

The Greek public sector wage premium before the crisis: size, selection and labour market fairness

Abstract

For decades, public sector employees in Greece have been earning significantly higher wages than their private sector counterparts. Greece's recent fiscal crisis has initiated a reversal of this trend, with drastic public-sector pay-cuts currently implemented by the government. In this paper we examine the Greek public-private wage differential at a period immediately before the financial crisis as a means to evaluating the degree of wage discrimination in the economy and the impact of the public sector pay-cuts on this. We find evidence of a large wage premium which persists after controlling for individual and job characteristics. For men much of the premium is due to self-selection on the basis of observable and unobservable characteristics, while for women it is mostly driven by sectoral differences in returns. The recent measures seem to eradicate the public-private differential *on average*, but substantial differences remain for specific categories of workers, mainly the low paid and women. Given the revealed structure of returns and skill compositions in the two sectors, we argue that this is a combined effect of more egalitarian pay-structures in the public sector and of demand and skill valuation problems in the private sector.

Keywords: Public sector, wage differentials, austerity measures, endogenous selection
JEL codes: J31, J45, J71

1. Introduction

The issue of public sector premia and public-private differences in wage structures has recently gained prominence in Greece, albeit in a rather unfortunate conjecture. The Greek fiscal crisis has necessitated severe pay cuts in the Greek public sector, initially planned at about 4.5% of the average annual employee compensation but more recently rising to about 12% (Callow, 2010;

NBG, 2010). Although the need for curbing current public expenditure in the pursuit of fiscal consolidation is undisputable, it is important to stress that very little is known about the pay structure of the public vis-à-vis the private sector in the country. Thus, it is not clear to what extent public sector wage cuts can be justified on grounds of fairness – besides their justification on the basis of (fiscal) need. Despite this, the government has been keen to emphasise the ‘fairness’ of these cuts. As an example, the Greek Minister of Finance has argued that “*the public sector pay system has indeed many elements that have nothing to do either with common sense or with common perceptions of fairness. Apart from aiming at reducing expenditures, [the governments’ new incomes policy] also has an element of justice.*” (Sunday paper ‘Εθνος, 7/2/2010 – authors’ translation).

The existence of a sizeable public sector wage premium in Greece is of course well-known. The premium is reported to range between 25-40% from the mid-70s till the 90s (Kioulafas *et al*, 1991) and to reach extremely high values in the late 90s (over 50% in 1997 – Papapetrou, 2006a). However, despite the size of this premium and the importance of the public sector as an employer and wage-setter, research on the topic is scarce. Further, all available evidence comes from studies with particularly small sample sizes and potentially important measurement problems. For example, Kioulafas *et al* (1991) used self-collected data for the years 1975, 1981, 1982 and 1985 with a sample size of only about 650 individuals per wave. Kanellopoulos (1997) used the 1987 Greek Budget Household Survey, which covered 3600 individuals. Both studies analysed monthly wages without controlling for hours, thus failing to account for the substantial differences that exist between the public and private sectors in terms of hours of work. Two more recent studies by Papapetrou (2006a and 2006b), which did include controls for hours, measured wages in the form of annual earnings from employment and were also based on rather small sample sizes (around 2000 individuals from the 1997 and 1999 waves, respectively, of the Greek section of the European Community Household Panel).

Besides these issues, this evidence is now quite dated, coming from a period with markedly different employment relations and before Greece's accession to EMU. Since the late 1990s, Greece has followed an extensive privatisation programme and has taken continuous steps towards labour market deregulation (Ioannou, 2000; Pissarides and Monastiriotis, 2011). Coupled with the regulatory and behavioural pressures applied to its labour market from membership in the Eurozone (Boeri, 2004; Monastiriotis and Zartaloudis, 2010), these developments ought to have altered significantly the valuation of skills and the appropriation of rents in the private and public sectors. By implication, they are also likely to have altered the relative and absolute wage premia there – rendering the available evidence less relevant or suitable for policy analysis.

In this paper we seek to fill these gaps by examining the size and nature of public-private wage differentials in Greece using data from the 2005 spring wave of the Greek Labour Force Survey (LFS). These data have only relatively recently become available to independent researchers. We focus on 2005 because by that time Greece had largely completed its transition into the post-EMU era, while the first signs of the global economic crisis had not yet been manifested. We examine the differences in average wages between the private and public sectors, as well as in the structure of returns to specific employee and job characteristics, such as education, experience, marital status, type of contract, and others. Given the perceived importance of self-selection in the determination of sector of employment (Heckman, 1979; Bender, 1998), we perform endogenous switching regressions that control for sector-selection, and we discuss the differences in the obtained results. With this, we are able not only to decompose the observed wage differential into a price and a composition/endowment effect, as is typical in the literature, but further to decompose the endowment effect into three parts that broadly capture the influence of (a) self-selection (selection component), (b) the price mechanism (interaction component), or (c) labour market sorting (pure composition component). Consistent with previous findings, we find that the composition effect is dominant – but unlike previous studies we are able to show that this

is largely due to selection – which however operates differently for men and women. Concerning the distribution of the public sector premium, we find that this is significantly larger for females and for the lower-paid and that, by implication, the progressivity of the recent wage-cuts, while successfully reducing pay disparities within the public sector, contributes to maintaining much of the pay advantages offered there vis-à-vis the private sector.

The next section discusses briefly the context of wage-setting in the Greek public sector and of the recent pay-cuts there. In section 3 we present our data and methodology. Section 4 presents the estimation of the public and private pay structures. In section 5 we examine the issue of self-selection in the context of an endogenous switching regression model and in section 6 we present a decomposition analysis of these results. We discuss the implications our findings and conclude in section 7.

2. Wage-setting and the recent pay-cuts in the Greek public sector

For decades, the Greek public sector has enjoyed a peculiar status of employment protection and premium pay, irrespective of the skills and characteristics of its labour force. In theory, a number of factors may be responsible for this, including the typically higher union power in the public sector (leading to rent-appropriation by insiders); incomplete information about average worker productivity (leading to wage-setting above the ‘prevailing’ market wage – Fogel and Lewin, 1974); or imperfect monitoring of individual workers’ effort (leading to efficiency wages in the public sector). In practice, however, the reason is less economic and more political. It concerns the clientalistic transactions of governments with voters and the use of the public sector as a reserve for political favours.

Union power has of course played an important role in maintaining this political exchange and occasionally extending the privileges afforded by public sector employees. Union power derives not only from the institutional architecture of the labour market (public sector unions are represented by a peak-level confederation that excludes private sector unions; union coverage in the sector is effectively 100%; while union density is over three times higher than in the private sector – Matsaganis, 2007), but also from the fact that Greek unions are openly politicized, their leadership often having direct links to political parties and the government. Thus, while formally public sector unions are excluded from the wage bargaining process (Ioannou, 2000)¹, in practice they exert a strong influence on public sector pay, as monopoly power and direct links to political parties allow conditions for political exchange.

Owing to this, governments have traditionally looked for the least costly ways to satisfy unions and maintain industrial peace. In this process, governments have occasionally favoured some segments of the public sector over others, causing basic pay to become rather disparate (for example, basic pay in publicly owned utilities is over twice as high as that in central government). To contain wage costs, such disparities were often addressed by the introduction of a range of horizontal (not performance-related) pecuniary benefits specific to the disadvantaged segments. These were additional to the customary ‘13th salary’ paid as a Christmas bonus, and the ‘14th salary’ paid for Easter and annual (summer) leave, which also apply to the private sector. By using these benefits, the government could boost public sector pay with a less-than-proportionate effect on other parts of the State budget (e.g. for pensions and unemployment benefits that are calculated by proportion to basic pay). Of course, governments also often raised the value of existing bonuses or introduced new ones in exchange for political consent.

To complicate matters further, civil servants enjoy life-course tenure (‘permanency’) by constitution, and cannot be fired or forced to resign. This privilege has traditionally extended to

the whole of the public sector, including public utilities and state owned enterprises. Although the historical reasons for this are justifiable², its practical implication has been to remove performance incentives and nurture a low-effort ethos into the public sector culture. Moreover, in the presence of this life-tenure rule, clientelistic relations between governments and voters (i.e. hiring in exchange for votes) translated into a continuous bloating of the public sector. Any change of government led to more hiring irrespective of the sector's organic needs.³ By implication, productivity in the public sector has been dismal, and combined with a strong resistance to modernisation, even to basic aspects of it, such as the introduction of computers in parts of the civil service. Partly to deal with this problem, successive governments started making extensive use of temporary contracts, which offer lower pay and less employment security. Despite this, public sector wages have historically grown faster than in the private sector.

In the wake of an alarming sovereign debt crisis, in early 2010, the Greek government was forced to implement a radical programme of austerity measures, with unprecedented reductions in public sector pay. In March 2010 the government announced a headline 20% cut in benefits in the so-called 'narrow public sector' (mainly, civil servants⁴) and a two-year pay freeze (excluding seniority pay-rises). In May 2010, it further announced the abolition of the so-called 13th and 14th salaries, and their replacement with a flat payment of €1,000. The benefit cuts have a slightly progressive character, representing a reduction in annual pay that ranges from 8% for civil servants earning less than €14,000 pa to over 13% for those earning over €27,000 pa. However for employees in the so-called 'wider public sector' (utilities and other state owned enterprises and public bodies) a horizontal 10% salary cut is implemented instead. More recently, the government introduced additionally a salary cap in the public sector (set at about €6,000 per month) and a cap to bonuses in the wider public sector to a maximum of 10% of basic pay. On average, these cuts represent a reduction of about 12% of total pay (NBG, 2010), but of course at the individual level their effect is highly variable (to avoid extreme cases, the government has

capped these cuts to a maximum of 25% of past earnings). Under current proposals (concerning the introduction in late 2011 of a new universal pay scale, that will be applicable to all public sector employees, and the abolition of most bonus categories), pay-differentials within the sector are expected to decline further, with pay-cuts at the top of the scale up to 30% but also pay increases, up to 15%, at the bottom.⁵

These developments motivate an in depth analysis of the public sector premium in Greece. In what follows, we examine the size of the pre-crisis public sector wage premium in the country and determine the degree to which this can be explained by differences in observable characteristics in the two sectors. We interpret any remaining share of the premium as “unfair”, acknowledging that unfairness can come both from an advantageous valuation of a given set of characteristics in the public sector and from a disadvantageous valuation of the same characteristics in the private sector. We also test whether the returns to skills and characteristics differ between the two sectors and examine to what extent self-selection accounts for the observed differences. Finally, we discuss whether the wage cuts in the context of the crisis are adequate to reduce, eliminate, or reverse the public-private pay inequality observed in Greece.

3. Methods and Data

We start by estimating an extended Mincer wage equation, controlling both for employee and employer/job characteristics, as follows:

$$\ln W_i = \beta X_i + \varepsilon_i \quad (1)$$

where W_i is the monthly wage of individual i , X is a vector of control variables, β the respective returns, and ε is a random error. We report estimates on the pooled sample, and also separately by (public and private) sector and sex. To account for the possible endogeneity between wages and

the choice of sector (which, if present, would render the OLS estimates biased) we also estimate an endogenous switching regression model (see Van der Gaag and Vijverberg, 1988). This comprises two Mincer equations (one for each sector) and a selection equation sorting individuals across sectors, with jointly dependent errors.⁶ The selection equation is:

$$S_i = \gamma_1 \Delta \ln W_i + \gamma_2 Z_i + u_i \quad (2)$$

where $\Delta \ln W$ denotes the public-private sector wage differential, Z is a vector of instruments that influence the choice of sector, u is the error term, and $S=1$ if person i is in the public sector.

With the derived estimates we subject the mean public-private wage gap to three different decomposition techniques. Firstly, we apply the classic Blinder-Oaxaca (1973) decomposition to separate the wage gap ($\Delta \bar{W} = (\ln \bar{W}_{i,\text{publ}} - \ln \bar{W}_{i,\text{priv}})$) into composition ('endowment') and price ('returns') effects, as follows:

$$\Delta \bar{W} = (\bar{X}_{i,\text{publ}} - \bar{X}_{i,\text{priv}}) \beta_{\text{publ}} + (\beta_{\text{publ}} - \beta_{\text{priv}}) \bar{X}_{i,\text{priv}} \quad (3)$$

The first term in the right-hand side of (3) captures differences in worker characteristics valued at public sector prices, and the second term captures differences in the price of these characteristics expressed in terms of private sector mean values. Secondly, we adopt the Daymont-Andrisani (1984) approach to also allow for a price-endowments interaction term:

$$\Delta \bar{W} = (\bar{X}_{i,\text{publ}} - \bar{X}_{i,\text{priv}}) \beta_{\text{priv}} + (\beta_{\text{publ}} - \beta_{\text{priv}}) \bar{X}_{i,\text{priv}} + (\bar{X}_{i,\text{publ}} - \bar{X}_{i,\text{priv}}) (\beta_{\text{publ}} - \beta_{\text{priv}}) \quad (4)$$

Here, the first term is similar to that of equation (3) but valued at private sector prices; the second term is directly analogous to that of equation (3), while the additional term represents the part of the endowment effect that comes as a response to existing differences in returns.⁷ Lastly, we employ the Neumark (1988) or Oaxaca and Ransom (1994) technique that uses the estimated coefficients from a pooled regression as a non-discriminatory weight in the determination of the endowment effect (unlike the other two, which weight the endowment differences using the

coefficients from one of the sectors). We, thus, decompose the price-effect into positive and negative discrimination terms:

$$\Delta\bar{W} = (\bar{X}_{i,\text{publ}} - \bar{X}_{i,\text{priv}})\beta_{\text{pooled}} + (\beta_{\text{publ}} - \beta_{\text{pooled}})\bar{X}_{i,\text{publ}} + (\beta_{\text{pooled}} - \beta_{\text{priv}})\bar{X}_{i,\text{priv}} \quad (5)$$

Now the first term represents the endowment effect valued at ‘average’ prices, while the second and third terms show the public-sector advantage and private-sector disadvantage, respectively.

We conduct our analysis using the 2005 spring wave of the Greek LFS⁸. This is a household survey that collects information on individuals’ economic activity status; net monthly wage income; and other worker, job and employer characteristics. We note that the wage variable is not continuous. The LFS allocates individuals to nine wage bundles of a 250 euro range. We take the mean value of the wage income bands per observation to create a continuous wage variable, which we use for the biggest part of the analysis (in the next section we show that interval regression results, using the ordinal wage variable, differ only marginally from OLS estimation results using the imputed continuous wage variable – which is consistent with findings elsewhere in the literature). The number of wage-earners in the 2005 wave is 16066, which after some data cleaning (dropping incomplete or inconsistent observations and those younger than 14 or older than 65) leaves our working sample at 15352 observations.

Table 1 provides summary statistics for the entire sample and by sector, serving as a first reflection of the public-private sector duality of the Greek labour market. Public sector employees, who make up a third of the sample, are on average older, more educated, and more experienced, while they have notably longer job-tenures. Moreover, the public sector employs more women, married people and parents, and has more professional and service-sector jobs. On the other hand, the private sector has higher shares of non-natives, part-timers, temps and middle- or low-skilled employees. Given this sectoral distribution of employee and job characteristics, the presence of a sizeable public-private wage gap comes as no surprise. The gap is on average about

32% in terms of monthly wages and 39% in terms of hourly wages. Thus, it is significantly smaller than that reported on the basis of ECHP data (Papapetrou, 2006a) and more in line with international evidence. Estimates of the public sector wage premium range from negative in countries such as Russia (Gimpelson and Lukiyanova, 2009), to slightly positive (typically around 5-10%) in countries such as Canada (Mueller, 1998) and Australia (Cai and Liu, 2011), and rise up to 20-30% in countries more similar to Greece (see Borland and Gregory, 1999, and Borjas, 2002, for reviews of the international literature.)

[INSERT TABLE 1 HERE]

Differences across genders are also present. Figure 1 provides an illustration, plotting Kernel densities by sector for men and women separately. In terms of higher moments (standard deviation, skewness, kurtosis), the shapes of the distributions are reasonably similar across sectors and genders. A notable feature is the difference in the local peak of the Kernel distributions observed at around 6 log-points (approximately €400 per month), which reflects the greater incident of part-time employment for women, especially in the private sector (see the left-hand panel of Figure 1). More important, however, are the differences in the *location* of the distributions. Whereas in terms of monthly wages there is a clear sorting by sector, in terms of hourly wages sorting appears to be stronger across *genders* than sectors. For monthly wages this results in a significantly higher public-private wage gap for females compared to males. In contrast, the public-private wage gap in hourly terms is rather balanced between genders. The implication is that females work significantly longer hours, especially in the public sector, than their male counterparts: this is why the public sector gender pay-differential observed in the right-hand panel of Figure 1 effectively disappears when considering monthly wages (left-hand panel).

[INSERT FIGURE 1 HERE]

4. Pay differences and the public sector wage premium

We start by estimating a single-equation model with OLS, using the pooled data and including a public sector dummy. We report the results in the first column of Table 2. All control variables carry the expected signs, with the coefficient on the public sector dummy suggesting a (much reduced in size, but statistically significant) net public sector premium of 11.3%.⁹ Factors such as education and labour market experience appear to increase wages significantly. We also find the usual wage penalties for females, non-natives, temps, part-timers and employees working in small firms. When using hourly instead of monthly wages (column 2), the estimated public sector wage premium increases rather notably (to 15.2%). Other than that, the results remain generally robust across specifications, even when using the ordinal wage variable in interval regression estimation (column 3).

All single-equation results (columns 1-3) suggest that about 35-40% of the raw public-private wage differential persists after controlling for a series of observable job- and individual-level characteristics. This constitutes a net premium embedded in the public sector wage, over and above the non-pecuniary benefits that it offers (tenure, job-protection, better arrangements on leave and holiday, etc). The single-equation analysis, however, imposes the restrictive assumption that returns to individual and job characteristics are the same between the two sectors. Instead, the persistence of the public sector premium is indicative of differences in the returns to characteristics between sectors. To examine this difference in pay structures, we estimate our wage equation separately for the public and private sectors and by sex. We report the results of this analysis in columns 4-7 of Table 2.

[INSERT TABLE 2 HERE]

While the results remain qualitatively robust, the size of the estimated coefficients differs significantly across sectors and genders. For men only, we find that the public sector values education more than the private: an additional year of education raises their monthly wages by about 60% more in the public sector than in the private sector (2.1% and 1.3%, respectively). For both men and women, we find that the public sector values labour market experience more than the private. However, the advantage is much higher for women than men (58% and 35%, respectively), perhaps because career interruptions are not penalised equally in the two sectors. For men, being married pays more in the private than the public sector, whereas being a parent of a young child increases their wages in the public sector only. For women, the wage premium of being married is of similar scale between sectors (but significantly lower than that of men in the private sector), while parenthood does not appear to affect their wages at all. Interestingly, wage discrimination for non-natives also appears gendered: foreign-born men face higher wage-discrimination in the private sector, while foreign-born women face higher wage-discrimination in the public sector.¹⁰

Differences are also present in the returns to job characteristics. For both genders, being on a temporary or part-time contract entails a higher wage penalty in the public than in the private sector, while working in a small firm entails a higher wage penalty in the private sector and effectively zero penalty in the public sector. The firm-size effect is in line with expectations about the wage-setting behaviour of the public sector, where considerations about firm productivity play a more minor role and wages are set more or less uniformly across firm sizes. In contrast, the estimated penalties for temping and part-timing are higher in the public sector, which suggests that cost-containment is likely the predominant reason why governments use such non-standard employment contracts. A compensating wage differentials story may also be applicable here, as temporary contracts in the public sector have traditionally served as a stepping stone for obtaining a tenured public sector job (Karamessini, 2010).¹¹

To form an idea about the distributional qualities of the wage premium, in Table 3 we present quantile regression estimates by gender. What we find is consistent with Greek evidence elsewhere in the literature (Papapetrou, 2006a and 2006b). The premium is higher for women than men across the board, and it is stronger for employees, of both genders, at the lower parts of the wage distribution. For men, the public sector premium ranges from 13.8% for employees in the first quintile to 9.7% for employees in the fourth quintile, while it evaporates completely for employees in the top quintile. For women the corresponding figures are 24.6%, 14.0% and 6.5%, respectively. Studies from other countries find similar variation in the wage premium across the distribution and by gender. (e.g. Mueller, 1998 on Canada; Blackaby *et al*, 1999 on the UK; Melly, 2005 on Germany; Lucifora and Meurs, 2006 on Italy, France, and the UK; and Cai and Liu, 2011 on Australia). However, they also typically find that male public sector employees suffer wage penalties at the upper tail of the wage distribution, which is not the case in Greece – suggesting an advantageous treatment of Greek public sector employees also in the upper parts of the wage distribution (but only relative to the international evidence). Because we derive our wage variable from wage bundles, we report these quantile estimation results with reservation. In what follows we focus on standard wage regressions on the mean but we return to these findings later in our discussion.

[INSERT TABLE 3 HERE]

5. Endogenous selection into public sector employment

As is commonly observed in the literature, differences in public-private wage structures deriving from OLS estimates may be subject to significant bias due to endogenous selection; i.e., due to the non-random way in which individuals self-select into sectors of employment. In this section we apply an endogenous switching regression estimation, which identifies the probability of an

individual working in a particular sector through a selection equation. There are two ways to do this. One is by specifying the selection equation in the same way as the two wage equations and allowing identification to come from the non-linear arguments of the reduced form of the model (Lokshin and Sajaia, 2004). The other is to aid identification by explicitly modelling the exogenous factors that account for selection into the sector of interest (here, the public sector). We opt for the second approach (we present the results of the first approach, without commentary, in the Appendix.). We considered a number of relevant variables, including a measure of household size and three dummy variables indicating whether the individual has more than one jobs; has additional non-labour income; or has a spouse or parent working in, or having retired from, the public sector ('public history').¹² Invariably, the last measure performed best in the selection equations while the other controls were rarely significant in a statistical sense. Thus, in this section we focus on the results derived from using 'public history' as our identifying variable for sector selection (Table 4).

We find that the 'public history' variable is highly statistically significant and of similar magnitude in the selection equations of both genders. We interpret this as a 'mentality' or 'accessibility' effect on how people sort themselves across sectors. Having a close relative in the public sector may signal some sort of a familial preference towards public sector jobs (a 'family mentality' effect). In the context of Greece, however, it most probably reflects greater access to such jobs, either through informal or clientilistic networks or simply through information-sharing. Christofides and Pashardes (2002) use a similar measure for the case of Cyprus and interpret it largely on the same grounds.

[INSERT TABLE 4 HERE]

The other variables in the selection equations have generally the expected signs. For both genders, advantageous labour market characteristics (such as education, experience and being

born in Greece) are associated with a greater preference towards, or higher incidence of, public sector jobs. This is consistent with both a demand-side explanation (the public sector in Greece creates more high-skill jobs and employs proportionately more natives than the private sector) and a supply-side explanation (employees with more competitive characteristics bump-down other employees to obtain the more lucrative public sector jobs). Some other characteristics (such as part-timing, temporary employment and firm-size) reflect directly the demand structure of the Greek public sector (larger workplaces and more extensive use of temps but less part-timing). Interestingly, marital and family conditions do not seem to affect the selection of men into a particular sector, whereas both variables are significant for women, albeit in opposite directions. The positive effect of having under-aged children probably reflects the more generous maternity and leave arrangements in the public sector. Inversely, the marital status coefficient may reflect that married women, as secondary-earners in the households, tend to obtain less secure private sector jobs.

Overall, evidence of endogenous selection is stronger for men than women. The Wald test for the independence of the selection and wage equations, testing essentially for endogenous versus simple selection (i.e., whether selection is driven by individuals' expected returns based on their characteristics or purely due to compositional differences, see De Lune and Johansson, 2008), returns a highly significant statistic in the case of males ($\chi^2=41.83$, p-value=0.000) but a statistic significant only at 5% for females ($\chi^2=6.04$, p=0.0487). Consistently, the coefficient 'rho' in Table 3 indicates that selection has a direct effect on private sector wages, which is higher for men than women. The negative sign suggests that unobservable characteristics responsible for public sector preference are associated with lower earnings in the private sector (or, alternatively, that self-selection into the private sector carries with it a wage premium). This finding is consistent with the common impression that the Greek public sector attracts less self-motivated employees who would normally be less competitive in the private sector. On the other hand, as

should be expected perhaps, individuals with a preference for private sector employment who nevertheless fall into the public sector do not experience a penalty associated to this ‘mismatch’ - the selection variable in the public sector wage equation is (negative but) not statistically significant. In a way, this shows that the public sector wage premium is not the result of rewarding ‘public sector mentality’ in the public sector but of penalising it in the private sector.

Despite our finding of a significant selection effect, the selection-corrected wage equations yield estimates which are broadly similar to the OLS results (Table 2), with some notable exceptions. We list here the statistically significant differences. For men, returns to education become now lower in the private sector (by some 15%) and the sectoral gap widens further. Inversely, returns to labour market experience become lower in the public sector (by 9%), thus also lowering the sectoral gap. In the private sector the male part-time penalty and married premium fall by around 12% each, while in the public sector the elasticity of wages to hours worked declines by 20%. For women, controlling for selection increases the penalty associated to firm size in the public sector (by 42%); the penalty for being non-Greek in the private sector; and the penalty for temporary employment in both sectors (by about 20%). Finally, the elasticity of wages to weekly hours also changes significantly but, unlike in the case of men, for women the estimates for the two sectors converge.

6. Decomposition analysis

In section 3 we showed that the public and private sectors in Greece differ significantly in the composition of characteristics of workers and jobs. In sections 4 and 5 we showed that these two sectors also differ in how they reward these characteristics. Here we ask how these differences contribute to the determination of the sectoral wage gap. For this, we decompose the gap into its constituent elements. As we mentioned in section 2, we perform a number of decompositions,

which allow us to consider not only the relative contribution of endowments and shadow prices (returns) (as in Blinder-Oxaca, 1973), but also the interaction between the two (as in Daymont-Andrisani, 1984) and the comparative price advantage or disadvantage of the public and private sectors (as in Neumark, 1988, or in Oaxaca and Ransom, 1994). We perform these decompositions for both sets of results, i.e., those based on the OLS estimates (Table 2, columns 4-7) and those based on the endogenous selection model (Table 4). We present the results in Table 5.

In all cases, when not controlling for selection, the composition effect dominates strongly, being on average around 74% (68% for males and 80% for females).¹³ The price effect appears small (first and second rows of each panel) and is driven mainly by a public sector advantage than by a private sector penalty (third row of each panel). In line with our earlier discussion, the latter result suggests that the observed pay gap is more due to a distortionary pay structure in the public sector than to labour market unfairness in the private sector, although both processes are present. It is also worth noticing that both the public sector advantage and the private sector disadvantage are greater for females than for males. The dominance of the endowment effect, however, suggests that the substantial pay-gap observed in the raw data is mainly driven by structural differences in the composition of employment between the two sectors than differences in pay structures. By implication, it also suggests that labour market unfairness, defined as substantially higher returns in the public sector to similar characteristics, is much smaller than it appears at first sight.

Correcting for selection has a marked impact on the decomposition results, in most cases lowering significantly the contribution of the endowment effect. In the Daymont-Andrisani decomposition, which evaluates the endowment effect at private-sector prices, this effect drops from 74% to 10% on aggregate; while for men it even changes direction (suggesting that, net of

selection, the sectoral distribution of characteristics would have contained the public sector wage premium by some 15%). Instead, much of the endowment effect produced by the OLS results is now captured either by selection (which accounts for 17% of the raw male public-private wage differential) or by the interaction effect (which shows labour market participants' response to sectoral differences in returns) – the latter accounting for almost 60% of the raw wage differential. Consistent with the evidence presented in Table 4, the size of the direct price effect, although rising (to 39% of the raw differential), remains secondary.

In contrast, for women the direct price effect (showing differences in pay structures, valued in this case at private sector characteristics) becomes the main component (at 56%) while the selection and interaction effects are much less dramatic (the latter accounts for 12% of the raw differential while selection operates towards deflating the public sector wage premium). Again, this is consistent with the evidence of Table 3, where self-selection affected significantly the female structure of returns in the two sectors, but had a less substantial *direct* impact on female wages in either sector.

[INSERT TABLE 5 HERE]

Crucially, then, while on casual inspection the key factor accounting for the public-private wage gap for both genders is compositional differences between the two sectors, controlling for selection reveals that the gap is predominantly due to sorting (for males) and a more equitable valuation of labour market endowments in the public sector (for females). We therefore conclude that the public sector wage premium is more an outcome of the sector's more gender-neutral reward structure and its skill-composition profile, than of a universal 'premium' which would raise issues of fairness across the labour market (i.e., vis-à-vis the private sector). Moreover, as the public sector premium concentrates on the lower-paid, i.e. those with least 'insider power', it appears to us that a significant part of the pay-gap ought to be attributed to problems found in the

private sector (such as a weak ability to generate and fill high-skill jobs and an overly low valuation of ‘disadvantageous’ labour market characteristics, including gender and ethnicity), rather than to general labour market unfairness related to public sector rents and insider power.

7. Conclusions

In this paper we analysed the public-private wage gap in Greece using, for the first time, data after Greece’s accession to EMU and before the eruption of the current fiscal crisis in the country. Compared to data used in previous studies, our Labour Force Survey data comprise a larger and more representative sample. We find that public sector wages in Greece are considerably higher (by some 32%) than private sector wages. We also find significant differences in the structure of characteristics and in the returns to these characteristics, between the two sectors. Conditional on the structure of characteristics and the average returns, the public-private wage gap reduces significantly but remains large, suggesting a net premium of over 11%. Moreover, this premium is noticeably larger for employees in the lower parts of the wage distribution and especially for females, for whom it reaches a net value of almost 25%. Further exploration of the average net wage premium, by means of an endogenous switching regression which controls for endogenous self-selection into different sectors, confirms that this takes a different form for men and women.

For women, the premium manifests itself more as a difference in the returns to characteristics rather than as compositional differences in these characteristics, although these are also present. The selection and interaction effects are small, suggesting that neither differences in returns nor unobserved traits cause significant sorting of women into the public sector. Instead, it appears that the public sector tends to employ women with more marketable characteristics more widely than the private sector (composition effect) and to reward their skills more similarly to men (i.e.,

more generously than the private sector – price effect). This implies not only a degree of negative wage discrimination in the private sector, but likely also an accessibility constraint for women possessing marketable labour market characteristics, as relevant jobs are available there but are taken predominantly by males.

For men the situation is radically different, as the net public-sector premium that they enjoy is much more linked to self-selection than to pure differences in returns (price effect) or to exogenous sorting (i.e., access to jobs – pure endowment effect). Two mechanisms are in operation. On the one hand, men with characteristics that are more on demand in the public sector receive an absolute premium for these characteristics there (interaction effect). On the other hand, men with unobservable characteristics that yield a negative return in the private sector self-select into public sector jobs because there they are not penalised for possessing such characteristics (pure selection effect).

Besides these gender issues, two are the main messages deriving from our analysis with regard to contemporary policy issues in Greece. First, the public sector wage cuts that have been recently announced by the Greek government under its emergency austerity programme do not introduce unfairness in the Greek labour market. In fact, they work in the opposite direction, decreasing unfairness that already existed. Before the crisis, public sector employees had been enjoying a significant wage premium, in both gross and net terms. Moreover, they had been benefiting from a more advantageous pay structure that discriminated less against females and the low-paid and accommodated characteristics that the private market penalises. The recent cuts maintain at least two of these features, namely the non-discrimination against women and the preferential treatment of the low-paid. It follows that, harsh and socially regressive as these cuts may be, they are in fact rather fair in redistributive terms (vis-à-vis comparable employees in the private sector on average and between the low- and high-paid in the public sector). Still, they are not ‘fair

enough' to fully restore the public-private wage inequality. By reducing the premium by less in the lower quartiles of the distribution, i.e. exactly where this premium is stronger, they in fact maintain a sizeable wage premium for the low-paid in the public sector while they reverse the sign of the premium for the highly-paid. Importantly, the prospective standardisation of pay scales in the public sector, which will lead to a significant compression of the wage distribution there (which in public discourse may be perceived as increased 'fairness'), will in fact act to increase labour market 'unfairness', as it will intensify the public-private differential at the bottom of the wage distribution and reverse it even more intensively at the top.

Second, and following from the above, the wage cuts do little to address the impressive differences in the composition of workers and jobs between the two sectors. Although the public sector's skills profile and the premium that it offers may be distorting the supply of skills in the private sector, the existence of 'waiting queues' in the public sector (Monastiriotis, 2008) and the low returns to skills offered in the private sector also signal a structural weakness of the private economy to generate skilled jobs. Indeed, in a context of low productivity, weak demand, and rather inflexible employment relations, at least in some parts of the economy, the presumed public sector-induced skills undersupply does not translate into higher returns to skills in the private sector but rather seems to *restrain job-creation*. In the absence of a sufficient pool of 'good jobs' in the private sector, a process of bumping-down occurs with over-qualified employees concentrating disproportionately in the lower ranks of the private sector and experiencing conditions of wage discrimination and low pay.

Under these conditions, a fundamental reform of the labour market in Greece, aiming at improving both efficiency and fairness, ought to include more than a rationalisation of pay scales in the public sector. It requires a wider reorganisation of employment relations nationally, which will remove the distortions and disincentives that are associated with privileges in the public

sector, but will also address problems of wage discrimination and skilled job creation in the private sector. The recent wage cuts, by compressing the wage distribution in the public sector, may contribute eventually to a greater supply of highly-skilled workers in the private market. But they will do little, if anything, to address the public-private sector duality and the problem of low pay and skills under-utilisation in the private sector.

¹ Minimum wages and pay scales in the sector are set by law. Union bargaining takes place on such issues as working conditions, non-pecuniary benefits, conditions for hiring, minimum required qualifications, etc).

² Namely, to neutralise the ability of government to place into the public sector members of its own political clientele – a practice which has been widespread in the early stages of the development of the Greek State.

³ Such examples can be found even in 2009, the year of the crisis. According to the General Inspectorate of Public Administration, two months before the October elections the outgoing government hired 210 employees into Attiko Metro, the Athens metro-rail company, increasing its workforce by 14% in these two months alone (and by 24% since January 2009), bringing the company's workforce to 110% of that predicted in its own Operational Plan (source: http://www.gedd.gr/article_data/Linked_files/72/AMEA%20AE.pdf).

⁴ These however excluded a number of benefits which are paid to almost all public sector employees, mainly those related to educational qualifications, marital status, number of children, years of service, performance, and others.

⁵ The 30% pay-cut concerns about 30,000 employees, out of a total of over half million. The government expects the overall effect of the new standardized pay scale to be neutral (i.e., not generating additional expenditure reductions) – although it also expects savings related to the abolition of various bonus categories in the area of 3% of its total wage-bill. (Source: <http://www.enet.gr/?i=issue.el.home&date=09/02/2011&id=249483>)

⁶ The estimation essentially involves a two-stage procedure, analogous to the Heckman model. We use a Full Information Maximum Likelihood (FIML) method of estimation, which fits the binary and continuous regressions simultaneously and makes the appropriate error adjustments. For details see Lokshin and Sajaia (2004).

⁷ More specifically, the first term in (4) gives the endowment effect that would prevail if there were no differences in the structure of returns between the two sectors (i.e., if $\beta_{priv}=\beta_{publ}$), while the third term gives the part of the endowment effect which is due to the presence of higher returns in the public sector.

⁸ Results for 2006 and 2007, for which directly comparable data are available, produce largely identical results to the ones reported here.

⁹ We calculate this as $100*(e^{0.107}-1)$, following Halvorsen and Palmquist (1980).

¹⁰ This is in a way because, controlling for observable characteristics, native women experience no wage penalty associated to being female in the public sector (compare the estimated constant terms in columns 4 and 6). It appears that this privilege, of equal treatment of genders in the public sector, does not extend to females of non-Greek origin, who end up earning some 28% less than Greek-born females (calculated as $e^{-0.329}-1$). Interestingly, the private sector penalty associated to being a non-Greek male is of similar magnitude to that of being a female irrespective of sector (compare the female effect in column 1 to the non-Greek effect in column 5).

¹¹ Notable differences between the two sectors appear also in the returns to occupation, industrial sector and geographical region (not shown in Table 2). For example, in the public sector, there is a clear premium for professional women; a higher premium for non-manual and unskilled/manual male workers than for professional and skilled/manual male workers; and no penalty for semi-skilled and unskilled/manual female workers. As should be expected, regional differences in the public sector are small (non-significant statistically) for both genders. In contrast, in the private sector net wages differ by up to 20% between the worst-and best-performing regions.

¹² Wage earners in larger households may have a more inelastic labour supply, thus be more willing to accept a private sector job offer than ‘wait’ for a premium job in the public sector. The same applies for multiple-job holding, which we take to signal budget-constrained individuals. In contrast, having additional sources of (non-labour) income may allow workers to ‘wait’ for a public sector job offer, reducing their probability of selecting into the private sector. Other instruments often used in the literature (union membership, estimates of risk aversion, party-political affiliations, etc – see Bender, 1998; Heitmeuller, 2004) were not available through the Greek LFS. We also experimented with an event-related variable (labour force entry before/after the modernisation wave of the early 1990s), following similar attempts in the literature (Adamchik and Bedi, 2000; Disney and Gosling, 2003), but this performed poorly and was highly correlated with key labour market variables (e.g., experience) thus failing as an instrument.

¹³ This is evaluated at public sector prices. When evaluated at private sector prices the aggregate effect drops to 67% (58% for males), while when evaluated at average prices (Neumark decomposition) it rises to 89% (90% for males).

References

- Adamchik, V. and Bedi, A. (2000). Wage differentials between the public and the private sectors: evidence from an economy in transition. *Labour Economics*, 7: 203-224.
- Bender, K. A. (2002). The Central Government-Private Sector Wage Differential. *Journal of Economic Surveys*, 12(2): 177-220.
- Blackaby, D. H., Murphy, P. D. and O'Leary, N. C. (1999). 'The payment of public sector workers in the UK: reconciliation with North American findings'. *Economics Letters*, 65: 239-43.
- Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human Resources*, 8: 436-455.
- Boeri, T. (2004). Euro Adoption and the Labour Market, paper presented at the 10th Dubrovnik Economic Conference, Dubrovnik, Croatia.
- Borjas, G. J. (2002). The wage structure and the sorting of workers into the public sector. NBER Working Paper 9313, National Bureau of Economic Research.
- Borland, J. and Gregory, R. (1999). Recent Developments in Public Sector Labour Market. In O. Ashenfelter and R. Layard (eds.), *Handbook of Labour Economics*. Amsterdam: North Holland, 3573-630.
- Cai, L. and Liu, A. Y. C. (2011). Public-Private Sector Wage Gap in Australia: Variation Along the Distribution. *British Journal of Industrial Relations*, forthcoming.
- Callow, J. (2010). Greece: a sprint and then a marathon. Barclays Capital Economics Research, Barclays Bank PLC.
- Christofides, L. and Pashardes, P. (2002). Self/paid-employment, public/private sector selection, and wage differentials. *Labour Economics*, 9: 737-762.
- Daymont, T. N. and Andrisani, P. J. (1984). Job preferences, College major, and the gender gap in earnings. *Journal of Human Resources*, 19: 408-428.

- De Luna, X. and Johansson, P. (2008). Graphical diagnostics of endogeneity, in T. B. Fomby and R. Carter Hill (eds.) *Modelling and Evaluating Treatment Effects in Econometrics (Advances in Econometrics)*. Oxford: Emerald Group Publishing Limited, 21: 147-166.
- Disney, R. and Gosling, A. (2003). A New Method for Estimating Public Sector Pay Premia: Evidence from Britain in the 1990's. CEPR Discussion Paper 3787, Center for Economic and Policy Research.
- Fogel, W. and Lewin, D. (1974). Wage determination in the public sector. *Industrial and Labor Relations Review*, 27: 410-431.
- Gimpelson, V. & Lukyanova, A. (2009). Are Public Sector Workers Underpaid in Russia? Estimating the Public-Private Wage Gap. IZA Discussion Paper 3941, Institute for the Study of Labour.
- Halvorsen, R. and Palmquist, R. (1980). The interpretation of dummy variables in semilogarithmic equations. *American Economic Review*, 70: 474-475.
- Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica*, 47: 153-161.
- Heitmueller, A. (2004). Public-Private Sector Wage Differentials in Scotland: An Endogenous Switching Model. IZA Discussion Paper 992, Institute for the Study of Labour.
- Ioannou, C. (2000). Wage Structures, Incomes Policy and Decentralized Bargaining: the Case of Greece. *Labour*, 6 (3): 23-44.
- Kanellopoulos, C. N. (1997). Public-private wage differentials in Greece. *Applied Economics*, 29: 1023-1032.
- Karamessini, M. (2010). Transition strategies and labour market integration of Greek university graduates. GreeSE Paper 32, Hellenic Observatory, London School of Economics.
- Kioulafas, K., Donatos, G. and Michailidis, G. (1991). Public and Private Sector Wage Differentials in Greece. *International Journal of Manpower*, 12 (3): 9-14.

- Lokshin, M and Sajaia, Z. (2004). Maximum likelihood estimation of endogenous switching regression models. *The Stata Journal*, 4 (3): 282-289.
- Lucifora, C. and Meurs, D. (2006). 'The public sector pay gap in France, Great Britain and Italy'. *Review of Income and Wealth*, 52: 43–59.
- Matsaganis, M. (2007). Union Structures and Pension Outcomes in Greece. *British Journal of Industrial Relations*, 45(3): 537-555.
- Melly, B. (2005). 'Public-private sector wage differentials in Germany: evidence from quantile regression'. *Empirical Economics*, 30 (2): 505–20.
- Monastiriotis, V. (2008). Unemployment persistence and economic duality in Greece: a regional analysis, in S. Hardy and L. Bibby-Larsen (eds.), *Working Regions*. Conference Proceedings, Regional Studies Association, Seaford.
- Monastiriotis, V. and Zartaloudis, S. (2010). Beyond the crisis: EMU and labour market reform pressures in good and bad times. LEQS Discussion Paper 22, European Institute, London School of Economics.
- Mueller, R. (1998). Public-private sector wage differentials in Canada: evidence from quantile regressions. *Economics Letters*, 60: 229–35.
- NBG (2010). *Greece: Monthly Macroeconomic Outlook (December)*, Athens: Strategy and Economic Research Division, Bank of Greece.
- Neumark, D. (1988). Employers' discriminatory behavior and the estimation of wage discrimination. *Journal of Human Resources*, 23: 279-295.
- Oaxaca, R. (1973). Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review*, 14: 693-709.
- Oaxaca, R. and Ransom, M. (1994). On discrimination and the decomposition of wage differentials. *Journal of Econometrics*, 61: 5-21.

- Papapetrou, E. (2006a). The unequal distribution of the public-private sector wage gap in Greece: evidence from quantile regression. *Applied Economics Letters*, 13 (4): 205-210.
- Papapetrou, E. (2006b). The public-private sector pay differential in Greece. *Public Finance Review*, 34 (4): 450-473.
- Pissarides, C. and Monastiriotis, V. (2011). Institutional and Non-institutional Aspects of Labour Market Flexibility in Greece. Report to the Greek Ministry of Finance, London School of Economics.
- Van Der Gaag, J. and Vijverberg, W. (1988). A switching regression model for wage determinants in the public and private sectors of a developing country. *The Review of Economics and Statistics*, 70: 244–252.

Tables and Figures

Table 1. Sample characteristics

	All		Private sector		Public sector	
	mean/%	St. dev	mean/%	St. dev	mean/%	St. dev
Employee characteristics						
Years of age	38.2	10.5	36.3	10.4	41.9	9.6
Young (age<25)	8.7		11.7		2.8	
Years of completed education	12.1	4.3	11.3	4.1	13.7	4.2
Years of general labour market experience	20.1	11.5	19.0	11.7	22.2	10.8
Years of job-specific tenure	9.7	8.8	7.5	7.7	13.8	9.3
Females	41.1		40.1		42.9	
Foreign-born	9.6		14.3		0.5	
Married/cohabiting	61.1		55.4		72.2	
Parents of child(ren) younger than 17	38.9		35.2		46.0	
Job/employer characteristics						
Unskilled blue-collar workers	9.9		11.3		7.3	
Skilled blue-collar workers	26.4		34.5		10.8	
White-collar workers	34.7		36.6		31.0	
Professionals	27.3		17.6		46.1	
Industry	25.6		35.8		5.9	
Services	72.4		61.9		92.8	
Work in firm with less than 10 employees	44.0		55.1		22.6	
Part-timers	4.4		5.5		2.3	
On a temporary contract	12.2		14.0		8.8	
Private sector workers	66.0					
Selection variables						
Number of household members	3.3	1.2	3.3	1.2	3.2	1.2
Have spouse/parent in the public sector	17.6		6.3		39.7	
Have more than one job	2.3		2.0		2.8	
Earn some income from assets/supporters	7.5		8.0		6.5	
Outcome variables						
Nominal monthly wage in euros	924.5	356.8	832.9	331.4	1102.8	336.5
Usual hours of work per week	40.1	8.3	41.7	8.2	36.9	7.6
Imputed nominal hourly wage in euros	5.8	3.5	4.9	2.8	7.6	3.9

Notes: Numbers are weighted using population weights. Standard deviations are reported for continuous variables only. For monthly wages, the continuous variable is created by using the mean value of the wage income bands per observation. Nominal hourly wages=monthly wages/(usual weekly working hours*4.2).

Figure 1. Kernel densities of log wages by sector and sex

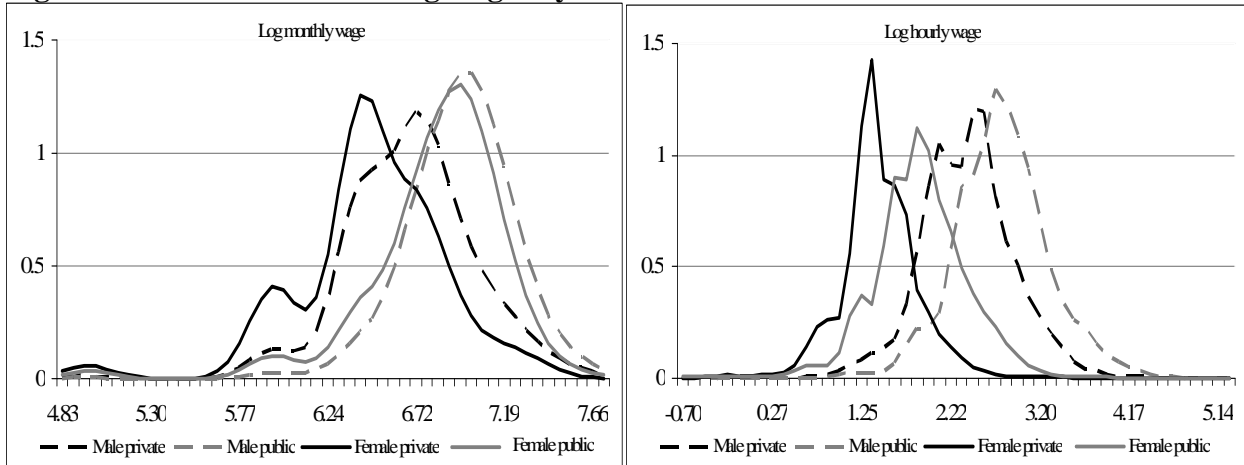


Table 2. The public sector wage premium and public-private differences in pay structures

	All			Males		Females	
	OLS	OLS hourly wages	Interval regression	OLS		OLS	
	(1)	(2)	(3)	Public (4)	Private (5)	Public (6)	Private (7)
Public sector	0.107*** [0.011]	0.142*** [0.012]	0.107*** [0.013]				
Female	-0.101*** [0.007]	-0.085*** [0.007]	-0.099*** [0.008]				
Education	0.016*** [0.001]	0.015*** [0.001]	0.016*** [0.001]	0.021*** [0.002]	0.013*** [0.002]	0.016*** [0.003]	0.017*** [0.002]
Experience	0.017*** [0.001]	0.017*** [0.001]	0.016*** [0.001]	0.023*** [0.003]	0.017*** [0.002]	0.019*** [0.003]	0.012*** [0.002]
Married	0.048*** [0.008]	0.050*** [0.009]	0.046*** [0.009]	0.035** [0.017]	0.065*** [0.014]	0.039** [0.019]	0.034** [0.015]
Child/ren	0.015** [0.007]	0.016** [0.008]	0.015* [0.008]	0.026** [0.012]	0.014 [0.012]	0.015 [0.018]	-0.003 [0.015]
Non-Greek	-0.083*** [0.013]	-0.103*** [0.013]	-0.085*** [0.016]	-0.055 [0.118]	-0.110*** [0.014]	-0.329** [0.164]	-0.043 [0.027]
Part-time	-0.338*** [0.026]	0.244*** [0.026]	-0.288*** [0.031]	-0.460*** [0.127]	-0.275*** [0.053]	-0.362*** [0.082]	-0.296*** [0.037]
Temporary	-0.113*** [0.012]	-0.106*** [0.012]	-0.098*** [0.012]	-0.207*** [0.031]	-0.062*** [0.017]	-0.200*** [0.033]	-0.072*** [0.021]
Small firm	-0.052*** [0.006]	-0.061*** [0.007]	-0.050*** [0.007]	-0.017 [0.013]	-0.062*** [0.010]	-0.028* [0.017]	-0.054*** [0.013]
Weekly hours	0.006*** [0.001]	1.162*** [0.059]	0.006*** [0.001]	0.005*** [0.001]	0.006*** [0.001]	0.005*** [0.002]	0.008*** [0.001]
Constant	6.158*** [0.062]	0.244*** [0.026]	6.215*** [0.063]	6.177*** [0.102]	6.187*** [0.086]	6.372*** [0.109]	5.856*** [0.137]
Observations	15,352	15,352	15,352	3,102	5,903	2,359	3,988
R-squared	0.450	0.476		0.413	0.341	0.402	0.353

Notes: Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. All estimations use population weights. Estimations also include sector, region and occupation dummies; and experience squared.

Table 3. Quantile regression results

	Males					Females				
	(1) q0.05	(2) q0.25	(3) q0.50	(4) q0.75	(5) q0.95	(1) q0.05	(2) q0.25	(3) q0.50	(4) q0.75	(5) q0.95
Public sector	0.129*** [0.027]	0.126*** [0.014]	0.116*** [0.010]	0.093*** [0.014]	0.035 [0.029]	0.220*** [0.048]	0.200*** [0.014]	0.176*** [0.010]	0.131*** [0.015]	0.063* [0.036]
Education	0.014*** [0.003]	0.014*** [0.001]	0.016*** [0.001]	0.019*** [0.001]	0.020*** [0.003]	0.019*** [0.005]	0.013*** [0.001]	0.016*** [0.001]	0.017*** [0.002]	0.019*** [0.004]
Experience	0.025*** [0.002]	0.016*** [0.001]	0.019*** [0.001]	0.016*** [0.001]	0.022*** [0.003]	0.023*** [0.005]	0.014*** [0.001]	0.014*** [0.001]	0.017*** [0.002]	0.009*** [0.004]
Married	0.085*** [0.020]	0.074*** [0.011]	0.060*** [0.008]	0.054*** [0.010]	0.013 [0.024]	0.051 [0.031]	0.022** [0.010]	0.021*** [0.007]	0.029*** [0.011]	0.023 [0.025]
Child/ren	0.013 [0.018]	0.017* [0.009]	0.014** [0.007]	0.020** [0.009]	0.018 [0.020]	0.037 [0.032]	-0.004 [0.010]	-0.002 [0.007]	-0.005 [0.011]	0.018 [0.027]
Non-Greek	-0.099*** [0.023]	-0.135*** [0.013]	-0.083*** [0.010]	-0.111*** [0.012]	-0.123*** [0.030]	-0.099 [0.064]	-0.028 [0.018]	-0.017 [0.013]	-0.071*** [0.020]	-0.128*** [0.046]
Part-time	-0.911*** [0.053]	-0.458*** [0.029]	-0.399*** [0.022]	-0.243*** [0.028]	0.371*** [0.059]	-0.893*** [0.068]	-0.475*** [0.020]	-0.427*** [0.015]	-0.285*** [0.024]	0.042 [0.058]
Temporary	-0.293*** [0.023]	-0.148*** [0.012]	-0.083*** [0.009]	-0.062*** [0.011]	0.054** [0.025]	-0.247*** [0.039]	-0.193*** [0.012]	-0.103*** [0.009]	-0.076*** [0.013]	0.048 [0.030]
Small firm	-0.069*** [0.014]	-0.058*** [0.008]	-0.047*** [0.006]	-0.050*** [0.007]	-0.048*** [0.016]	-0.138*** [0.027]	-0.053*** [0.009]	-0.036*** [0.006]	-0.050*** [0.010]	0.013 [0.022]
Weekly hours	0.003** [0.001]	0.003*** [0.001]	0.005*** [0.000]	0.007*** [0.001]	0.008*** [0.001]	0.005** [0.002]	0.004*** [0.001]	0.003*** [0.001]	0.004*** [0.001]	0.004** [0.002]
Constant	5.659*** [0.088]	5.996*** [0.100]	5.942*** [0.078]	6.057*** [0.095]	6.372*** [0.094]	5.200*** [0.161]	5.632*** [0.048]	5.893*** [0.035]	5.929*** [0.054]	6.199*** [0.139]
Observations	9,005	9,005	9,005	9,005	9,005	6,347	6,347	6,347	6,347	6,347

Notes: as for Table 2.

Table 4. Public-private pay structures under endogenous selection

	Males			Females		
	Public (1)	Private (2)	Selection (3)	Public (4)	Private (5)	Selection (6)
Education	0.022*** [0.002]	0.011*** [0.002]	0.052*** [0.008]	0.016*** [0.003]	0.016*** [0.002]	0.041*** [0.011]
Experience	0.021*** [0.002]	0.017*** [0.002]	0.070*** [0.009]	0.018*** [0.003]	0.012*** [0.002]	0.062*** [0.010]
Married	0.036** [0.014]	0.057*** [0.013]	-0.016 [0.076]	0.044** [0.017]	0.029** [0.014]	-0.151** [0.068]
Child/ren	0.029*** [0.010]	0.016 [0.011]	0.003 [0.062]	0.007 [0.015]	-0.003 [0.015]	0.222*** [0.065]
Non-Greek	-0.158 [0.127]	-0.107*** [0.013]	-0.840*** [0.196]	-0.385** [0.155]	-0.061** [0.024]	-0.497** [0.206]
Part-time	-0.492*** [0.119]	-0.238*** [0.052]	-1.688** [0.230]	-0.348*** [0.074]	-0.313*** [0.035]	-1.018*** [0.143]
Temporary	-0.225*** [0.029]	-0.064*** [0.016]	0.262*** [0.093]	-0.236*** [0.030]	-0.088*** [0.020]	0.179** [0.083]
Small firm	-0.022* [0.011]	-0.057*** [0.009]	-0.482*** [0.054]	-0.040*** [0.014]	-0.053*** [0.012]	-0.361*** [0.056]
Weekly hours	0.004*** [0.001]	0.006*** [0.001]	-0.034*** [0.004]	0.006*** [0.001]	0.007*** [0.001]	-0.022*** [0.005]
Public history			0.456*** [0.066]			0.461*** [0.065]
Rho	-0.044 [0.067]	-0.414*** [0.064]		-0.049 [0.060]	-0.192** [0.083]	
Lamda	-0.010	-0.128		-0.015	-0.068	
Constant	6.569*** [0.060]	5.884*** [0.087]	-0.856* [0.517]	6.222*** [0.181]	5.681*** [0.079]	-2.747*** [0.451]
Observations	9005	9005	9005	6347	6347	6347

Notes: Rho (ρ) is the correlation coefficient between the error terms in the selection equation and the relevant wage equation. Multiplying this with the standard deviation of the errors of the wage equation (σ_u) returns the coefficient on the inverse Mills ratio (λ), which shows whether selectivity impacts directly on individuals' wages. Since $\sigma_u > 0$, the sign of the coefficient on λ is determined solely by ρ . All other notes as in Table 2.

Table 5. Decomposition analysis

Method	Correction for selection	Wage gap	Endowment effect	Price Effect	Interaction effect	Public sector advantage	Private sector disadvantage	Selection effect
All employees								
Blinder-Oaxaca	No	0.305	0.227	0.079				
Daymont-Andrisani	No	0.305	0.205	0.079	0.022			
Neumark	No	0.305	0.27			0.023	0.012	
Blinder-Oaxaca	Yes	0.305	0.155	0.093				0.057
Daymont-Andrisani	Yes	0.305	0.031	0.093	0.124			0.057
Neumark	Yes	0.305	0.208			0.023	0.017	0.057
Males								
Blinder-Oaxaca	No	0.272	0.185	0.087				
Daymont-Andrisani	No	0.272	0.209	0.087	-0.025			
Neumark	No	0.272	0.245			0.018	0.009	
Blinder-Oaxaca	Yes	0.272	0.118	0.107				0.047
Daymont-Andrisani	Yes	0.272	-0.042	0.107	0.160			0.047
Neumark	Yes	0.272	0.184			0.020	0.021	0.047
Females								
Blinder-Oaxaca	No	0.363	0.289	0.074				
Daymont-Andrisani	No	0.363	0.211	0.074	0.078			
Neumark	No	0.363	0.316			0.030	0.017	
Blinder-Oaxaca	Yes	0.363	0.191	0.204				-0.032
Daymont-Andrisani	Yes	0.363	0.146	0.204	0.045			-0.032
Neumark	Yes	0.363	0.339			0.035	0.020	-0.032

Note: the wage gap reported here concerns the difference between mean log-wages between the two sectors. This is slightly different to the gap reported in other parts of the paper (32%), which is calculated on the basis of differences in the means of actual wages (in euros).

Table A.1. Pay structures under endogenous selection estimated through non-linearities

	Males			Females		
	Public (1)	Private (2)	Selection (3)	Public (4)	Private (5)	Selection (6)
Education	0.022*** [0.002]	0.011*** [0.002]	0.052*** [0.008]	0.016*** [0.003]	0.017*** [0.002]	0.041*** [0.011]
Experience	0.021*** [0.002]	0.017*** [0.002]	0.068*** [0.009]	0.019*** [0.003]	0.012*** [0.002]	0.062*** [0.010]
Married	0.036** [0.014]	0.056*** [0.013]	0.042 [0.076]	0.044** [0.017]	0.028** [0.014]	-0.036 [0.065]
Child/ren	0.029*** [0.010]	0.016 [0.011]	0.029 [0.061]	0.009 [0.015]	-0.002 [0.015]	0.226*** [0.064]
Non-Greek	-0.157 [0.128]	-0.107*** [0.013]	-0.881*** [0.196]	-0.392** [0.155]	-0.061** [0.024]	-0.566*** [0.210]
Part-time	-0.491*** [0.118]	-0.237*** [0.052]	-1.705*** [0.225]	-0.357*** [0.073]	-0.316*** [0.035]	-1.045*** [0.142]
Temporary	-0.225*** [0.029]	-0.064*** [0.016]	0.279*** [0.094]	-0.235*** [0.030]	-0.087*** [0.020]	0.165** [0.083]
Small firm	-0.022* [0.011]	-0.056*** [0.009]	-0.484*** [0.053]	-0.043*** [0.014]	-0.054*** [0.012]	-0.364*** [0.055]
Weekly hours	0.004*** [0.001]	0.006*** [0.001]	-0.035*** [0.004]	0.005*** [0.001]	0.007*** [0.001]	-0.022*** [0.005]
Rho	-0.046 [0.065]	-0.417*** [0.065]		0.018 [0.036]	-0.139 [0.098]	
Constant	6.570*** [0.061]	5.884*** [0.087]	-0.799 [0.515]	6.162*** [0.173]	5.682*** [0.079]	-2.671*** [0.456]
Observations	9005	9005	9005	6347	6347	6347