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Introduction and Overview

Benoît Mahy, Robert Plasman and François Rycx

Gender pay discrimination has been outlawed in all member states of the European Union (EU) for many years. Article 119 of the Treaty of Rome, establishing the European Communities in 1957, already introduced the principle that women and men should receive equal pay for equal work. Since 1975, this basic principle has been refined and extended through a number of European Directives. The latter extend the principle of equal pay to work of equal value, guarantee the right to equal treatment in the workplace (that is, access to employment, vocational training, promotion and working conditions), and provide for equal treatment of women and men with respect to both statutory social security and occupational social security (Rice, 1999). Another important development towards the reduction of gender pay inequalities was the adoption in December 1997 of a European Directive on the burden of proof in cases of discrimination based on sex. This Directive implies that:

when persons consider themselves wronged because the principle of equal treatment has not been applied to them establish, before a court or other competent authority, facts from which it may be presumed that there has been direct or indirect discrimination, it shall be for the respondent to prove that there has been no breach of the principle of equal treatment. (*Official Journal of the European Communities*, 1998, p. 8)

Also noteworthy is the establishment in recent years of gender equality as a central part of the European employment strategy (Rubery *et al.*, 2000). Since the Luxembourg summit of 1997, strengthening equal opportunities between women and men has, indeed, become the fourth

pillar of the employment guidelines, next to the pillars of employability, adaptability and entrepreneurship. What is more, since 1999, EU member states are required to adopt a gender-mainstreaming policy throughout their National Action Plans.¹

During the last decades, a large number of studies have focused on the magnitude and sources of the gender wage gap in Europe. These studies indicate that, while EU countries have brought their laws into line with European Directives, significant gender wage gaps persist in all member states (Blau and Kahn, 2000; Gannon *et al.*, 2005; Plasman and Sissoko, 2004; Maruani, 2000; Meurs and Ponthieux, 2000; and Rice, 1999). Findings also show that gender wage gaps have been decreasing in most EU countries during the 1990s but only slowly (Eurostat, 2001). Therefore, some authors argue that, in spite of EU legislation, there is still no 'natural' trend towards pay equality (Maruani, 2001).

To tackle the gender pay differential, it is crucial to acquire a broad understanding of its structural characteristics and of its evolution so as to be able to assess the impact of labour market policies. Many factors influencing the gender pay ratio have been identified, including, *inter alia*: (i) differences in human capital; (ii) sectoral and occupational segregation and/or concentration, (iii) working time, (iv) the overall pay structure, (iv) the existence and level of minimum wages, (v) the access to internal and public training schemes, the organization of training time, (vi) the industrial organization, and (vii) women's representation in trade unions, employers' organizations and in bargaining or representative bodies (Blau and Kahn, 1992; Joshi and Paci, 1998; and Silvera, 1996). The impact of these factors on the gender wage gap may be affected by labour market or family policies (Concialdi and Ponthieux, 1999). Social security and fiscal regulations are also important for they may lead to changes in the continuity or discontinuity of the career, in the type of jobs taken on by women and in the returns to these jobs (Ruspini and Saraceno, 1999). What is more, results show that policies encouraging low wages or restraining wage progression have a negative effect on the gender wage gap (Concialdi and Ponthieux, 1999). Therefore, 'there is a considerable scope for political choice. Changing the gender pay ratio requires actions on a wide side set of policy agendas, involving the mainstreaming of pay equality across different levels of policy-making' (Grimshaw and Rubery, 2000, p. 2).

Be that as it may, the persistence of significant gender pay differentials in EU member states obviously indicates that EU legislation has still not achieved the necessary impact (European Commission, 2001). This can at least partly be attributed to the fact that: (i) the 1975 European

Directive on equal pay to work of equal value did not specify how equal value had to be established,² (ii) the European guidelines lack the force of a Directive, and (iii) the equality guidelines lack specific targets (Barrett *et al.*, 2000). Nevertheless, continuing pay inequalities between women and men also derive from the fact that there is no good understanding of the phenomenon itself (Maruani, 2001).

Assessing the *exact* size and evolution of the *overall* gender wage gap in EU countries is still problematic. There are two main harmonized databases for comparing gender pay differentials throughout Europe: the European Structure of Earnings Survey (ESES) and the European Community Household Panel (ECHP). Unfortunately, neither of these data-sets is fully adequate. The main weakness of the ESES is that it does not cover the public sector or common services. This is a significant limitation since the number of women working in these sectors is considerably higher than the number of men. Moreover, ESES data at EU level are only available for 1995 on an aggregated basis. The main shortcoming of the ECHP is that the information on wages is not fully reliable.³

Many uncertainties also remain as to the factors leading to pay inequalities. This is not very surprising since many EU countries have long been reluctant to make individual statistics on wages available to researchers. Nevertheless, data availability is not the whole story. To gain a better understanding of the causes of wage inequalities, the statistics on wages should be completed and improved in various ways (European Commission, 2001). Firstly, there is a need to enlarge the coverage of the EU harmonized statistics. It is essential to collect data for all groups of the working-age population (whether employed full-time or part-time, unemployed or inactive), for all branches of industry (independently of the type of economic and financial control) and for several years (ideally panel data). Secondly, there is a need to gather information on a larger number of variables, including the level and structure of gross wages (for example basic pay, premia, bonuses), the household situation (for example marital status, number and age of the children), individual and establishment characteristics (for example experience, tenure, working time, career breaks, training programmes, occupation, size and profit of the establishment, type of collective agreement). To put it differently, it would be very useful to have a single dataset including (at least) all variables currently available in the ESES and ECHP. Finally, for a number of variables – in particular the occupation – information is required at a much more disaggregated level than is available at present. This is essential if one wants to compare wages of

women and men who perform equal work and work of equal value (European Commission, 2001).

Bayard *et al.* (2003) recently reexamined the question of the relative contributions to the overall gender wage gap of: (i) sex segregation and (ii) wage differences by sex within occupation, industry, establishment, and occupation–establishment cells. To do this, they assembled a unique matched employer–employee data-set covering all industries and occupations across all regions of the USA. In contrast to previous research (in particular Groshen, 1991), they found that a substantial part of the sex wage gap takes the form of wage differences between women and men within narrowly-defined occupations within establishments. The authors therefore conclude that ‘further research into the sources of within-establishment, within-occupation sex wage differences is apparently much more important than previously thought’ (Bayard *et al.*, 2003, pp. 918–9). Unfortunately, to carry out a similar analysis for the EU, it is clear that more disaggregated Community-wide statistics on occupations (preferably at the four-digit level) should be collected.

The 88th Applied Econometrics Association Conference of 6 to 8 September 2004 was organized with the specific aim of stimulating discussion on the ‘Econometrics of Labour Demand’, and various sessions have in particular focused on Gender Wage Gaps. The collection of papers in this book, originally presented at the Conference, provides new insight into the magnitude and sources of the gender wage gap in European countries and New Zealand on the basis of micro-data. In what follows a short summary of these papers is presented.

Job access and workplace practices

In the opening chapter, Olivier Joseph (Céreq DEVA) and Séverine Lemièrre (University Paris I and V) propose some measures of discrimination between young men and women in their entry path into the French labour market. These gender discrimination measures are tested on native and foreign-origin populations. The authors identify two different youth paths. The first one focuses on young people having the same job after their studies and three years after. The second path deals with young people having a first job after the end of their studies and another one three years later. Econometric measures of gender discrimination are computed for both youth paths. These measures distinguish between job access discrimination, wage discrimination and a model of wage discrimination including job structure. Empirical findings, based

on the survey *Génération 98* developed by Céreq, show that job access is widely discriminating for the first job and the job three years later. They also indicate that wage discrimination increases in the two types of integration processes, although the wage gaps have not the same trend for the two paths. Further findings suggest that wage discrimination is due to wage inequalities in the same kind of jobs.

In Chapter 2, Nabanita Datta Gupta and Tor Eriksson (Aarhus School of Business) investigate the effect of high-performance practices, incentive pay schemes and formal worker performance evaluation procedures on the wages of full-time male and female private-sector employees in Denmark by matching a unique 1999 survey on work and compensation practices of Danish private-sector firms to a large employer–employee database. Their results show that the gains and losses from new work and pay schemes are in many cases the same for men and women, so that we may not expect that they would change substantially the gender wage gap. However, considering differences between skill groups, the picture turns out to be different. Findings suggest indeed that high-performance practices reduce wage differentials between salaried males and other groups, while incentive pay schemes benefit salaried workers (particularly males) more than those on hourly pay. They also indicate that performance evaluation systems (particularly those in which evaluation is based on objective criteria) tend to narrow the wage gap between male and female salaried workers in the private sector.

Promotions and wage growth

In the next chapter, Dolores García-Crespo (University of Málaga) examines the importance of promotions in the male and female wage process and the contribution of the internal mobility differences into the gender wage gap in Spain. By using data from a nationally representative survey (the *Encuesta de Estructura, Conciencia y Biografía de Clase*, 1991), the author estimates the usual Mincer equations including the number of promotions received at the current employer taking into account the sample selection according to Heckman's approach. Her main findings are the following: (i) internal mobility at the firm is a very important factor that increases a worker's wage, (ii) there is no evidence showing that intra-firm mobility is rewarded in different ways by gender; (iii) women are held to higher promotion standards than comparable men; and (iv) if the female promotion rate was equal to the male one, the gender wage gap would be lower.

In Chapter 4, Philippe Van Kerm (CEPS/INSTEAD) examines gender differentials in promotion and wage growth using nationally representative panel-survey data for Luxembourg. Empirical results suggest that women lag behind men as far as promotion is concerned, even after controlling for human-capital attributes and the type of jobs held. The gap appears to be especially large for low-earnings women. Despite this disadvantage, the author shows that the expected annual percentage wage growth of women is higher than that of men. However, this advantage largely disappears when controlling for human capital and job characteristics. Finally, when looking at estimates conditional on the base-period wage level, the author finds no evidence of a 'glass ceiling' above high-earnings women, neither in terms of promotion nor of wage growth.

Sectors, profits and rent-sharing

François Rycx and Ilan Tojerow (Free University of Brussels) examine the interaction between inter-industry wage differentials and the gender wage gap in the Belgian private sector. On the basis of the 1995 Structure of Earnings Survey, the authors report the existence of significant inter-industry wage differentials for both male and female workers, even when controlling for working conditions, individual and firm characteristics. These differentials are highly correlated but statistically different. On average, women have an inter-industry wage differential of 11 per cent below that of men. Further results show that the overall gender wage gap is equal to 0.20 and that industry effects do not very much account for this gap.

In Chapter 6, Hermann Gartner (IAB) investigates gender differences in rent-sharing with the German linked employer–employee data (LIAB) of the Institute of Employment Research (IAB) in the year 2001. Empirical findings show that workers' wages are significantly and positively related to firm profits-per-employee, even when controlling for group effects in the residuals, individual and firm characteristics, industry wage differentials, and endogeneity of profits. The instrumented wage–profit elasticity is equal to 0.108 for males and 0.085 for females. Differences in rent-sharing are found to explain about 20 per cent (4.64 per cent points) of the overall gender wage gap. 0.17 per cent points can be attributed to gender-specific sorting across high and low-profit firms and 4.47 per cent points to differences in the wage–profit elasticities. According to Hermann Gartner, one possible reason for differences in rent-sharing are different positions of male and female workers within the firm. The point is that male workers,

more frequently in higher positions in the firm, may have more opportunities to extract rents.

Dynamics and unobserved heterogeneity

In Chapter 7, Aynah Gangji (Free University of Brussels), Kristian Orsini (University of Leuven) and Salimata Sissoko (Free University of Brussels) provide evidence on the effect of controlling for unobserved individual heterogeneity in estimating gender pay differentials. Using the European Community Household Panel (ECHP), they present a cross-country comparison of the (un)adjusted gender pay gap over time based on cross-section and panel-data estimation techniques. The analysed countries differ greatly with respect to labour legislation, bargaining practices, overall social-legal framework and structure of earnings. Once controlling for unobserved heterogeneity, the authors find a narrowed male–female pay differential, as well as significantly different rates of return on individual characteristics. In particular, the adjusted wage differential decreases by 7 per cent in Belgium, 14 per cent in Ireland, between 20 and 30 per cent in Germany, Italy, the Netherlands and Spain, and by more than 40 per cent in the UK and Denmark.

In the final chapter, W. Robert J. Alexander, Murat Genç and Mohammad Jaforullah (University of Otago) examine the gender wage ratio in New Zealand with data from the first annual New Zealand Income Survey in 1997 and the latest available survey from 2003. To do so, they estimate wage regressions by OLS and two methods, Heckit and Maximum Likelihood, which take account of sample selection bias arising from the exclusion of individuals with no market income. The authors pay particular attention to the sensitivity of the results to exclusion restrictions. Regardless of estimation method or specification, they find evidence of a statistically and economically significant female/male differential. On the other dimension by which individuals are potentially observationally distinct, namely ethnicity, the evidence is less clear-cut.

Notes

- 1 For a description of the EU legislation and strategy on gender equality, see European Commission (1994, 2000, 2002).
- 2 It should be noted, however, that a valuable code of practice on the implementation of equal pay for work of equal value, giving concrete advice to employers and contracting parties at corporate and sectoral level, has been published by the European Commission (1996).
- 3 For a comparison of the advantages and disadvantages of the ESES and ECHP, see Plasman *et al.* (2001).

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