

SPECIAL FEATURE

Broadening the Definition of the Average Worker

Introduction

Presently the tax calculations in *Taxing Wages* are based on the average earnings of manual employees working full-time in the manufacturing sector (average production worker; APW). However, the number of people employed as manual workers in the manufacturing sector as a share of total employment has been decreasing steadily over time in most OECD countries. As a result of this it might be questioned whether average earnings of a manual production worker is still a sufficiently representative measure of average earnings of a “typical taxpayer”. This question was addressed in a special feature in the 1994 publication, *The Tax/Benefit Position of Production Workers – Annual Report 1990-1993*, and the results from that special feature indicated that the present definition did not provide the best basis for comparable results across countries.

On the other hand, changing the definition of the average worker is not without problems as a change would undermine the consistency of the historical time series. In addition, member countries must also be able to provide earnings figures based on a broader definition of industry sectors in order for the results to be comparable across countries. For these reasons, *Taxing Wages* has continued to be based on average earnings of a production worker.

However, starting from the next edition of *Taxing Wages* (*Taxing Wages 2004-2005*), the tax calculations will be made on the basis of a broadened definition of the average worker. This special feature explains the reasons for this move, and it also includes tax calculations for 2003 using the present and a broadened definition of the average worker in as an illustration of the potential consequences of the move.

About the present definition of the average worker

Taxing Wages relies on an average production worker (APW) earnings concept that measures, in principle, the average annual pre-tax earnings of an “average production worker”. The “average production worker” covers adult full-time employees (i.e. on establishment payrolls) directly engaged in a production activity in the manufacturing sector.¹ The definition includes manual (non-supervisory) workers and minor shop-floor supervisory workers. The definition excludes non-manual (supervisory) workers,² part-time workers, and all workers outside the manufacturing sector.

The earnings measure is gross wage earnings paid to average production workers, measured before deductions of any kind (e.g. withholding tax, income tax, private or social security contributions and union dues). The earnings measure should also include overtime pay and other cash supplements paid to employees. Such cash supplements include holiday pay, vacation pay, recurring (periodic) cash bonuses (e.g. Christmas bonuses and 13th/14th month bonuses) and other cash payments by the employers. Sick-leave pay³ and unemployment pay, either paid directly by firms on behalf of the government, or as part of a private insurance scheme, are excluded. Non-cash remuneration such as fringe benefits⁴ and remuneration under profit-sharing schemes which take the form of dividend distributions should also be excluded.

Most member countries report earnings figures based on manual workers in the manufacturing sector. However, some countries have reported that they are unable to distinguish between manual and non-manual workers while some countries have reported that the present coverage is either broader than or somewhat more limited than the entire manufacturing sector.⁵

When the original (*Tax/Benefit Position of Production Workers*) framework was introduced, it was considered that the basic unit should represent a “typical taxpayer”; that the corresponding earnings figures could be expected to be comparable from country to country; and that the requisite data would be available in all member countries.⁶ Reference to the average wage and salary earnings level of production workers in the manufacturing sector was taken to address these requirements.⁷

The special feature in the 1994 publication, *The Tax/Benefit Position of Production Workers – Annual Report 1990-1993*, considered to what extent the average gross earnings level of the “average production worker” could be said to be representative. This was done by analysing the relative employment size and average hourly earnings of the manufacturing sector in six countries (Canada, Denmark, Iceland, Sweden, the United Kingdom and the United States). A common pattern that emerged from the study was a steady reduction in employment in the manufacturing sector, as a percentage of total wages and salary employment, over the 15 year period reviewed up to 1990-91. The share was reduced by roughly 5-6 percentage points in Canada, Denmark, Iceland and the United States and by over 11 percentage points in the United Kingdom. By 1990, manufacturing accounted for just over 21 per cent of wage and salary employment in the United Kingdom, roughly 17-18 per cent of total employment activity in Canada, Iceland and the United States (with the figures in each case including all workers (manual and non-manual) in the manufacturing sector).

Although most employees were found to be outside the manufacturing sector, the earnings of an “average production worker” could potentially still be representative for a country if average earnings did not vary much between sectors. However, the analysis showed some significant variation. And the relationship between the overall industry earnings average, and the APW earnings figure, was found to be different in certain countries – in the United States and Canada the overall industry figure was found to be lower, while in the United Kingdom and Iceland, the overall industry figure was found to be higher.⁸

Thus, the use of an earnings measure for an “average production worker” was questioned in the special feature, given the relatively small and declining share of the manufacturing sector, and the finding that the APW wage differed from the overall average for the sampled countries. In other words, the evidence cast doubt on whether an APW

wage could be taken to be representative or “typical”. Also, with the APW wage above the overall industry average wage in some countries, and below it in others, it was not clear that the APW wage provides the best basis for comparable results across countries.

Despite these shortcomings, no change in the APW definition was sought at the time, as it was recognised that a change would undermine consistency of the historical time series. It was also the case that the coverage of national earnings surveys in many countries had not developed to a point that would enable reliable average earnings measures for a much broadened industry group, and it was not clear whether a move to a more general index would make a significant difference in tax rate results.

The move to base the definition of the average worker on a broadened industry coverage

Since the special feature mentioned above was published, the share of the manufacturing sector in total employment has decreased steadily in almost all OECD member countries. The unweighted average of this share, as reported in Table A in *The Tax/Benefit Position of Production Workers – Annual Report 1990-1993* for the then 25 OECD member countries, was just below 24 per cent in 1992. This rate dropped to 19.8 per cent for the shares reported in *Taxing Wages 2002-2003* for the same 25 countries (mostly for 2001). The reported share was reduced, in some cases significantly, during this period in 21 of the 25 member countries.⁹

As a result of this, average earnings of manual workers employed in the manufacturing sector is probably becoming increasingly less representative or “typical” over time. In addition, most member countries are now in a position where they are either already able to or will soon become able to report earnings figures based on a broadened industry coverage.

For this reason it has been decided that average earnings should be calculated on the basis of employees working in a broadened set of industries, starting with the next edition of *Taxing Wages (Taxing Wages 2004-2005)*. Moving to a new definition for the average worker will of course involve a break in the time series for the base earnings measure, and for the corresponding *Taxing Wages* tax rate results. As illustrated in the next section, this move may potentially have a significant effect on the level of average earnings used in the tax calculations for some countries as well as on the reported tax rates. However, even if the change should impact significantly on tax rate results for one or more countries, it is difficult to argue that this calls for remaining with the existing definition of the average production worker – as a large difference between results would suggest that results derived from earnings figures based on the manufacturing sector alone cannot be taken as typical or representative of the economy.

More specifically, it has been decided that the industry group should be broadened to include industries falling under categories C to K inclusive, with reference to the International Standard Industrial Classification of All Economic Activities, Revision 3 (ISIC Rev. 3)¹⁰ as specified in Table I.4. It has also been decided to include both manual workers and non-manual workers.

The decision to broaden industry coverage to C-K has taken account of the fact that all EU and EEA members are required to report NACE Sections C-K for the purpose of the 2004 Structure of Earnings Survey (SES), which affect 21 of the OECD members. Most of the other OECD member countries have also reported that they already are or will soon be able to

Table I.4. **International Standard Industrial Classification of all Economic Activities, Revision 3 (ISIC Rev. 3)**

A	Agriculture, hunting and forestry
B	Fishing
C	Mining and quarrying
D	Manufacturing
E	Electricity, gas and water supply
F	Construction
G	Wholesale and retail trade; repair of motor vehicles, motorcycles, personal and household goods
H	Hotels and restaurants
I	Transport, storage and communications
J	Financial intermediation
K	Real estate, renting and business activities
L	Public administration and defence; compulsory social security
M	Education
N	Health and social work
O	Other community, social and personal service activities
P	Activities of private households as employers/production activities of private households
Q	Extra-territorial organisations and bodies

report earnings figures according to this broadened definition. The reason for not broadening the industry coverage for the average worker even further, *e.g.* also including industries in the M-O range and possibly L, is that many member countries are presently not in a position to provide earnings figures based on such a definition. Therefore, on balance, a proposal to move from industry D to industry group C-K has been judged to offer the best alternative.

As a result of the decision to broaden the industry coverage for the average worker, it has also been decided to abolish the distinction between manual and non-manual workers. The main reason is that this distinction is not relevant in some of the new industry sectors that are now included in the base for calculating average earnings. In addition, the distinction has become less relevant also in the manufacturing sector over time, and some member countries are therefore not even able to report separate figures for manual and non-manual workers within the present definition.

Illustrations of the effects of a broadened industry coverage for the average worker

This section illustrates the potential consequences that the changes in the definition of the average worker might have on average and marginal tax wedges for four of the model family types in *Taxing Wages*, by comparing tax rates for 2003 for an average production worker (APW) with those calculated when using the broadened definition for the average worker (AW).

The earnings level based on the new definition of the average worker might differ from that of an average production worker partly due to the inclusion of both manual and non-manual workers and partly due to the broadening of the industry coverage from covering only manufacturing (ISIC D) to include industries falling under ISIC Categories C to K inclusive (see Table I.4). Table I.5 illustrates these two effects by first comparing the earnings figures presently used in *Taxing Wages* with earnings figures from Eurostat for 17 of the European countries when using NACE D, then by comparing NACE D with NACE C-K and finally by comparing earnings figures from *Taxing Wages* with NACE C-K. A similar comparison of what is reported in *Taxing Wages* and the new definition is done for an

Table I.5. **Potential effects on earnings levels of a broadened definition of the average worker¹**

	Percentage change		
	Average earnings in Sector D compared to average earnings in <i>Taxing Wages</i>	Average earnings in Sector C-K compared to average earnings in Sector D	Average earnings in Sector C-K compared to average earnings in <i>Taxing Wages</i>
Australia ²	0.0	-0.3	-0.3
Austria ²	-	-	30.9
Belgium	12.0	-2.6	9.1
Canada ²	-	-	-4.2
Czech Republic ^{2, 3}	-13.2	5.9	-8.0
Denmark ^{2, 4}	0.0	0.6	0.6
Finland	6.8	-2.3	4.4
France	25.9	0.8	26.9
Germany	20.2	-1.5	18.4
Greece	36.2	3.7	41.1
Hungary	25.1	4.6	30.9
Iceland	18.4	2.9	21.8
Italy ^{2, 3}	-4.3	1.7	-2.6
Luxembourg	20.8	1.8	23.0
Mexico ^{2, 3}	54.0	-25.7	14.4
Netherlands	8.7	2.5	11.5
New Zealand ²	-	-	-8.2
Norway	4.3	7.4	12.0
Poland	-3.5	11.5	7.6
Portugal	33.7	24.2	66.1
Slovak Republic	31.3	6.8	40.3
Spain	19.1	-4.9	13.3
Sweden	15.1	3.7	19.3
Switzerland	13.2	-0.4	12.8
United Kingdom ²	26.4	4.2	31.7

1. For 17 of the European countries, these are the average differences over the years that are covered in earnings figures received from Eurostat in May 2004. As the purpose of this table is to illustrate the *potential* effects of introducing a broadened definition of the average worker, the comparisons have not been updated to take account of the most recent earnings figures published by Eurostat.
2. Comparison based on figures reported from the country.
3. The data sources used for generating earnings based on a broadened definition of the average worker are different from the ones previously used to generate earnings figures for *Taxing Wages*. In the case of Italy, the reduction of 4.3 per cent is the net effect of moving to a broader coverage of enterprises (reduces the earnings level) and the inclusion of non-manual workers (increases the earnings level).
4. There is a difference between figures reported from Denmark on the broadened definition of the average worker and those reported by Eurostat in May 2004, which is probably due to differences in how the earnings data are aggregated. A comparison of earnings figures in *Taxing Wages* and Eurostat data would indicate that a broadened definition would lead to an increase in the earnings level of 6.5 per cent.

Source: *Taxing Wages*, Eurostat and country responses.

additional 7 countries (Australia, Canada, Czech Republic, Denmark, Italy, New Zealand and Mexico) based on information provided by the countries themselves. Where Eurostat figures have been used in the analysis, the results are dependent upon them. Given that the Eurostat figures are being compared with earnings data provided by member countries, the reader should be advised that if different approaches are being used to derive these earnings figures, the estimated impact of the change may be affected. The actual impact of the change in the definition of the average worker will depend upon the average earnings that are derived by each country for this worker and its relation to the value that would have been derived under the prior definition at that time.

When comparing earnings levels presently used in *Taxing Wages* with those based on the broadened definition, the results reported in the third column of Table I.5 indicate that the effects on the earnings level will probably vary considerably among member countries. While the change has almost no impact on the reported earnings levels for Australia and Denmark, the average increase is 66.1 per cent in Portugal. Other countries with large increases are Austria (30.9), France (26.9), Germany (18.4), Greece (41.1), Hungary (30.9), Iceland (21.8), Luxembourg (23.0), Slovak Republic (40.3), Sweden (19.3) and the United Kingdom (31.7). For Canada and New Zealand a move to a broadened definition imply a reported reduction in average earnings of 4.2 and 8.2 per cent respectively. The average earnings are also reduced for Czech Republic and Italy, but for these two countries the reductions are in part caused by a change in the data source used for the calculation of average earnings and not only the move to a broadened definition of the average worker. The isolated effects of moving from Sector D to Sector C-K is an increase in the earnings level in both of these countries. The differences are quite stable over time in some countries, while it varies over time in others.

According to the second column in Table I.5 the impact of the broadening of the industry coverage from D to C-K is much smaller than the overall change. In fact, the broadening of the industry coverage from Sector D to C-K leads to a reduction of the reported earnings level in 7 countries (9 if Canada and New Zealand are included). When comparing the earnings figures for the average production worker reported for the purpose of *Taxing Wages* and the earnings figures for Sector D in Table I.5, there are two possible reasons for these differences. The first reason is that the earnings figures for Sector D include both manual and non-manual production workers, whereas *Taxing Wages* figures, at least in principle, should only include manual production workers. Germany, Hungary, Iceland, Sweden and the United Kingdom have indicated that the inclusion of non-manual production workers is probably the main reason for the difference. The other possible reason is that there is a change of the data sources used for reporting earnings figures. Czech Republic, Italy and Mexico have reported that the earnings figures for the average worker based on a broadened definition is different from the one previously used to report earnings figures in *Taxing Wages*, while Denmark has reported figures for a broadened definition that does not correspond with the figures used by Eurostat. As mentioned above, this might also be a problem for some of the other countries in Table I.5, which one should bear in mind when interpreting the changes reported in Table I.5.

Table I.6 illustrates the potential impact on the average and marginal tax wedges for 2003 of using the broadened definition of the average worker instead of the APW definition for four of the model family types reported in *Taxing Wages*. Table I.7 shows the effects when assuming that a broadened definition increases average earnings by 10 per cent in all member countries.

Table I.7 shows that marginal tax rates are not affected in at least 17 of the member countries for all four family types if the earnings levels are increased by 10 per cent.¹¹ Average tax wedges are changed by 1 percentage point or less in about two thirds of the member countries for the 3 single individuals, but in more than two thirds of the member countries for a one-earner married couple with two children.¹² France and Ireland were the only countries where the average tax wedge increased by more than 2 percentage points for single individuals, and this was only at 67 per cent of APW earnings. The effects are larger for one-earner families with two children, where the tax wedges increased by at least 2 percentage points in 15 member countries. Although a somewhat similar pattern emerges from Table I.6, a somewhat higher share of countries experience a change in the average tax wedge of more than 1 percentage point and a lower share experience no

Table I.6. **Illustrations of the potential impact of a broadened definition of the average worker on average and marginal tax wedges¹**

Percentage point change in tax rates

	Single person at 67% of APW		Single person at 100% of APW		Single person at 167% of APW		One-earner married couple with two children		Earnings level
	Average wedge	Marginal wedge	Average wedge	Marginal wedge	Average wedge	Marginal wedge	Average wedge	Marginal wedge	Percentage change
Australia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
Austria	3.3	-1.2	2.3	-0.6	0.5	-21.3	6.0	-0.6	30.9
Belgium	1.7	-4.2	1.0	0.0	0.8	0.0	2.2	3.0	9.1
Canada	-0.3	0.0	-0.4	3.0	-0.3	-4.9	-1.5	2.5	-4.2
Czech Republic	-0.3	0.0	-0.4	0.0	-0.5	0.0	-2.5	0.0	-8.0
Denmark	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6
Finland	0.5	0.0	0.5	0.0	0.4	0.0	0.8	0.0	4.4
France	10.6	10.2	1.4	3.9	1.3	4.1	1.1	0.0	26.9
Germany	2.2	2.0	2.3	3.0	0.4	-16.2	4.1	5.6	18.4
Greece	0.0	0.0	3.2	19.7	4.1	0.0	3.6	19.7	41.1
Hungary	3.3	0.0	4.4	21.0	1.8	-13.5	8.0	21.0	30.9
Iceland	3.0	0.0	2.0	0.0	1.2	0.0	6.5	0.0	21.8
Italy	-0.3	0.0	-0.3	0.0	-0.4	-7.0	-0.6	-0.9	-2.6
Luxembourg	2.0	3.2	3.0	6.3	2.7	0.0	2.7	0.0	23.0
Mexico	0.7	3.6	1.6	0.0	1.6	2.0	1.6	0.0	14.4
Netherlands	1.7	0.0	1.6	0.0	1.2	0.0	2.7	0.0	11.5
New Zealand	-0.2	0.0	-0.9	-12.0	-1.2	0.0	-3.6	-12.0	-8.2
Norway	1.0	0.0	0.7	12.0	1.3	0.0	1.7	0.0	12.0
Poland	0.3	0.0	0.2	0.0	0.3	7.4	0.3	0.0	7.6
Portugal	3.8	9.7	5.5	8.1	5.5	8.1	5.9	1.6	66.1
Slovak Republic	0.8	0.0	2.3	0.0	2.8	5.1	5.4	6.3	40.3
Spain	1.9	0.0	0.9	0.0	0.5	-20.4	1.7	6.5	13.3
Sweden	0.9	0.0	0.4	-2.3	2.1	3.8	1.5	-2.3	19.3
Switzerland	0.6	3.1	0.9	0.1	1.1	2.6	1.6	1.2	12.8
United Kingdom	3.6	0.0	2.4	0.0	2.6	16.0	9.2	-32.8	31.7

1. The tax wedge is the sum of personal income tax, employee and employer social security contributions and payroll taxes less cash benefits as a percentage of labour costs.

Source: Taxing Wages calculations.

change in the marginal tax wedge. This is to be expected, as the average change in the earnings level for the 25 countries covered in Table I.6 is about 18 per cent.

While a majority of member countries according to these calculations will experience rather small changes in the tax wedges due to a broadening of the definition of the average worker, at least unless the change in the earnings level is substantial, the effects are significant in some countries. The largest absolute changes are, as would be expected, in the marginal tax wedges, as a change in the earnings level might move the taxpayer into a new income bracket in tax system, exceed the ceiling for social security contributions or reduce eligible tax credits and cash benefits. *E.g.*, the main reason why the increase in the marginal wedge for France at 67 per cent of average earnings is lower in Table I.6 than in Table I.7, even if the increase in the earnings level is much higher in Table I.6, is that the larger increase in earnings lift this individual out of the phasing-out range of the *prime pour l'emploi*. However, the marginal wedge still increases due to the reduction programme for employer social security contributions. The fall in the wedge for a one-earner family in the United Kingdom in Table I.6 is due to the fact that the family no longer faces the effects of the withdrawal of the child tax credit. Similarly, the reduction in the marginal tax wedge

Table I.7. Illustrations of the impact of a 10 per cent increase in the earnings measure on average and marginal tax wedges¹

Percentage point change in tax rates

	Single person at 67% of APW		Single person at 100% of APW		Single person at 167% of APW		One-earner married couple with two children	
	Average wedge	Marginal wedge	Average wedge	Marginal wedge	Average wedge	Marginal wedge	Average wedge	Marginal wedge
Australia	1.0	0.0	1.5	11.3	1.3	0.0	2.6	11.3
Austria	1.3	-1.4	1.0	-0.8	1.0	0.0	2.4	-0.8
Belgium	1.9	-4.2	1.1	0.0	0.9	0.0	2.4	3.0
Canada	0.7	4.5	0.1	-6.5	0.8	3.9	1.7	-19.1
Czech Republic	0.3	0.0	0.4	0.0	0.5	0.0	2.6	0.0
Denmark	0.6	5.5	1.4	13.6	1.1	0.0	2.1	13.6
Finland	1.1	0.0	1.0	0.0	0.9	0.0	1.6	0.0
France	3.6	17.5	0.4	3.9	0.4	4.1	0.4	0.0
Germany	1.3	1.1	1.3	1.6	0.8	-16.2	2.4	0.9
Greece	0.0	0.0	0.8	9.8	1.3	0.0	0.8	9.8
Hungary	1.3	0.0	0.9	0.0	0.8	-13.5	2.2	0.0
Iceland	1.5	0.0	1.0	0.0	0.6	0.0	3.3	0.0
Ireland	4.7	3.2	1.2	19.9	1.4	-0.1	2.4	0.0
Italy	1.0	0.0	1.1	0.0	0.9	-7.2	3.1	0.0
Japan	0.2	0.0	0.4	0.0	0.6	-8.6	0.5	0.0
Korea	0.3	1.6	1.1	0.0	0.4	-6.4	0.8	10.1
Luxembourg	0.9	1.6	1.3	3.2	1.3	0.0	1.3	0.0
Mexico	0.4	0.0	0.8	0.0	1.1	0.0	0.8	0.0
Netherlands	1.5	0.0	1.4	0.0	1.0	0.0	2.4	0.0
New Zealand	0.2	0.0	1.2	0.0	1.2	0.0	2.1	-30.0
Norway	0.9	0.0	0.6	0.0	1.1	0.0	1.4	0.0
Poland	0.4	0.0	0.2	0.0	0.2	7.4	3.7	0.0
Portugal	0.7	0.0	0.7	8.1	0.8	0.0	1.3	0.0
Slovak Republic	0.3	0.0	0.7	0.0	0.9	5.1	1.0	0.0
Spain	1.5	0.0	0.7	0.0	0.6	0.0	1.3	6.5
Sweden	0.5	0.0	0.3	-2.3	1.0	3.8	0.9	-2.3
Switzerland	0.5	1.4	0.7	0.6	0.8	2.6	1.3	0.8
Turkey	0.3	0.0	0.2	0.0	0.3	0.0	0.2	0.0
United Kingdom	1.4	0.0	0.9	0.0	0.4	16.0	5.2	0.0
United States	0.6	0.0	0.6	9.3	0.8	0.0	2.0	-14.9
OECD-average ²	1.0	1.0	0.8	2.4	0.8	-0.3	1.9	-0.4

1. The tax wedge is the sum of personal income tax, employee and employer social security contributions and payroll taxes less cash benefits as a percentage of labour costs.

2. Unweighted average.

Source: Taxing Wages calculations.

for a one-earner family in New Zealand in Table I.7 is due to income-tested benefits that no longer apply at the higher income level, while it is the withdrawal of the earned income tax credit that explains the fall in the United States. The reduced marginal rate at 167 per cent of average earnings in Austria, Germany and Spain in Table I.6 (and Table I.7 for Germany) are due to a reduction of social security contributions, whereas in Hungary the individual is moved outside the phasing-out range of a tax credit. When the marginal tax rates increase, it is generally as a result of being moved into a higher income bracket, for example Australia, Denmark, Greece, Ireland, Portugal and the United States at average earnings and the United Kingdom at 167 per cent of average earnings in Table I.7, as well as the increase at average earnings for Norway in Table I.6. The reductions in the marginal

rates observed in Table I.6 for New Zealand for at 100 per cent of average earnings and for one-earner families are due to a move to a lower income bracket. The increased marginal rates for Hungary at average earnings and for one-earner families in Table I.6 are partly due to a move to a higher income bracket and partly due to the phasing out of a tax credit.

To sum up, the explanations of the changes in marginal tax rates vary between countries and between income levels, as they depend on the number and level of income brackets, the level of ceilings for social security contributions and the income range and phasing-out rules for tax credits and cash benefits. It is therefore not possible to provide a general description of the consequences of a change in the definition of the average worker for tax rates.

The average tax wedge increases in all member countries as a result of an increase in the earnings level (and the opposite when they fall), as would be expected since all member countries have a progressive income tax system. For most family types in most countries the changes in the average tax wedges in Table I.7 are rather small, but they are somewhat higher for single persons at 67 per cent of average earnings and for one-income earner couples with two children than for the other two family types. It is also for these two family types where the largest absolute changes are observed.¹³

This section illustrates that the move to a broadened industry coverage, and in particular the move to include both manual and non-manual workers, may have a significant effect on the earnings level used in the tax calculations in *Taxing Wages* for some countries. While it may also have a significant effect on tax wedges, and in particular marginal tax wedges, in some countries, the effects will probably be rather small in a majority of member countries.

Conclusions

Starting from the next edition of *Taxing Wages* (*Taxing Wages 2004-2005*), the tax calculations will be made on the basis of a broadened definition of the average worker. Presently average earnings are calculated for manual employees working full-time in the manufacturing sector (average production worker), while the new definition will include both manual and non-manual workers covering industry Sectors C-K (ISIC). Although implying a break in the time series for the base earnings measure and the corresponding *Taxing Wages* tax rate results, this move is considered as desirable since average earnings of manual workers employed in the manufacturing sector has become increasingly less representative or “typical” over time.

The potential effects of a broadening of the industry coverage are illustrated, partly by assuming a 10 per cent increase in average earnings and partly by comparing average earnings used in *Taxing Wages* with average earnings based on a broadened definition of the average worker using earnings figures from Eurostat for some countries and earnings figures provided by member countries for others. The latter comparison indicates that the move to a broadened definition, and in particular the move to include both manual and non-manual workers, may have a significant effect on the earnings levels used in the tax calculations in *Taxing Wages* for some countries. Tax rates for 2003 are calculated for four of the Model Family Types in *Taxing Wages* based on a broadened definition, and these are compared to tax rates for 2003 based on the present definition. These calculations show that while a broadened definition of the average worker may have a significant effect on tax wedges, and in particular marginal tax wedges, in some countries, the effects will probably be rather small in a majority of OECD countries.

Notes

1. "Manufacturing" is defined in *Taxing Wages* as Division D of the *International Standard Industrial Classification of All Economic Activities*, ISIC Rev. 3, United Nations, New York 1989 ("manufacturing" is also defined as Industry D in the NACE Rev. 1 industrial classification). The APW measure is to cover the country as a whole.
2. Outside the exception for minor shop-floor supervisory workers, the APW definition excludes employees primarily employed to direct, supervise or plan the work of others.
3. However, where employers pay sick-pay to the employees (e.g. for the first month), this is included in the earnings figures for most OECD countries.
4. Fringe benefits include employers' contributions to private pensions, family allowance, health or life insurance schemes, as well as housing, clothing, food and other goods or services provided by the employer freely or at below market price.
5. There are also other aspects of the earnings definition that not all countries are able to follow, e.g. separating out part-time employees, excluding fringe benefits and including overtime pay. However, this will not be discussed further in this special feature.
6. See *The 1978 Tax/Benefit Position of a Typical Worker in OECD member Countries*, providing a comparison of average tax rates in OECD countries, for single persons, and a married couple with two children, earning 100 per cent of the average production worker wage.
7. The average earnings of an average production worker could be taken as representative for comparative purposes across countries if it occupied a similar position in the income distribution in each OECD country. Presumably, this assumption, together with the data availability assumption, underlay the decision to focus on manufacturing wages (this wage could also be taken as typical of "production" activities).
8. In the United States, average hourly earnings in the manufacturing sector were \$11.76 in 1993, compared with \$10.83 for all sectors. In Canada, manufacturing average hourly earnings were \$15.57 in 1992, while \$14.01 for all sectors. In Sweden in 1992, average hourly earnings in the agriculture, mining, construction and trade sectors, were 91 per cent, 118 per cent, 113 per cent and 90 per cent of average earnings in the manufacturing sector. Variation across industry in average hourly earnings was also found for the United Kingdom: £7.45 for the manufacturing sector, versus £7.84 overall in 1993.
9. The reported share increased somewhat in two member countries (Canada and Turkey), while it remained unchanged in another two countries (Finland and Italy).
10. Not all national statistical agencies use ISIC Rev. 3 to classify industries. However, both the Statistical Classification of Economic Activities in the European Community (NACE Rev. 1), the North American Industry Classification System (US NAICS 2002) and the Australian and New Zealand Standard Industrial Classification (ANZSIC 1993) include a classification which broadly conform with Industries C-K in ISIC Rev. 3.
11. For single persons at 67% of APW, the marginal tax wedge is unaffected in 20 countries. For the three other family types in Table I.7 the same applies for 17 of the countries.
12. For single persons at 67% of APW, the average tax wedge changes by 1 percentage point or less in 19 countries. For the three other family types in Table I.7 the same applies for 20 (single 100%), 22 (single 167%) and 8 (one-earner couple) of the countries.
13. The average wedge increases by about 5 percentage points in Ireland for single persons at 67% of APW, and by the same amount in United Kingdom for one-income earner couples with two children.

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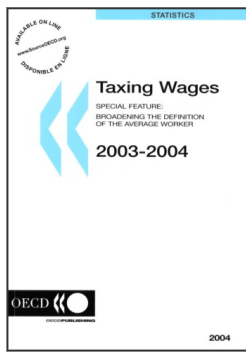
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