

Chapter 1

Indicators of collectively agreed wages in the euro zone: a quality report

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1. Introduction

Given the great importance of collective bargaining for wage-setting in Europe, it is all the more astonishing that, even today, there is no official Europe-wide database or statistics on collectively agreed wages. The only exception is the *indicator of negotiated wages*, which is calculated by the European Central Bank (ECB) as an aggregate figure for the whole euro zone (ECB 2002). Because the ECB does not publish the underlying national data, the ECB indicator of negotiated wages contains only a rough calculation at a highly aggregated level, with no information that would make possible a European comparative analysis. The indicator is considered by the ECB itself to comprise ‘experimental data’: that is, statistics that are not yet fully developed in terms of coverage, rely on somewhat different source data, are not based on euro area-wide harmonised definitions or rely heavily on estimation techniques using substantial assumptions. There is also an annual report on pay developments in Europe published by the European Industrial Relations Observatory (EIRO) of the European Foundation for the Improvement of Living and Working Conditions, which includes data on collectively agreed wages (for the latest issue see Cabrita and Fric 2012).

In response to the problems posed by the financial and economic crisis, the European Union has meanwhile put forward a new series of policies better known as *European economic governance*. As emphasised in the Euro Plus Pact, wages and collective bargaining systems are seen as one of the main instruments for the European coordination of economic policy. Recommendations on wages can be traced in the EU 2020 recommendations of the ongoing European monitoring of national reform programmes and in the in-depth country reports of the macroeconomic imbalances procedure. Although there is still heated discussion of the

status and content of these recommendations – especially at the European trade union side – such a policy turn necessitates reviewing and improving the available comparative information for European policy-makers and social-partner organisations. Therefore, a quality review and assessment of comparative statistics on collective agreed wages seems urgently needed.

The ECB's quarterly indicator of negotiated wage rates in the euro zone is based on non-harmonised data from 10 countries. However, the figures from Slovenia and France are based on national indicators of actual wage increases. The present chapter compares the design and quality of the available indicators of collectively-agreed wages for the other eight countries: Austria, Belgium, Finland, Germany, Italy, Netherlands, Portugal and Spain. These countries, which belong to the euro zone, have a clearly available indicator. Our comparison also digs out the available data for France. The indicators play a dominant role in the recent annual EIRO reports on collectively agreed pay (Cabrita and Fric 2012).

The quality concept applied in this chapter is in conformity with the definition developed by the European Statistical System (Eurostat 2009). The following quality dimensions are distinguished in this approach: relevance, accuracy, timeliness and punctuality, accessibility and clarity. Each of the quality components will be explained briefly at the start of the relevant section. Our main sources are individual quality reports, delivered by national experts during the spring and summer of 2012.¹ In drafting these quality reports, the experts contacted between two and five statistics stakeholders (trade unions, ministries of labour or statistical offices).

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2. Designs and methodology

National indicators of collectively-agreed wages can be divided in two types. On one hand, they can be related to pay levels, on the other hand to pay increases.

However, the first type of indicator is, in the countries of study, not available or limited to a database, and not summarised in an aggregated statistical index. Only Italy and Portugal are exceptions to this (see Table 1).

As a result, we shall focus on the available indicators of pay increases.

Table 1 National indicators or databases of collectively-agreed pay levels

| | Indicator (or database) | Comment |
|----|--------------------------------------|--|
| BE | (Juridisk) | Only (legal) database; privately-owned; access fee |
| DE | (WSI Tarifarchiv) | Only database; privately owned; accessible |
| ES | (REGCON database) | Only database; Ministry of Employment and Social Security |
| FR | Not available | Database of sectoral agreements reported to the Ministry; ad hoc studies; DARES and DGT of the Ministry of Labour, Employment and Health; no access; DGT publishes an extensive annual report on collective bargaining |
| IT | Nominal wage amount figures | ISTAT; published on quarterly and annual basis; annual national collectively agreed wage levels by accrual and cash value |
| NL | Not available | FNV trade union confederation and AWWN employers' organisations maintain database. The former is accessible via AIAS/ University of Amsterdam |
| AT | (KV-System) | Only legal database; privately owned; access fee |
| PT | (Database of collective regulations) | Database of collective agreements and in 2011 for the first time section in annual report on average collectively agreed wage level; DGERT Ministry of Economy and Labour |
| FI | Not available | Ministry of Justice maintains a database (FINLEX) that also contains collective agreements (that have been legally extended) |

Source: CAWIE national reports.

2.1 Basic definition

Table 2 National indexes of collectively-agreed pay increases, euro zone

| | Publisher | Name |
|----|--|--|
| BE | Federal Ministry of Employment, Labour and Social dialogue | Index of the collectively agreed wages (Indexcijfer van de conventionele lonen/indice des salaires conventionnels) |
| DE | Federal Statistical Office (Destatis) | Index of agreed earnings (Index der Tarifverdienste) |
| ES | Ministry of Employment and Social Security (MEYSS) | Statistics on collectively-agreed wages (Estadística de Convenios Colectivos de Trabajo, ECCT) |
| FR | Ministry of Labour, Employment and Health (DARES-DGT) | Average annual change of collectively agreed wages (Evolutions annuelles du salaire conventionnel) |
| IT | Italian statistical office ISTAT | Index numbers of the collectively agreed wages (Indici delle retribuzioni contrattuali) |
| NL | Statistics Netherlands (CSB) | Collective Labour Agreement Wage Indexes (CAO-lonen indexcijfers) |
| AT | Statistics Austria | Index of collectively agreed minimum wages (Tariflohnindex) |
| PT | Ministry of Labour (DGERT) | Annualised weighted average variation between wage tables (Variação salarial nominal média ponderada intetabelas anualizada, VMPI) |
| FI | Statistics Finland | Index of negotiated wages and salaries |

Note: It is important to note that Germany also has other indicators. The WSI collective agreement archive publishes collectively agreed pay increases and annual increases in collectively agreed basic pay. The German Central Bank also produces an index on collectively agreed pay. For further information see Germany's national CAWIE report (Bispinck and Schulten 2012).

Source: National reports CAWIE project.

Indexes of collectively-agreed wages measure the proportionate, or percentage, changes in a set of prices over time, wages being the price of labour. A price index is typically assigned a value of unity, or 100, in some reference period and the values of the index for other periods of time are intended to indicate the average proportionate – or percentage – change in prices relative to this base. However, the index is limited to changes in employee compensation agreed in a collective way, namely in a collective agreement. The ILO Right to Organize and Collective Bargaining Convention (No. 98), 1949 describes collective bargaining as ‘Voluntary negotiation between employers or employers’ organisations and workers’ organisations, with a view to the regulation of terms and conditions

of employment by collective agreements'. Collective bargaining may take place at the national, sectoral or company level. In no European country is it found exclusively at one level. However, in most euro-zone member states strong trade unions and employers' organisations have resulted in many agreements being concluded at the national or sectoral level, supplemented by some company-level bargaining.

The existing indexes of collectively agreed pay increases focus on the average nominal (basic) pay increase as set by collective agreements for full-time workers. Two basic questions determine the content of the indicator:

- (i) What set of agreed pay increases or collective prices of labour is covered by the index?
- (ii) How are the price movements averaged?

Coverage and weighting, in other words, are key features of this kind of index (see below). But first we shall look at the national origins and uses of indicators.

2.2 Origins and uses

Five of the nine indicators are developed and published by the official national statistical agencies (Austria, Finland, Germany, Italy and the Netherlands). The four others are maintained by the ministry of labour.

The Dutch CSB publishes (since 1926) the 'indexcijfers van regeling-slonen' (index of regulated wages). Statistics Finland and the Italian ISTAT started to calculate their indexes in 1938. Others commenced in the 1950s (for example, Belgium) and the 1960s (for example, Austria). Spain and Portugal introduced their indexes in the 1980s. The French Ministry of Labour developed its database only recently. The German statistical office expanded and modernised the calculated index markedly in 2010. It has data going back to 1995.

The principal use of the indexes of earnings is to serve as background material for the social partners in the process of collective bargaining. It provides information on past earnings, facilitating the search for a common understanding of past and future earnings trends. However, the CAWIE national reports mention that wage-bargaining targets more

often depend on actual parameters, such as profits, productivity, and inflation.

The original use of indexes, however, was related to the income-policy perspective. First, the indicators were used to monitor whether the price of labour – or rather, labour income – was following the (‘other’) consumer price index. Second, they have served as a reference point to increase certain social benefits. The Finnish index, for example, plays a role in the calculation of pension rights. Comparable examples are also found in other countries. Wage replacement payments for *Altersteilzeit* – a scheme partially to compensate eligible employees who reduce their working time as they approach retirement age – in Austria are increased according to increases in the *Tariflohnindex*. In Belgium the index is used, for example, in specific accommodation contracts to determine the rent increase.

In recent times the macroeconomic perspective has become increasingly relevant. The index has always been used in a number of countries in economic forecasts because it is a timely measure of wage developments. It is published frequently (monthly and quarterly). Other wage data are available only with some time lag. It is this characteristic in particular that the ECB also finds attractive. This timeliness makes the data very useful for monitoring and forecasting wage developments within the framework of the broader macroeconomic forecasting that the ECB needs in order to meet its (inflation-related) monetary-policy obligations.

This macroeconomic perspective has increased in importance due to the current European focus on competitiveness and the limiting new framework of euro monetary unification for national policies. In this perspective, wage ‘moderation’ is considered an important policy instrument, which has brought increased attention to bear on wage-setting systems and collective bargaining (the Euro Plus Pact is a recent instance of this).

A specific example of redirected attention is Belgium’s introduction of a wage norm. The Belgian state tries to balance the automatic indexing of wages and sectoral bargaining with a strict law on monitoring and intervention in the wage-setting system. The 1989 law on the competitiveness of the economy (1989-01-06/31) authorises government intervention if average overall wage increases result – based on past performance – in an upsurge in relative labour costs and a deteriorating external

performance on the part of private sector companies. The 1989 law was extended in 1996 (1996-07-26/32) to enable the government to monitor the wage bargaining process even more closely. The most important changes with regard to the 1989 law were a shift from an assessment of labour costs based on past performance to one that predicted future performance, and the number of countries used as a benchmark was reduced to three. The forecast weighted rises in foreign hourly labour costs (a weighted average for France, Germany and the Netherlands) now act as an upper limit (termed the ‘wage norm’) for wage negotiations at all levels (macro, sectoral and company). The lower limit remains the automatic price index.

In sum, first users are ministries, employers’ organisations, trade unions, the political sphere, the academic community and macroeconomic institutions. Secondary users are employers and private users (compare the use in the price escalator clauses of contracts). Countries such as Germany, France, Spain and Portugal also publish basic information concerning the indexes – namely the agreed pay increases of individual collective agreements – as a service to employers and employees. They do this electronically and/or in a journal. Belgium has comparable plans for the near future.

2.3 Method of calculation

Choice of index numbers

Two basic approaches can be discerned in the current indexes.

(i) Main approach: Laspeyres price index

A majority of the indicators can be defined as Laspeyres indexes. This applies to Austria, Belgium, Germany, Finland, Italy and the Netherlands.

The purpose of these indexes is to compare the aggregate values of collectively-agreed wages in two time periods. These values include a price and a quantitative element. A change in wage costs can be attributed to an increase of the wage (price element), but also to a change in how many workers receive this wage (quantity element). The constructed indexes are intended to measure the price component, just like the consumer price index measures the price component of the change in household consumption expenditure. Measuring or focusing on the price element means that indexes are constructed to capture the change in average

collectively-agreed pay, holding quantities constant. This set of quantities can be described as the ‘basket’ of collectively-agreed wages that is compared.

The period whose quantities are used in the index can be described as the weight reference period. In most of the studied indexes period zero, or the reference period, is also used as the weight reference period. As such, the constructed indexes belong to the group of so-called Laspeyres indexes. This might be formulated as follows:

$$P_L = \frac{\sum p_i^t q_i^0}{\sum p_i^0 q_i^0}$$

The values indicate a relative change but not absolute values (that is, one price index value can be compared to another or a base, but the number alone has no meaning). An index picks a base year for which its value is set to 100.

Table 3 Base reference period used in 2012 for calculating Laspeyres indexes

| | Publisher | Name |
|-------------|-----------|--|
| Belgium | 1997 | Base period irregularly revised (future plan every 10 years) |
| Germany | 2005 | Weight reference period = 2006; revision after 5 years |
| Italy | 2005 | Revision after 5 years |
| Netherlands | 2000 | Revision after 10 years |
| Austria | 2005 | Weight reference period = 2006; revision every 10 years |
| Finland | 2005 | Revision after 5 years, starting in 2010 |

Source: CAWIE national reports.

As can be seen from the definition, if one already has pay and quantity data for the base period, then calculating the Laspeyres index for a new period requires only new data on the pay increase. Therefore, calculating the Laspeyres index for a new period tends to require less time and effort.

The Finnish index has a slightly different approach. The index of negotiated wages and salaries measures the effect of collectively-agreed pay rises on the average regular pay rises. The index is, as such, calculated as a chained index using the same weight structure as in the (actual) wage and salary index. The effects of negotiated pay rises are estimated in relation to the earnings level as at the previous year-end.

(ii) Alternative, simplified approach

The Spanish and Portuguese indicators are constructed in a different way. The two countries' ministries of labour publish monthly overviews of the wages laid down in newly signed collective agreements. By way of synthesis they calculate an average of these agreed wages. In Spain this is done in a cumulative way, resulting in an average agreed wage increase for all reported collective agreements that year. Once a collective agreement is signed, each of the bargaining or peer committees (at sectoral, provincial or company level) must fill in a statistical sheet to be attached to the agreement when recorded at the Collective Agreement Registry. In the sheet the bargainers have to indicate the agreed wage increase as a percentage and the employees covered. This information is used to obtain the average increases. The French approach, still being developed, currently focuses mainly on calculating average annual collectively-agreed pay increases by branch. An average is calculated for the whole economy.

Coverage

Wage definition

Key to the calculation is of course what kinds of pay element are included in the index. In most countries index calculations take into account a broad definition of earnings (see Table 4).

As such, the definitions can be situated between the two concepts used internationally in wage statistics on pay (ILO 1973):

- (i) The concept of *wage rates* is related to basic prices of a unit of labour, before adding any bonuses for overtime, shift work or family allowance, and before deducting contributions for social security and advanced tax payments. Wage rates can be expressed in units of time, such as an hour, a week, a month or as piece rates. It is the narrowest of all pay concepts and applies to workers in paid employment only.
- (ii) The concept of *earnings* typically relates to the pay that employers directly give to their employees on a regular basis during a specified

Table 4 Wage definitions of national indicators of collectively-agreed pay increases

| | Wage definition |
|----|---|
| BE | Base wage; does not include bonuses such as premiums, year-end bonuses and holiday allowances; factors included are wage increases due to automatic indexation, collectively agreed and working time revisions for workers with an hourly pay base. Seniority increments are not included, but are taken into account in the weighting procedure of averaging. |
| DE | Agreed earnings; not included are individual bonuses and premiums, one-off payments, flat rate payments and remuneration in excess of agreed earnings. |
| FR | Level of and increases in the minimum wage, which forms the content of sectoral collective agreements in the French wage bargaining system. This minimum wage can be a 'hierarchical' wage (<i>salaire hiérarchique</i>) or 'guaranteed' wage (<i>salaire garanti</i>). The former are hourly or monthly wages which are close to the minimum wage, including basic pay, production or individual performance bonuses and benefits in kind. Guaranteed wages are monthly or annual wages whose definition is broader than the previous one and includes certain benefits, such as a seniority premium or bonuses related to working conditions. |
| ES | The wage increase considered is the increase in the base salary (without bonuses). Nevertheless many collective agreements refer to increases in total salary. |
| IT | Basic pay; seniority allowances; shift work allowances; all bonuses specified in national agreements and payable to all workers (but not one-off payments), as well as those paid periodically (for example, thirteenth-month payment as end-of-the-year premium). |
| NL | Collectively agreed wages, including specific remuneration: gross wages for regular working hours of full-time employees; all binding prescribed, regularly prescribed paid benefits; all binding prescribed, special (non-monthly) benefits, such as holiday allowances or end-of-year payments. Excluded are allowances only for specific worker groups or individuals, such as age allowances, shift allowances, or strictly individual pay increases. |
| AT | Included in the wage are all regular payments that are conditional on the job the person holds. Not included are payments that are conditional on personal circumstances of a particular person, such as special payments for parents, payments for special occasions, jubilee premia and so on. The wage also does not include wages paid in kind, due to the difficulty of attaching a monetary value to them. In most collective agreements wages are usually fixed in monetary terms while admissible deductions for in-kind rewards, such as food or housing, are fixed in the contract. |
| PT | Basic rates as defined in the wage tables annexed to the collective agreements. |
| FI | Increases in gross average earnings for regular working hours in sectoral collective agreements. The earnings concept includes one-off payments based on the relevant collective agreements. Compensation for overtime, holiday pay and other such items are not included. |

Source: CAWIE national reports.

reference period. It includes basic pay for time worked or work done, as well as for time not worked, such as holidays and sickness. In addition, it includes other payments granted by the employer for various reasons, such as: overtime work, unsocial hours or schedules, difficult work, regular bonuses and fringe benefits, such as family allowances. On the other hand, it excludes all irregular bonuses, even if provided by the employer. Earnings are, like time rates, recorded gross of social security contributions or tax deductions.

The latter concept refers also to the gross earnings statistics published by Eurostat, referring to EU 1738/2005 of 21 October 2005. Gross earnings in this definition cover remuneration in cash paid directly by the employer, before tax deductions and social security contributions payable by wage earners and retained by the employer. All bonuses, regardless of whether they are regularly paid (such as thirteenth or fourteenth month pay, holiday bonuses, profit-sharing, allowances for leave not taken, occasional commissions and so on) are included.

The definitions used by Belgium, Portugal and Spain are more confined to the wage rate definition. The other definitions are closer to the concept of gross earnings, although all exclude some pay elements that are included in the actual gross earnings statistics. Overtime pay is always excluded.

Collective agreements included

The pay increases taken into consideration in Austria, Belgium, Finland, France and Italy are limited to sectoral or branch agreements. This bargaining level is dominant in these countries; nevertheless lower-level collective agreements are not included. Portugal and Spain report on the average pay increases of all agreements that are mandatorily registered at the Ministry of Labour. The Netherlands and Germany work with a sample of collective agreements of different levels to obtain representative coverage. Belgium has plans to include the company agreements of large companies in sectors in which the sectoral level is not dominant.

Sectoral/occupational scope

The scope of the index in Austria, Finland, Germany, Italy, the Netherlands and Spain is the whole economy. However, domestic help or the private households sector is explicitly not included in Italy and Germany. The Spanish ECCT provides information on all private sector workers (agriculture, industry and services) who are covered by collective

bargaining, as well as public sector workers covered by such bargaining (public administration, defence, social security, education, health care and so on). The scope of the Portuguese, French and Belgian indicators is more limited. They do not include public administration (civil servants). The Belgian index currently excludes also the collective agreements of large (semi-)privatised public enterprises (post, telecommunications and public transport). The French data exclude agriculture and parts of entertainment in their indicator for the private sector.

In most countries the indexes are also available as a national aggregate and presented in terms of a sectoral classification. NACE classification is common practice. In Austria, Germany, Italy and Spain the information is available in terms of NACE-2-digit, while in Belgium, Finland, the Netherlands and Portugal it is available at the level of letter codes (1-digit). Specific classifications based on industrial relations practice are, furthermore, used in Austria, Belgium, Finland and the Netherlands. In France these branches are the only sectoral classification used. A total of 278 industries are divided into three overall sectors: metal, construction and general.

Occupational classifications also play a role in the manner of calculation. In Belgium the index is calculated separately for blue-collar and white-collar workers, which are still recognised as a separate employment status in labour law. The French indicator deals with blue-collar workers (*ouvriers*), white-collar workers (*employés*), intermediary professions (*professions intermédiaires*) and higher professional and managerial staff (*cadres*). Finland and the Netherlands distinguish between hourly-paid and monthly-paid employees (which is to a large extent also the main division between the blue-collar and white-collar segments in Belgium).

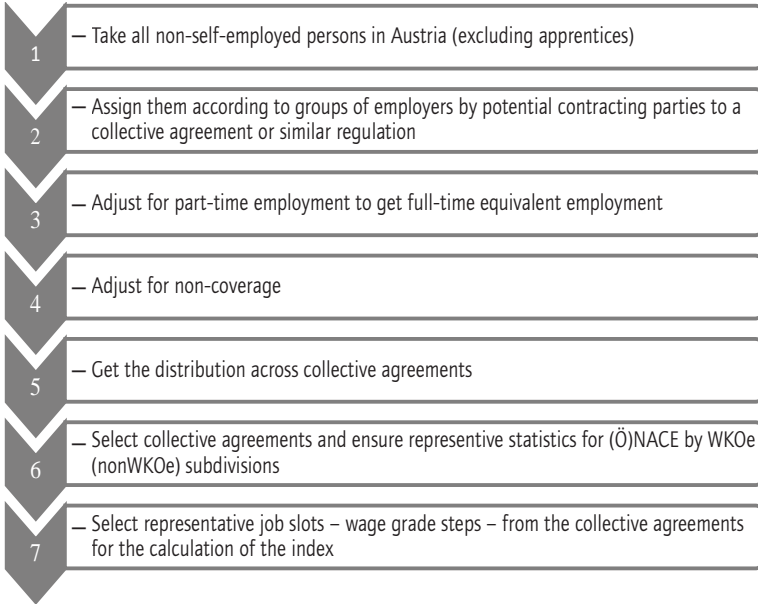
Sampling and weighting

The second important methodological question of the constructed indices of collectively-agreed wages is related to averaging – the quantity dimension of a price index. For the countries producing a Laspeyres index, this procedure concerns the base year (see Table 3). Figure 1 summarises the approach taken for the Austrian Laspeyres index.

Population or sampling

It is important in this regard to note that Austria, Belgium, Portugal and Spain use the whole population of registered collective agreements. In

Figure 1 Weighting procedure of the Austrian *Tariflohnindex*



Source: CAWIE national report Austria.

Belgium and Portugal, however, this population is restricted to sectoral collective agreements (see above).

Others use samples of collective agreements. Statistics Austria includes, for each of the differentiated sectors – NACE and section of the Chamber of Commerce and Trade (WKOE) – the most important collective agreements until at least 75 per cent of the wage earners covered by a branch-level agreement are included. The Italian ISTAT uses as selection criterion the fact that the pay increases of the leading national agreement are taken into account for each sector. As a result, the calculated index is based on a sample of 76 leading agreements. For the private sector this sample covers 85 per cent of employees. Statistics Finland monitors 216 base series to construct 70 industry-specific indices. In Germany the statistics cover at least 75 per cent of people covered by collective agreements in any sector or branch that is included in the index, for both old and new *Länder*. A total of 600 collective agreements are included. The

Dutch CSB samples 250 of the approximately 900 collective agreements, including all agreements covering at least 2 500 employees. The French database monitors all industries with more than 5 000 employees, totaling 278 and covering 66 per cent of the French private sector.

Determination of the average wage: weighting within collective agreements

A first step in calculating the average is to determine the average pay increase in collective agreements. In the majority of cases, this is not difficult, namely when the increase is set as a percentage increase for everybody covered by the collective agreement.

The difficulties start when increases are set not in relative but absolute amounts. A 5-euro increase in the monthly wage has a bigger proportional impact on lower wages than on higher wages. One complication occurs when a wage increase is granted only to certain wage categories. This can happen because a certain occupational group needs a higher increase due to labour shortages or to make the occupation more attractive. Another possibility is that lowest wages are subject to a higher increase. This happens, for example, in countries with a national minimum wage, although infrequently. The lowest wages in a collective agreement might, as a result, be below this minimum wage and must be raised to comply with the law. This has happened in France, for example, in recent years (André 2011).

Different approaches have been developed to handle the issue of determining the average pay increase within a collective agreement. The Spanish method is fairly straightforward, but also very 'subjective': bargainers complete a statistical sheet and this is one of the questions they have to answer. The Belgian ministry has, through its social security data, information on how many people are covered by a collective agreement, but lacks information on the distribution of these wage earners over the cells used in the wage tables of the collective agreement. It uses, as a consequence, a 'rough' construct, namely the median pay of all wage categories or the mean overall pay levels in the different categories. The latter is done when a sophisticated occupational wage classification system is used (including seniority increments per wage category).

The Portuguese have a fairly comprehensive method. For each collective agreement the average pay increase is calculated on the basis of a comparison of pay levels in the respective wage tables (present and earlier agreements). The weight of each wage group in the average of

an agreement is calculated on the basis of statistical employment data provided by the statistical office of the Ministry of Labour (GEP). These employment data are drawn from the annual company survey (Quadros de Pessoal) carried out by the Ministry of Labour. Companies are legally obliged to answer this survey and therefore the coverage tends to be complete.

The Italian statistical offices uses survey data, administrative figures and information provided by interviewees of employers' organisations to weight FTE employment by job levels and average for each agreement (the 76 national sectoral agreements monitored) the index by broad categories of occupation (blue-collar, white-collar and complex).

The French system monitors 278 branches. The weighting is organised on the basis of the tri-annual ACEMO survey on the development of monthly base wages. The year 2008 is currently used as the reference period. In this survey covering more than 200 000 enterprises and 12 million wage earners, employers with more than 10 employees have to indicate for three skill levels of four occupational categories (blue-collar, white-collar, intermediate profession and *cadres*) the base wage and the number of people. For each of the 12 socio-professional categories, the company can choose a reference job position to answer the wage question. This information is then used to select reference wages in the wage tables of the collective agreement. The lowest wage category in the table is accorded to skill-level one, the highest wage category to skill-levels two and three, for each of the four occupational categories (when included in the agreement). When different types of wages are agreed for this wage category, the so-called '*saire hiérarchique*' is selected. The employment figures of the ACEMO survey are used to weight wage data in calculating the average.

Austria, Germany and the Netherlands apply comparable methods. The Dutch CSB monitors 259 collective agreements. The wage tables of these agreements contain altogether 28 000 different wage categories or measure points. Until 2006 the CSB organised a large-scale quarterly/annual company survey on employment and wages. Information was collected on the contract wage and wage scale. Employment weights for the different wage categories could thus be reconstructed. In a next step the statistical office sampled 4 700 of these measure points, guaranteeing that at least 60 per cent of the total wage sum is covered for each collective agreement. Use of the non-selected points is attributed, in the next

move, to the ‘nearest’ sampled points. As a result, weighted average pay increases for each collective agreement can be calculated by referring to the base year information as reference period.² The German Destatis collects the same type of information as part of the Structure of Earnings Survey. The German statistical office uses this information as main variable for occupational class (compare ISCO) as part of the individual wage information that is asked for concerning the sampled employees. The German statistical office thus uses all the wage groups, in contrast to the Dutch approach.

Another confusing element is the type of wage increase. The agreed proportional wage increase can be specific to the wage level as indicated in the wage table of a collective agreement or it can be a general percentage increase of the total wage. Both may be the same for an individual worker, but also may not. In a range of countries it is common practice that some wage increases are limited to wages represented in the wage table. However, as the calculated wage increases in the indexes refer to the (minimum) wages of the collective agreement tables, this practice does not distort calculations. However, conceptually and also for the bargaining partners in practice a 2 per cent increase in the total wage is, for example, a bigger increase in absolute terms (and cost) than a 2 per cent increase in the wage sum reference in the wage table of a (sector) collective agreement.

Aggregating average wages: weighting between collective agreements

The next step in calculating the average is the weighting of collective agreements. All countries possess employment data by collective agreement. Portugal, France and Germany use mainly (large-scale) survey material for this weighting; the Netherlands (since 2006), Finland and Belgium mainly administrative data; Austria and Italy a mixture of the two. Spain uses self-reported figures from the statistical sheets of the collective agreement.

Belgium, Germany, Italy and Austria – of the countries working with a base year – use only the employment distribution of this base year. The Netherlands and Finland adjust these figures, although in a different

2. The Dutch CSB stopped organising the survey in 2006 and now relies on information from the tax administration for such data. These data do not include contract wage information related to collective agreements, however.

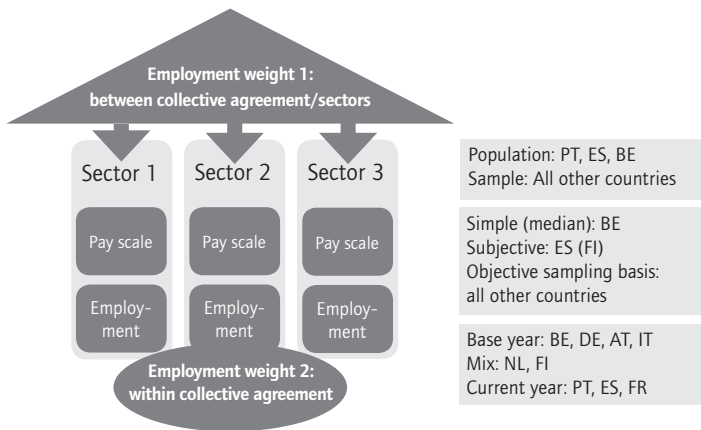
way. The Finnish statistical agency uses annual changing weights in the aggregation of the 216 base series of the industry-specific indexes and fixed-weights of the base year for the aggregation to 70 industry-specific indices. The Dutch statistical office uses changing weights of employment between collective agreements, but not for the weighting within agreements.

Summarised

Figure 2 summarises these weighting procedures for calculating the ‘average’ increase. Key differences concern whether:

- it is based on a sample or the whole population of covered collective agreements;
- it is a base year, current year or a mixture of the two;
- the weighting within an included collective agreement is based on the objective collection of employment figures by pay scales or based on a simple or subjective method.

Figure 2 Weighting procedures to calculate average pay increase



2.4 Periodicity and revisions

Belgium, Finland and Germany publish indexes on a quarterly basis. The French data are also quarterly updated, but they are not published regularly (currently usually annually). Italy publishes monthly, quarterly and annual data. The annual data are published in March together with the monthly data for January and February. Portugal and Spain publish monthly averages, which are cumulated in an annual figure.

Preliminary monthly calculations are published by Austria and the Netherlands. The Dutch office indicates the number of agreements on which the calculation is based and updates it monthly until the figures are definitive. It also publishes quarterly and annual indexes. Statistics Austria takes the same approach, publishing preliminary calculations 15 days after the end of the month; the final figures come three months later. Retroactive revisions, that is, are included only in these three months, but for this rule, again, there is an exception for important agreements (representing more than 5 per cent of workers covered by the index).

The French data take into account the effective date when the wage increase is foreseen by the agreement. When this date has passed (for example, an agreement in November refers already to an increase in January), the signing date is used as the date of implementation. The Italian ISTAT, to counter this problem of retroactive wage increases, publishes two indicators on pay levels: ‘accrual’ with retroactive revision and ‘cash value’, which is what people actually received at the time of payment. The Italian index is published monthly and annually.

The Spanish indicators differentiate between ‘agreed’ and ‘revised wage increases’. The revised wage increase is the result of incorporating the impact of revisions on account of ‘wage guarantee clauses’ to the agreed wage increase for the period, in cases when such revisions are retroactive whatever the date on which they were actually paid. In other words, the result of the revisions is attributed to the year for which they are retroactively calculated (and agreed).

3. Comparative quality assessment

There is no universal definition of quality; it is multifaceted and can therefore mean different things to different people, depending on the

various procedures and products. In relation to statistical output quality, the European Statistical System's (ESS) six dimensions of quality are generally used: relevance, accuracy, timeliness, accessibility and clarity, comparability and coherence. The structure of the section is based on this ESS quality concept. Our assessment is organised from a harmonisation perspective. Harmonisation can be defined as actions or processes that, through matching and blending, bring about agreement, reconciliation or standardisation. Harmonisation is the process of agreeing and applying standards that can lead to comparability. Comparability, as we have seen, is one of the ESS dimensions of quality. As we embrace the harmonisation perspective in this chapter, comparative coherence is of course a key aspect of relevance. Thus we first discuss relevance, comparability and coherence combined.

3.1 Relevance, coherence and comparability

Relevance is the degree to which statistics meet current and potential user needs. It depends on whether all the statistics that are needed are produced and the extent to which the concepts used reflect user needs.

Changing needs

In the different countries the relevance of the statistics on collectively-agreed pay increases has been attributed mainly to income policies, informing social dialogue on this issue and linking this information to social policies. Especially in countries with varied or diffuse agreements at different levels (local, regional, national) and demarcations (company, sub-sector, sector) and different timings, this reporting is instructive for other bargainers (see, for example the examples of the Netherlands, Portugal and Spain). However, it is certainly the case that it is only one of the statistics bargainers look at (and probably not the main one). The following passage of the French CAWIE report is illustrative in this regard: 'the main conclusion of interviews with social partners is the weak use of French statistical data. At the time of collective bargaining, social partners mainly focus on consumer price index, on the minimum wage (SMIC) and housing charges. They look at the hourly wage for manual worker index (SHBO) which is supplied by DARES publications to understand the development of the SMIC' (Delahaie *et al.* 2012: 10).

This kind of horizontal coordination usage is complemented by a more macroeconomic perspective. Evidence of this perspective is most clear in

countries where vertical coordination of collective bargaining has been strong. Statistics Finland cooperates with the Information Committee on Cost and Income Developments, established for four years in October 2008 by the Finnish Prime Minister's Office (its predecessor was the Incomes Policy Settlement Commission.) The Information Committee prepares economic reports and estimates for collective bargaining and decision-making. It also monitors how collective agreements are implemented and assesses their impact, taking account of euro-area requirements and labour market stability and functioning. In addition, the Committee serves as a discussion forum for assessing the extent to which wage formation and collective bargaining can promote employment and advance the functioning of the labour market as circumstances evolve. The Committee has a tripartite composition. Trends of collectively-agreed wages in the country and its three main neighbours (France, Germany and the Netherlands) play a dominant role in the technical report that the Belgian Central Economic Council publishes each autumn. Every two years the Council tries to determine a wage norm to coordinate collective bargaining in Belgium. Also in other countries, statistics on collectively-agreed pay rises play a role in macroeconomic discussions, among other things because of the timely availability of this wage information in forecasting (by central planning offices or national banks).

These macroeconomic purposes of coordination have in recent years increasingly attained a European dimension. Attempts at horizontal coordination, especially on the trade union side, have been developing at sectoral level (for example, European Metalworkers Federation, EMF) or in neighbouring countries (the Doorn Initiative). Most recently, the ETUC, in a 2010 resolution on the coordination of collective bargaining, urged trade unions to resist wage freezes and wage cuts in the context of tentative economic recovery. It notes that trade unions should refuse to bargain arrangements that have the effect of poaching jobs from other countries, regions and companies. Within the context of the dominant mantra of competitiveness and of euro-zone monetarism, the EU added another dimension to this macroeconomic governance in the current economic crisis. The European Commission (2010a, b, c) published six proposals which make up the economic governance package, emphasising the importance of wage-setting mechanisms that allow for 'competitive wages' and proposing indicators (the so-called 'scoreboard') to safeguard this aim (by evaluating wage indexation mechanisms, decentralising bargaining, decreasing wages in the public sector and so on). Finally, in March 2011 a majority in the European Council (the 17 euro and

six non-euro member countries) endorsed a pact on competitiveness, now renamed the Euro Plus Pact, which has resulted in a reinforcement of fiscal austerity policies and an increase in competitive-wage pressures. In February 2012, the European Council adopted the abovementioned scoreboard to tackle macroeconomic imbalances.

3.2 Coherence and comparability

From these developing user perspectives, which increase the need for European comparison, it is important to note that only nine of the 17 countries belonging to the euro zone construct this type of index. However, these countries represent more than 90 per cent of euro-zone GDP; only Greece and Ireland, of the countries that constitute more than 1 per cent of euro-zone GDP, are missing. A starting base, in other words, is certainly available, especially when one considers that a basic approach can be detected in the various countries, namely monitoring the trend in nominal average pay increases.

It is also important that most of the countries can already produce statistics using the common NACE sectoral classification. France is an exception. Private sector data are everywhere included. Public sector data are missing in Belgium, France and Portugal, however. Employees of private households are also not always included (for example, in Germany).

Two fundamental issues, furthermore, have to be dealt with in order to make further progress: the lack of a common wage definition and method of averaging hamper coherence and comparability.

Six of the nine existing indicators calculate an average collectively-agreed pay increase based on a fixed-weight system with a base year or a so-called Laspeyres index. The French have not yet invested adequately in making average increases available. The Portuguese and Spanish ministries take another approach, calculating an average increase in the monthly/quarterly/annually published agreements. This is a fundamentally different approach from those of Austria, Belgium, Finland, Germany, Italy and the Netherlands. The latter countries focus on monitoring the collectively agreed pay increase of the average (representative) worker. The average worker is constructed by distributing the employment of a base year over the wage tables of 'representative' collective agree-

ments, using this distribution to weight the averaging. ‘Representativeness’ is linked to the coverage of collective agreements in this base year.

The approach taken by Portugal and Spain looks at the average agreed pay increase. The main current approach, however, is a price index, namely the price of labour. The difference is best illustrated with a theoretical, but illuminating example. When most of the collective agreements in a country foresee no wage increase (probably because no agreement will be signed) and only one, which covers 5 per cent of employees, foresees an increase of 5 per cent, the Portuguese and Spanish indexes would end up with a 5 per cent increase (averaged to an annual figure). Laspeyres indexes, however, would indicate only a 0.25 per cent increase. Of course this is a theoretical case, but it shows how sensitive the Portuguese and Spanish indicators are to ‘zero’ or ‘no’ agreements.

The Portuguese and Spanish approaches are, however, better at catching new trends in employment. The moment these new sectors are covered by a collective agreement, they are included in the Portuguese and Spanish indicators. In the price index system, these new agreements would only enter when the coverage of the index system is revised. Most price index systems are updated every five years. The Dutch system does so only every 10 years, but they update the weighting between collective agreements on an annual basis.

To conclude, from the ‘price of labour’ perspective, the Laspeyres index approach is superior, when a well-developed weighting methodology is available.

Another difficulty with regard to coherence is the varieties of wage definitions applied. Some focus more on basic wage rates (Belgium, France, Spain and, to a lesser extent, Austria), others use a more comprehensive earnings definition. Peculiarities reign. The German indicator currently does not include flat sum increases (but this will change). Holiday and end-of-year premiums also cause confusion. From the macroeconomic perspective, it would be advisable to streamline as much as possible the wage definition with the wage concept of the statistics on actual earnings. For example, in the present Belgian index, the congruence between the labour cost indicator and the indicator of negotiated wages is imperfect. Some public/private enterprises (for example, postal services and telecommunications) do appear in the labour cost index, but negotiated wages are not measured. On the other hand, schools are absent from

the (private sector) labour cost index, while negotiated wages are measured. The first of these two issues is purportedly to be resolved. The Italian CAWIE report (Birindelli and Leonardi 2012) pinpoint the fact that labour-cost data are mainly left out of national accounts. These calculations include estimates for the informal economy, which again makes comparison more difficult and open to interpretation.

A stress on the macroeconomic perspective would in any case involve the broader ILO definition of earnings. Also illuminating in this regard are Dutch and Finnish practices. The Dutch calculate and publish two types of index: regular payments with and without special premiums and bonuses. Statistics Finland produces the index of negotiated wages and salaries as an organic part of the construction of the index of wage and salary earnings. Because wage drift can thus be measured consistently, the index of negotiated wages and salaries has been an indispensable tool in studies on wage determination in Finland.

From a scholarly perspective a restriction to basic wage rates equates the wage drift with the wage cushion. If variable wage components are monitored, however, a distinction can be made between uncontrolled wage drift (a wage change that was not negotiated) and wage flexibility allowed by the negotiating partners.

3.3 Completeness

The target of calculations and estimations is the average collectively-agreed pay increase. Besides the already mentioned sectoral 'gaps', a key issue with regard to completeness is the inclusion of lower-level collective agreements, in-house company agreements.

The Dutch and German indicators cover this decentralised form of collective bargaining fairly well by sampling collective agreements based on an employment threshold. Belgium has plans in the same direction. Spanish and Portuguese information is also fairly complete in this matter. The lowest level of completeness on this issue is found in Italy: only leading nationwide sectoral agreements are covered. The territory-linked bargaining is very partially covered. Collective bargaining at firm level is absent. As sectoral collective bargaining is still dominant in most of the countries, this issue should not be exaggerated. It is nevertheless a point of increasing concern (due to decentralisation).

The issue of time coverage seems to apply mainly in France. Information collection for the DGT-DARES database was not always systematic before 2003 and the scope of coverage was different: industries covering 10 000 employees were taken into account (as against industries with 5 000 employees after 2003). Secondly, before 2003, information on wages was available for three occupations only, while four occupations are now reported.

We can further conclude that higher-level managerial staff and apprenticeships are usually excluded from coverage. The focus is on the average pay increase of full-time workers, which is a commendable choice. The Spanish ECCT does not provide salary information for different occupational groups or other job classifications (for example, type of contract, seniority), because this data is not supplied by all companies and therefore is unrepresentative and unreliable.

3.4 Accuracy

The accuracy of statistical outputs in the general statistical sense is the degree of closeness of estimates to the true values. Taking into account from the previous section the fact that the available indicators do not measure the same things in the same way, one could nevertheless argue that the measurements are very accurate. There is little criticism of this in the countries concerned, except perhaps in Belgium, but there a revision of the methodology is planned. It is, however, again important to stress that part of this high accuracy is obtained by limiting the coverage and completeness of the indicator. Limiting it to the basic pay rate and/or national sectoral level and/or excluding certain sectors/occupations, makes the calculations a lot easier and more accurate in a range of countries, with Belgium again providing an example.

Additional flaws in accuracy can be detected and we shall focus on some sample, coverage and measurement issues.

No sampling errors

Sampling does not play a major role in most of the indexes calculated. It is only in the sophisticated indexes of the Austrian, Dutch, Finnish and German statistical agencies that sampling plays a role in constructing the base reference points or elementary aggregates of the price index. Non-probability sampling is the main strategy. One looks at 'leading'

agreements, the 'biggest in employment coverage'. Threshold are applied: coverage of 70 per cent in a sector and the most important pay scales. Information for this sampling comes from administrative population data or large-scale official surveys to which companies have a legal obligation to respond.

One could hypothesise that a focus on bigger, leading agreements has the potential to 'overestimate' pay increases, because smaller, weaker agreements are not included. However, this idea remains speculative as no 'bias' of this kind is reported in the relevant countries.

Coverage errors in technical details

Coverage errors (or frame errors) are due to divergences between the target population and the frame population. Undercoverage is closely related to the completeness problems already mentioned: not all countries cover all agreements and all sectors.

Other possible coverage errors are more probably due to technical details.

The first kind have to do with the timing of collective agreements. Agreements can have a multi-annual duration, be retro-active or conditional. The indicators that calculate average wage increases and not average price increases (see above), particularly struggle with this issue. The Spanish ECCT only takes into account agreements with annual economic effects that are registered with the Labour Authority, but not those with 'ultra activity'. The situation is compounded in the case of multi-year agreements, which are registered only in the reporting year without annual updates for the duration of the agreement. Thus, the ECCT leaves out all agreements that are not newly registered every year (either because they are multi-year agreements or because they have to be extended). Portuguese wage increases are calculated on the basis of the agreements published in a determined period (month, quarter, semester or year). Different agreements published in the same year may cover different periods. Some may cover 12 months, starting on 1 January, others on 1 March, and so forth. Furthermore, there are many agreements covering more than 12 months, many of them with a retroactive effect of several months or even a year. This raises some problems for the interpretation of the data. The first is that the average increase of wages in agreements that were published in a determined year does not refer exactly to that year. This is particularly relevant in years with a very long

average duration of agreements, for instance 2005 and 2006 (more than 20 months).

The Dutch CSB solves this by publishing preliminary figures and indicating on how many agreements the data are already based. The Italian statistical office publishes two indices: accrual (with ex-post revisions) and cash values (without).

Another difficulty with regard to coverage concerns the growing fragmentation of collective bargaining in some countries. Opting-out, wage cuts or 'overruling' of collective agreements by authorities applying a wage freeze cause problems of under-coverage. Until a few months ago, the Spanish ECCT, for example, did not generally consider wage cuts, which prevented registration of 'negative increases'. A change in the computer software was needed for that purpose, although the effect is not yet visible in official statistics. It should also be noted that the ECCT does not reflect recent statutory wage cuts applied by public authorities, since wage reductions are incorporated into the database only if they have been the subject of discussion and agreement between the parties involved in collective bargaining. The agreements still reflect wage increases that were agreed some time ago and have little bearing on reality. In addition, potential improvements on wage levels specified in collective agreements may be changed unilaterally by employers under the labour reform introduced by Royal Decree-Law 3/2012. The current crisis situation highlights an additional problem with the ECCT. Although the information is relatively current and regularly updated, wage increases for the years 2010, 2011 and 2012 may be overestimated for different reasons: many agreements for 2010 and 2011 do not yet include any clauses on the revision of wage growth relative to inflation, many others have been revised downwards and others are still unknown, since they have not been and may never be registered.

The German statistical office is also considering how to integrate the growing practice of opting-out in their country.

Measurement errors

Non-universal granting of pay increases and weighting quality

Measurement errors can be considered low as many pay increases are granted as a percentage to all workers. But the risk of measurement errors rises considerably when only particular groups of workers are assigned a (higher) increase or the increase is a fixed amount and not a percentage.

Accuracy depends heavily in these cases on the quality of the weighting procedure. Information on employment through the wage tables of collective agreements is the key issue in this regard. Combining different sources, Austria, Finland, Italy and the Netherlands manage to collect this employment information in a satisfactory way. Germany and Portugal have high-quality information on this matter based on regular, official survey material: the Structure of Earnings Survey in Germany and the Annual National Company Survey (Quadros de Pessoal) in Portugal. Belgium has the biggest problem here because it lacks employment figures from wage tables and as a result uses only a simplified weighting (between collective agreements). At the moment, an average (generally arithmetic) is taken of all occupations defined by the sectoral agreement. A major issue is the fact that we have no insight into the extent to which the unknown distribution of functions would deviate from such an average.

The Finnish data rely on 'subjective' information from the employers' organisations to obtain the part of pay increases that can be related to a negotiated agreement. For each agreement (the base series) the employers' organisations provide their estimates about the contribution of pay increases concluded in collective agreements. Using this information Statistics Finland constructs the base series-level contributions of collectively agreed pay increases and aggregates these increases to sector-level contributions.

This 'subjective' factor plays an even bigger role in the Spanish case. One of the main problems of the ECCT concerns the completion of statistical sheets. In principle, bargaining or peer committees are responsible for filling in the data; however, the sheets are often completed by the company or even by contracted agents (without being checked by workers' representatives) and that affects the quality and reliability of data. Furthermore, it is next to impossible to translate the complex details of collective bargaining into a digit in a statistical sheet. For example, the agreed wage increase – one of the main results provided by the records – is generally considered with regard to the base salary, but in many agreements it is based on the total salary and distributed through bonuses, or distributed only to certain categories of workers. It is therefore difficult to obtain a single or generally valid figure for the wage increase. As a result of poor completion of statistical sheets, the information on the number of workers affected by collective bargaining is not very reliable in some agreements above company level (as the av-

erage number of workers per sector is difficult to estimate for bargaining committees).

As already stated, this measurement problem should not be exaggerated as it is confined mainly to particular atypical agreements. However, one can estimate that this measurement error is bigger in times of economic crisis, when these atypical agreements are negotiated more often (for example, lump-sum, particular groups receiving different pay increases).

Pending questions on price index methodology

If one goes further into the technical details, one could raise some additional questions about possible measurement errors. These questions can be formulated by making analogies with similar reported measurement errors of the better known consumer price index (United Nations 2009; ILO 2004). The questions mainly concern the use of the index number formula: a Laspeyres index based on fixed weights of a base year.

A first relevant shortcoming of CPIs is new product bias. This occurs when new goods and services are introduced into the economy but are not incorporated into the fixed market basket of the CPI until much later. A 'bias' problem is that a large part of the price decline for many of these new goods occurs in the early stages of the product cycle, when they have not yet been included in the CPI. One could hypothesise that this new product – here a new agreement – bias operates in the opposite direction for collectively-agreed pay. First-time agreements in a (new) sector will probably undergo a kind of 'catch-up' process. The index indicators, using a base year with a fixed basket of agreements, are here confronted with a distortion. The annual averaging Portuguese and Spanish indicators have an advantage here.

A second strongly debated issue in relation to the CPI is 'substitution bias', which occurs when consumers substitute between types of goods and services when relative prices change. A fixed market basket measure such as the CPI assumes that, contrary to standard economic theory, consumers do not substitute comparable products (for example, fast food) when the price of one rises relative to the other. It seems safe to argue that this kind of substitution effect does not operate with regard to the price of labor, but this type of labor index is hampered by a comparable effect, namely the composition effect, related to the anti-cyclical evolution of low-wage employment. When an economy grows, the amount of lower-paid jobs (temporary, low-skilled) rises; when an economy enters

a crisis, these jobs are the first to go; this is certainly the case in the euro zone. Such jobs also characterise the turn from an industrial to a service economy.

The ECB (2012) provides proof of this composition effect for actual wage developments. The ECB investigated the changes in actual wages for five European countries (France, Germany, Italy, Belgium and Portugal) for a period of one or two years between 2007 and 2010. They split the observed wage change into two effects, a 'prize effect' which represents a real change in wages, and 'composition effects'. These composition effects are the effects of changes in (the characteristics of) the workforce. For example, during the crisis, in particular workers on low wages (young, low skilled) became unemployed, which changed the composition of the workforce and thus influenced the development of the average wage. When a large part of low wage workers leave employment, it is possible that the average wage will increase, even though individual wages remain the same or even decrease. This is illustrated by the analyses of five countries. The observed wage change for all countries was positive. However, when this change is split into a prize effect and composition effects, a different wage evolution was found. The prize effect was negative for four countries and diminished considerably for Portugal. Real wages have thus declined in most countries during the crisis years. However, large positive composition effects were found for all countries, explaining the total positive observed change.

It is probably correct to state that these insights can also be transferred to the Laspeyres indexes of collectively-agreed wages. It is important to obtain information on what point in the economic cycle the base year information is gathered. In periods of severe unemployment, it seems fair to assume that a Laspeyres index overstates the 'average' price/pay increase collectively agreed. The Finnish national expert reports such a problem concretely. When the wage and salary earnings index 1990=100 was calculated, construction had, after the construction boom of the late 1980s, too great a weight in comparison to the real situation. During the depression years of the early 1990s the share of the construction sector collapsed. A possible solution would be to adopt a Fisher index that would take into account the employment distribution weights of the base year and the current year. It all depends of course on what one focuses on: the trend in the price effect or the trend in the price cost effect. The latter is more important from a macroeconomic perspective and necessitates inquiries into the composition effects.

All in all, one should not exaggerate these technical questions. From a scientific point of view, however, they invite us to further methodological research (and possible solutions), as has been done for the harmonised calculation of consumer price indexes.

3.5 Organisational quality

The indexes presented are provided by two types of official organisation: national statistical offices (Austria, Finland, Germany, Italy and the Netherlands) and the statistics departments of ministries of labour (Belgium, France, Portugal and Spain). In general, one can say that the organisational quality provided by the statistical offices is higher than that of the ministries of labour. A release calendar drives timeliness and punctuality. Larger and more sophisticated use of internet tools provides better accessibility. Nevertheless, the input of labour ministries is essential to provide expert knowledge on the basic aggregation points, namely collective agreements, their pay settlements and their wage tables or pay scales.

Timeliness and punctuality

The timeliness of statistical outputs is the length of time between the event or phenomenon they describe and their availability. Punctuality is the time lag between the release date of data and the target date on which they were scheduled.

As already mentioned several times, timeliness is considered an important characteristic of the indicators on collectively-agreed pay increases. They are praised for this quality. Monthly or quarterly data are available that are published very quickly after the end of such a period. Information delay depends mainly on how long the bargaining process takes and on the procedure for registering and recording the agreement in the database of collective agreements.

We illustrate this delay issue with the Portuguese case. The period between signing an agreement and its deposit at the Ministry of Labour may take some months; the period between deposit and the publication in the Bulletin of the Ministry normally takes only a few weeks. The online publication of the DGERT's 'Reports on collective work regulation' normally occurs in the first week of the following month. From this perspective the source is very prompt. The wage increases stipulated in the

collective agreements often refer to periods that start several months before their signing and subsequent publication. This kind of delay is the sole responsibility of the negotiating parties. As an example we might consider an agreement that has been signed during a certain period on a regular annual basis, always two or three months before the end of the year. Thus, the Ministry has always been able to publish the agreement before the date the agreement and its wage table came into force (let us say, 1 January). In a particular year, negotiations reach deadlock and the agreement is signed only in April, that is, several months after the end of the validity of the previous wage table (31 December). The new agreement includes a wage table whose validity commences on 1 January, several months before the agreement has been signed. This happens with some frequency and causes delays in the publication of agreements and subsequently of the statistical data on wage increases.

The time lag between the release date of the monthly reports and the target date on which they were scheduled for release is very short in Portugal. The indicators of timeliness and punctuality must be considered separately for the Italian monthly indexes and for wage level indicators. For the indexes, monthly publication is regulated by an annual calendar of press releases, made available by the end of one year for the following year (that is, by the end of 2011 for the whole of 2012). Their release schedule has always been respected. Annual Wage Levels by accrual value are generally published in March with reference to the previous year. The degree of information completeness/temporariness varies: in March 2010, for a series from 2005 to 2009, only the year 2005 was definitive. The degree of coverage gradually decreases for more recent data (98.9 per cent of employees in 2006 and 2007; 92.8 per cent in 2008 and 91.6 per cent in 2009). Dutch data are available for each month at the beginning of the next month. Due to the use of annual data concerning the distribution of the labour force over the measurement points, the finalisation of the index lags more than a year behind. By May 2012, the index over 2011 still has to be finalised.

Accessibility and clarity

The accessibility of statistical outputs is the measure or the ease with which users can obtain the data. It is determined by the physical conditions under which users obtain data: where to go, how to order, delivery time, pricing policy. The clarity of statistical outputs is the measure or the ease with which users can understand the data. It is determined by the information environment within which the data are presented;

whether the data are accompanied with appropriate metadata; whether use is made of illustrations such as graphs and maps; whether information on data accuracy are available; and the extent to which additional assistance is provided by the producer.

A quality difference can be detected in this matter between the statistical offices and the other sources. Metadata and elaborated methodological notes are produced and easy accessible; in particular, the notes from the Netherlands and Austria are very detailed (Statistik Austria 2011; van den Berg 2004). Destatis, CSB, Statistics Finland, Statistics Austria and ISTAT also have extensive possibilities for presenting the data in different ways and with illustrations, such as graphs and maps. More experienced professional users – the main users of this type of data – are certainly better served by these offices.

Occasional users will also find publications produced by these offices with data in static format that are easy to find and interpret. However, the French, Portuguese and Spanish ministries of labour are better at integrating these indexes in a more global panorama of collective bargaining or wage development. The Portuguese and Spanish labour administrations have also invested in internet tools, whereby collective agreements and wage tables can also be consulted. Belgium has comparable plans and now provides collective agreements on the website in a basic format. Of the statistical offices, only the German Destatis presents this type of information (in a partial way).

Three more general remarks can be made about the accessibility and clarity of the statistics.

First, transparency on the basic weights is rather low in comparison with information available on, for example, the building blocks of consumer price indexes. The Dutch CSB is perhaps the most transparent. They also indicate clearly the preliminary character of their first calculations by indicating how many agreements the calculation is based on.

Second, long-term time-series are not always available. For example, in Finland online data by employer sector are available from 2000 and by industry from 2005. Data for longer periods are available on request.

Third, statistics are currently to be traced at the national level. The annual reports on pay developments of the European Foundation for the

Improvement of Living Conditions refer to these data, but they are not collected in a data-file format, nor in detailed form presented by sector. Again taking the example of Finland: data are available for regular users who pay for access to the relevant database (ASTIKA), but currently they are not available free of charge through the internet (even though they can probably be obtained free of charge upon request). French data are only publicly available as part of a written publication. Belgium data are available in Excel files buried in the website of the Ministry of Labour.

Finally, a series of countries publish data using an occupational classification. This is particularly the case in Belgium and France. Others refer to monthly-paid and hourly paid occupations (Finland and the Netherlands). Others have no such information. From a European perspective, this situation blurs the picture.

Conclusion

In this chapter we compared the nine available indicators on collectively-agreed pay increases in the euro zone. Basic insights have been provided into the methods applied. A quality assessment has been conducted using the framework of the European Statistical System as guideline. Besides direct input for bargainers and being a trend indicator for other income policies, the indicators also play an increasing role in macroeconomic policies. Methodological accuracy can be considered high when the basic information on the employment distribution by wage tables of collective agreements is available, one way or another. However, not all countries make this type of information available. The Spanish indicator depends in this regard on subjective reporting from collective bargainers, Belgium uses for the employment distribution by pay scale a statistical artefact (the median pay scale). From a comparative point of view major challenges include coherence and completeness. Different wage definitions are used; one or several indicators are calculated; sectoral coverage is not the same everywhere; lower-level collective agreements are not always included. As such, each of the indicators faces challenges (see Table 5). The available indicators are, furthermore, split between two fundamentally different approaches. The more sophisticated approach is the index type, which is comparable with a consumer price index. However, pending technical questions can be raised about the current calculation method (a Laspeyres index), when taking the composition effects during the business cycle in average wage trends into consideration.

Table 5 Specific challenges of the indicators studied

| | Challenge |
|----|--|
| BE | (Expected and planned) revision of the basic weighting procedure and other methodological improvements |
| ES | Quality of the subjective basic data |
| IT | Coverage beyond national agreements |
| FR | Growing into a regular statistical publication |
| PT | Use the data potential to calculate a more sophisticated price index |
| NL | Maintain the data information to update weights of a reference period/base year |
| AT | Inclusion of other forms of remuneration (by extra indices) |
| FI | Increase transparency of basic data collection |
| DE | Maintain coverage of the currently fragmented German pay bargaining system (opting-out; company-level) |

Source: CAWIE national reports.

Taking this quality assessment into consideration, how can we then argue for stronger harmonisation of these statistical indicators on collectively-agreed pay in the euro zone?

Reasons for developing such a harmonised statistical system for collectively-agreed wages are certainly growing. The evolving coordination of collective bargaining in the euro zone forms the basis of these arguments. Due to globalisation, more and more pay bargaining is taking place beyond national borders (Glassner and Pochet 2011). In the euro zone this (implicit) horizontal coordination is strengthened by the developing German leadership on wages (Ramskogler 2012). One is also seeing more attempts from the union side to develop this kind of coordination (for example, the Doorn Initiative and the collective bargaining networks within IndustriAll). As already stated in the introduction, the pressure for vertical coordination as part of the new European economic governance is also mounting. An evidence-based policy discussion on wage setting in the euro zone would be helped by stronger harmonisation of the available indicators. It is important to know in this regard that the European Central Bank is using these data.

Such harmonisation would be best developed step-by-step, given the current fragmentation. We distinguish three main steps within this cumulative learning process that would leave space for experimentation

and for an informed debate with users: open coordination, minimal harmonisation and strong harmonisation.

Although only nine of the current 17 euro zone countries calculate a statistical indicator of collectively agreed pay, this can be considered an important starting basis. The countries with an indicator cover 93 per cent of total euro-zone GDP. Only Greece and Ireland are missing among the larger countries (by GDP). The international sector classification NACE has broadly been adopted. Databases with high reliability exist on the basic raw data, namely pay increases within collective agreements. A key issue on the road to more harmonisation is of course the different approaches. France, Portugal and Spain monitor average increases in collective agreements annually. The other countries (Austria, Belgium, Finland, Germany, Italy and the Netherlands) calculate a more sophisticated index with a base year of the collectively agreed increases in average pay.

In a first step of open coordination the whole group could learn about the quality procedures used mainly by the official statistical offices in the group. Transparency concerning the adopted weight system could inspire a mutual learning process. Making reference to each other indicators would also help in this regard. Solutions could be exchanged on the accuracy problems that have been dealt with: the threshold for including company agreements; the development of more than one index to include premiums; how to deal with opting-out clauses in agreements, pay decreases, working time changes and retroactive pay deals. Creating this European level of statistical exchange and coordination would probably also help to increase the national attention (in time and resources) to tackle specific pending methodological issues.

A second level could be defined as minimal or weak harmonisation. Adopting 'less is more' as a pragmatic principle, the countries involved would attempt to produce, besides their national practices or needs, a Laspeyres index of the average nominal basic pay increases as set by collective agreements for full-time employees. It would involve a collaboration of statistical offices and ministries of labour. The focus would be on the private sector and the sectoral level (NACE letters) and, as stated, be limited to basic pay. Belgium, France, Spain and Portugal have to make the biggest efforts to achieve this point of minimal harmonisation.

In a third step it seems feasible to speak or think about strong or maximal harmonisation. Besides a fast and quarterly availability of the

changes in basic pay rates, it would be helpful also to have more comparable indicators on an annual basis about earnings – regular payments and special payments. Such data would make it easier to make connections with actual earnings or compensation data and to make a better comparison with labour cost developments possible. One should at that moment strive to include private and public sector and lower levels of pay bargaining. The step would require a lot of definitional work and a full investigation of the use of a Laspeyres index or a more elaborated form of such indexes (see in this regard the experiences of the Netherlands and Finland).

Important drivers of such strong harmonisation could be, on one hand, a possible (European) revision of the ILO Resolution on the statistics of collective agreements (dating from 1926) and, on the other hand, using the European Structure of Earnings Survey as a harmonised database for the weighting issue. As already stated several times in this chapter, key to calculating a high-quality and robust index of collectively-agreed pay increases requires employment data about collective agreements and their pay scales. How is the workforce covered by collective agreements; which part of the wage increase is determined by collective agreement; and how is the workforce distributed within the pay scales of these agreements. The German statistical office uses the Structure of Earnings Survey to collect this information. Including questions for each sampled individual on their collective agreement and accompanying pay scale also helps the surveyed companies to fill in the requested data more quickly. Adopting this practice on a Europe-wide scale would, on one hand, solve key methodological issues for a lot of countries (see, for example, Belgium) and would, on the other hand, almost automatically make strong harmonisation feasible. One could then easily debate an extension to other countries.

This step-by-step harmonisation effort would of course also require the institutional or organisational leadership of an international organisation or agencies. Who would take up the challenge: the European Employment Committee (EMCO), the Economic and Social Committee (EESC), Eurofound Dublin, Eurostat, or ILO Europe?

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