%	106.8	109.9	112.8	111.6	112.4	113.3	113.8	112.9	113.3	113.8	113.6	113.8	114.1	114.3	114.5
Australia - Australie	1.3%	111.6	120.3	125.3	124.3	124.5	126.3	126								
Japan - Japon	12.8%	98.7	101.2	102.9	102.9	103.7	102.3	103.4	101.7	101.5	103.8	103	105.5	101.8		
Korea - Corée	3.5%	119.1	129.5	142.5	136.3	137.2	143.6	150.2	144.7	139.2	147	142.3	146	162.3		
New Zealand - Nouvelle-Zélande	0.2%	106.9	110	113	111.9	112.9	113	114.1								
Austria - Autriche	0.9%	105.6	108		109	110.3	110.9		110.7	110.6	111.2	111.3	111.3			
Belgium - Belgique	1.1%	105.4	107.4	109.8	109	109.4	110	110.8								
Czech Republic - République tchèque	0.8%	113.6	120.4	129	126.4	127.3	130.1	130.7	130	130.1	130.3	131.4	131.4	129.4		
Denmark - Danemark	0.5%	108.5	113	116.5	115.4	116.1	117	117.6								
Finland - Finlande	0.6%	108.8	113.5	117.3	115.8	116.9	117.8	118.7								
France	5.7%	108.1	111		112.8	113.6	114.6									
Germany - Allemagne	11.2%	103.2	105.7	107.9	107.3	108	107.6	108.5								
Hungary - Hongrie	0.6%	129.3	140.9	155	151	153.2	155.7	158.4	155.6	155.4	156.1	159.2	159.4	156.5		
Ireland - Irlande	0.3%	115.1	120.8		123.9	125.5	126.9									
Italy - Italie	5.3%	104.7	107.4	110.5	109.5	110.5	110.6	111.5	110.6	110.5	110.7	110.9	111.3	112.3		
Luxembourg	0.1%	107	108.8	110.8	109.5	112.3	110.4	110.1	110.6	111	109.5	108.1	113.1	109.1		
Netherlands - Pays-Bas	1.4%	107.7	110.3	112.4	111.6	112.4	112.6	113.1	112.4	112.6	112.8	113	113.1	113.2	113	
Norway - Norvège	0.5%	110	115.2	120	118.3	119.4	120.8	121.3								
Poland - Pologne	1.6%	109.7	113	118.2	117.4	117.8	118.5	119	118.1	119.2	118.3	117.3	118.9	120.8	119.2	
Portugal	0.7%	105	102.8	103.6	104.2	103.9	103.3	103.1	103.4	102.8	103.7	103.1	105.3	100.9	105.6	
Slovak Republic - République slovaque	0.3%	118	126.9	139.6	133.8	137.3	142.2	142.6	140.7	141.9	143.9	143.3	143.1	141.2	152	
Spain - Espagne	3.4%	109.3	114.7	119.3	118.5	117.4	118.7	122.3								
Sweden - Suède	1.0%	106.5	109.6	112.5	111.1	111.9	113.2	113.9	113.3	113	113.4	114.6	113.6	113.4		
Turkey - Turquie	1.0%	179.2	209.9		225.8	231.7	238		234.2	239.2	240.4					
United Kingdom - Royaume-Uni	6.4%	108	111.9	116	115.4	115.5	115.9	117	115.9	115.8	116.1	116.6	116.6	117.8		
OECD-Total - OCDE-Total	100.0%	107	110.6	114	112.9	113.6	114.2	115.3	114	114	114.8	114.8	115.4	115.6		
Major Seven - Sept grands	78.4%	104.9	107.8	110.5	109.6	110.4	110.6	111.4	110.3	110.4	111.1	111.1	111.7	111.4		
OECD-Europe - OCDE-Europe	43.3%	108.3	112	115.6	114.6	115.3	115.8	116.9								
EU15 - UE15	38.5%	106.1	109.2	112.1	111.3	111.8	112.2	113.2								
Euro area - Zone euro	30.6%	105.6	108.5	111.3	110.4	111	111.3	112.4								