



## Analysis of the WageIndicator web survey data collection

This report is part of Workstream 1 'GPG analytical activities' in the WITA GPG project. This report specifically addresses Output 1 in this Workstream. It aims to methodologically explore the web survey data collection, with a focus on wages and monetary and non-monetary allowances.

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Core of the WITA GPG project are the analyses of the data from the continuous WageIndicator web-survey on work and wages. Visitors of the national WageIndicator websites are invited to complete the survey. The current report is the final version.

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## 1. The Gender Pay Gap in Europe

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In analyses of the Gender Pay Gap two concepts must be clearly differentiated: wage inequality and wage difference. The concept of *wage inequality* is a legal term: between individual men and women there should not be unequal remuneration for work of equal value, as stipulated in the Equal Pay Legislation in all countries of the European Union. As early as 1951 the International Labour Organisation (ILO) agreed on Convention nr. 100 regarding equal pay for equal work. The concept of *wage difference* is a term stemming from economic science. It is based on the calculation of the average hourly wages of both the male and female working populations and the resulting differences between these two. Notwithstanding these clear differences in meaning and significance both terms are frequently used as if they were substitutes. The present report discusses the methodological aspects of the term *wage difference* only.

There has been little reduction in the Gender Pay Gap (GPG) in Europe in the first decade of this millennium. The GPG seems 'frozen in time' (Tijdens and Van Klaveren, 2012). There are multiple causes for the stagnation in the reduction of the GPG, and a review of the current instruments to reduce the GPG is needed. Legal instruments are widely applied, yet judging from the many questions on work and wages the general public poses on WITA GPG associate partner *WageIndicator* websites, full knowledge of relevant laws and rules among the general public is lacking. Providing and disseminating information on relevant GPG laws, rules and clauses to a large public of employers, employees, job seekers and students facing occupational choices is one of the problems to be addressed in this GPG Action. In addition to legal instruments, in many companies and organisations job evaluation schemes and pay systems, including bonuses and allowances, are wholly or partially regulated through collective bargaining, although the perspective of reducing the GPG plays mostly a subordinate role in these wage-setting processes. Hence, a second problem to be addressed in this GPG Action relates to sharing good practices and cooperation within the European Trade Union Confederation (ETUC) and trade union confederations so that tackling the GPG can be incorporated in their collective bargaining strategies to a larger extent than currently is the case. The WITA GPG project aims to do so.

Wages are central to the world of work, because living standards of wage earners and their families depend on the wage level and on when and how wages are adjusted and paid. Comparative GPG analyses require wage data across many countries and this data needs to be comparable and reliable. In this context, it becomes obvious that wages are key for socio-economic research. Collecting information on wages is however not an easy undertaking. The five main data-collection methods are discussed here. These are:

- Establishment surveys; these surveys may include information about the establishment's labour costs, average wages of the workforce, average wages of groups of workers (occupations, gender), or the wages paid to individual workers; in these surveys however the earnings of informal workers or own account workers typically are not included; data from establishment surveys are difficult to compare across countries;
- Surveys of individual workers, e.g. labour force surveys or censuses, surveys of households, or worldwide surveys such as the *WageIndicator* survey discussed later in this report; these surveys need to include questions about wages, non-financial remuneration and working hours; in these surveys however substantial numbers of respondents may not want to provide an answer when asked about their wages

(Plasman et al 2002); it takes huge efforts to make data about wages and working hours from individual surveys comparable across countries;

- Administrative records, e.g. employers' personnel records, insurance records, or tax records; this source provides detailed and reliable information; this source however does not cover employers who have no computerized administrative records; data from this type of source are difficult to compare across countries;
- Collective agreements, e.g. the agreed wages of occupational groups in the establishment or industry; this type of data source however is only available for a limited set of agreements and a limited set of countries;
- Country surveys, asking for the average wages paid in a range of occupations, e.g. the October Inquiry of the ILO; this data collection however faces problems given the lack of comparability of wage concepts across countries (Oostendorp 2009).

In addition to the data collection problems listed above, concepts such as paid and unpaid overtime, benefits, non-financial remuneration, informal labour markets, and own-account or self-employed workers may not be fully harmonised and reported consistently.

In this report we will address solely the methodological aspects of surveys of individual workers, specifically the *WageIndicator* web survey.

## 2. Methodological section

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### 2.1. Introduction

It is common international practice to define the Gender Pay Gap as the difference between the (average) male and female wages, and to present these as a percentage of the male wage:  $m-f$  in  $\%m \times 100\%$ . As a rule gross hourly wages are used. In the GPG analyses two concepts of wages are used: the median and the average or mean wage. The median wage is the middle of all observations within a defined category, e.g. all female workers. The average or mean is the sum of all wages of the individuals in this category divided by the number of observations in the category at stake. Mostly, in national data collections mean wages are reported. However, for international comparisons the median is more commonly used (Leaker 2008). The median has the advantage that it is not overly influenced by small numbers of high earners.

In the GPG analyses, as in other wage analyses, the pay gap is typically based on hourly pay. Hence, comparisons across countries are based on the same entity. Thus, when wages are recorded as weekly or monthly wages, on behalf of the analyses these are computed into hourly wages wherever and whenever possible. However, a calculation of the GPG based on hourly wages hides from view a different type of discrimination faced by women. In many countries women's reduced working hours compared to men is not the result of a free choice but rather an illustration of the difficulty women face in finding full time employment. This is the reason why some parties do not refer to hourly wages but rather to monthly wage differentials.

For the analytical activities in WITA GPG, we will use data on the GPG collected from the *WageIndicator* web survey on work and wages. We will specifically focus on monetary and non-monetary allowances, such as extra pay, bonuses, payments in kind, social security contributions and entitlements, pay arrears, and other relevant data not available through Eurostat. The remainder of this section discusses first the measurement of wages, bonuses and other monetary awards, and next the measurement of non-monetary awards.

### 2.2. Measuring wages, bonuses and other monetary rewards in the WageIndicator survey

In the survey, the employees and the self-employed are routed differently through the pages with questions on wages. The employees are asked if they are paid per month or per week, whichever is most common in the country of survey. If the answer is 'no', the next question asks them to tick the pay period. Then, the employees are asked 'Do you know your GROSS and your NET wage?'. Depending on the answer, questions follow for the most recent gross and/or net wage. Here, a hint suggests to include bonuses, if these were received in the last wage.

The next page in the survey presents a list of bonuses and benefits that may have been included in the last wage, ranging from shift and commuting allowances to tips and performance bonuses. These questions ask if such a particular bonus was included. If ticked yes, a question pops up asking for the amount of the bonus.

The self-employed receive a question about their gross annual income, followed by a question whether this income was earned in 12 months or less, and if less, in how many months.

The hourly wages in the dataset are computed as follows. The hours input is based upon the variable HRSWAG1, which is computed from the contractual hours for workers in dependent employment with agreed working hours in their employment contract, and the usual working hours for all other categories. The pay period input is derived from the survey question on monthly/weekly wages, whichever applies in a country, or the response to the survey question about the period covered by the payment. The wages input is taken from the survey question about gross wage or net wage, which have been tested against the minimum and maximum values, applicable for the country and for the reported pay period. Then the total of reported bonuses is deducted from the reported wages. Next, the hourly wages are computed from the weekly hours, the wage period and the gross wages minus the bonuses. For individuals with information about net hourly wages only, the gross hourly wages are computed based on the annual country average between gross and net wages. Next, the hourly wages are controlled for outliers. Finally the hourly wages are converted into a standardised hourly wage in US dollars, using purchasing power parities on an annual basis. In this way, wages can be compared across countries with different currencies.

Pages and variables	Question	Answer
PAGE_wage1	Your salary	
wageboth	Do you know your last GROSS and your last NET wage?	Both/only gross/only net
wagegr	Gross wage	AMOUNT
wagene	Net wage	AMOUNT
wageper0_MONTH	Do you receive your salary per MONTH?	Y/N
wageper0_WEEK	Do you receive your salary per WEEK?	Y/N
	On what payment period was your last wage based?	1 calendar month 4 weeks 2 weeks 1 week 1 day 1 hour 2 calendar months 3 calendar months 4 calendar months 1 year
wagecurr_API	You received your last wage in	[CURRENCY]
wageinclbonu	Does this amount include any allowances or bonuses?	Y/N
PAGE_wage2		
washif61	Allowance for shifts / unsocial hours / weekend work	Y/N
washifts		AMOUNT

waover61	Overtime	Y/N
waovrtm		AMOUNT
wadirt61	Allowance for dirty, dangerous or hardship work, or for inconvenience	Y/N
wadirty		AMOUNT
watips61	Tips	Y/N
watips		AMOUNT
waseni61	Seniority bonus, skill bonus	Y/N
wasenior		AMOUNT
waperf61	Commission	Y/N
waperfom		AMOUNT
wapers62	Personal allowance	Y/N
waperson		AMOUNT
waannu61	Annual bonus, holiday allowance	Y/N
waannual		AMOUNT
waothe61	Other allowance	Y/N
waothe		AMOUNT

### PAGE\_wage3

annualb_yn	Did you receive any of the following bonuses in the past 12 months?	
frnhol61	Holiday allowance	
frnend61	End-of-year bonus, Christmas bonus, Festival bonus	Y/N
frnext61	Extra month payment	Y/N
frnpro61	Profit share	Y/N
frnoth61	Other annual bonus	Y/N

### 2.3. Measuring non-monetary rewards

The survey questions about non-monetary rewards are listed in the table hereafter. They fall apart in three matrix questions. One matrix question has items about expenses, contributions to housing, sports facilities, and alike. The second matrix includes items

such as transport arrangements and food vouchers. The third matrix has attitudinal items regarding the received wage, among others whether the wage was received in time, whether pay raises were asked, whether the wage varies from month to month.

PAGE_wage3		
addpay_yn	Have you participated in work-related schemes in the past 12 months?	
frxpe61	Arrangements regarding expenses	Y/N
frdayc61	Children's day-care arrangements	Y/N
frsavs61	Savings schemes	Y/N
frshar61	Share options arrangements	Y/N
frhous61	Contribution to lodging / costs related housing	Y/N
frmort61	Mortgage interest deductions	Y/N
frspor61	Sports facilities	Y/N
frlapt61	PC at home / laptop / tablet	Y/N
GROUP_WAGES	Thinking about your earnings from your main job, what do they include	
wagesbasicfixed	Basic fixed salary/wage	
wagepiecerate	Piece rate or productivity payments	Y/N
frcar61	Transport arrangements (lease car, company car, commuting costs)	Y/N
pacante	Free food or food voucher	Y/N
frgdik61	Benefits in kind (vouchers or discounted goods and services)	Y/N



opin_wage1	More about your wage	
wageonti	I received my last wage on time	Y/N
wageask	I have asked for a pay raise in the past 12 months	Y/N
wageincr	I have received a pay raise in the past 12 months	Y/N
wagetop	I have reached the top of my grade	Y/N
wagevary	My wage varies from month to month	Y/N
seekwage	I could earn more with another employer	Y/N
seekeasy	I could easily find another job	Y/N
caoimpo1	I think it is important that my wages are covered by a collective agreement	Y/N

### 3. Conclusion

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This paper details the methodological aspects related to the analyses of the Gender Pay Gap, based on data collected by means of surveys, specifically the *WageIndicator* web survey. Its survey questions related to wages, bonuses and non-monetary schemes are among such details.

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