BANK OF GREECE
EUROSYSTEM

Working Paper

Inter-industry wage differentials in Greece: rent-sharing and unobserved heterogeneity hypotheses

Evangelia Papapetrou
Pinelopi Tsalaporta

213

NOVEMBER 2016

BANK OF GREECE
Economic Analysis and Research Department – Special Studies Division
21, E. Venizelos Avenue
GR-102 50 Athens
Tel: +30210-320 3610
Fax: +30210-320 2432

www.bankofgreece.gr

Printed in Athens, Greece
at the Bank of Greece Printing Works.
All rights reserved. Reproduction for educational and
non-commercial purposes is permitted provided that the source is acknowledged.

ISSN 1109-6691

INTER-INDUSTRY WAGE DIFFERENTIALS IN GREECE: RENT-SHARING AND UNOBSERVED HETEROGENEITY HYPOTHESES

Evangelia Papapetrou
Bank of Greece and National and Kapodistrian University of Athens

Pinelopi Tsalaporta
Bank of Greece and National and Kapodistrian University of Athens

ABSTRACT

This paper examines the structure and determinants of inter-industry wage differentials in Greece, along with the role of the rent-sharing and unobserved heterogeneity hypotheses, employing restricted least squares and quantile regression techniques with cluster robust standard errors at the firm level. To this end, a unique dataset, the European Union Structure of Earnings Survey (SES), is utilized. Data refer to 2010 when the first elements of the economic adjustment programme to deal with the chronic deficiencies of the Greek economy and restore sustainable public finances, competitiveness and set the foundation for long-term growth were beginning to be implemented. Results point to high wage dispersion across industries at the mean of the conditional wage distribution, even after controlling for personal and workplace characteristics. However, evidence for the unobserved heterogeneity hypothesis is rather scant. Therefore, there is room for efficiency wage or rent-sharing theories in accounting for a large part of inter-industry wage differentials tentatively implying that firm heterogeneity in the ability-to-pay matters more than employee unobservable attributes in the wage determination process.

Keywords: Inter-industry wage differentials; Rent-sharing; Unobserved heterogeneity hypotheses; Greece

JEL classification: J31; J16; J24; C21; M52

Acknowledgements: The authors would like to thank the Hellenic Statistical Authority (ELSTAT) for providing the data and Professor J. Santos Silva for useful discussions. The views expressed are those of the authors and do not necessarily reflect those of the Bank of Greece.

Correspondence:
Evangelia Papapetrou
Bank of Greece
21 El. Venizelou Avenue
102 50, Athens, Greece
tel: +30 210 320 2377
fax: +30 210 323 3025
e-mail: epapapetrou@bankofgreece.gr

1. Introduction

The existence of wage disparities among workers with similar human capital characteristics and working conditions, though employed in firms operating in different sectors of the economy, have been at the fore of empirical debate for some time. In the wake of globalization, growing wage inequality and economic efficiency concerns have led to calls for parity between labour cost and productivity performance (Dickens and Katz, 1987). Competitive labour market theories, pertaining to unobserved worker heterogeneity and compensating differentials, provide compelling explanations for the existence of inter-industry wage differentials. Unobserved heterogeneity arguments posit that unobservable employee/job characteristics confer significant wage gains, thus giving rise to inter-industry wage disparities. Non-competitive explanations involving efficiency wage and rent-sharing appear more appealing. These theories imply that workers earn significantly higher wages when employed in more profitable firms or that firms pay above-market efficiency wages.

Empirical debate on the causes of wage differentials was reopened at the end of the 1980s with the influential study of Krueger and Summers (1988) questioning the relevance of the competitive framework where wage differentials in equilibrium are explained either through personal productive characteristics or by task descriptions. Individual wages are also determined by employers' industry affiliation. Two alternative explanations for the existence of inter-industry wage differentials stand out: the efficiency wage theory or the rent-sharing theory that emphasizes the importance of firm-specific heterogeneity in terms of the ability-to-pay (Du Caju, Rycx and Tojerow 2012, Abowd, Kramarz, Lengermann, McKinney and Roux 2012) and the unobserved heterogeneity hypothesis suggesting that inter-industry wage differentials derive from worker heterogeneity in the form of unobserved quality (Torres, Portugal, Addison and Guimaraes 2013, Ge and Macieira 2014). Thaler's (1989) seminal arguments on the efficiency wage theory suggest that wages may be positively associated with profits because firms find it beneficial to share their profits with their employees and pay above the market clearing rate. He further points out that high wage industries might simply compensate workers for unmeasured unpleasant working conditions (Smith 1979). Such a premium can coexist in the form of compensating differentials, though should not vary across quantiles. Ge and

Macieira (2014) alternatively contend that unmeasured worker quality (motivation, perseverance, commitment) accounts for approximately two thirds of inter-industry wage differentials. The considerable residual variance in the estimation of wage variation across workers reflects differences in unobservable worker quality such that highly competent workers are matched to high-wage firms and earn higher wages (Torres et al. 2013). Under this approach, conditional wage distributions are not simply characterized by their mean. Recently, another strand of literature accentuates the role of rent-sharing in explaining inter-industry wage differentials (Mehta and Sun, 2013). Paz (2014) further reports a positive association between total factor productivity (TFP) and wage premia. This means that inter-industry wage differentials may derive from different industry-level productivity performance.

While various explanations have already been put forward (Carruth, Collier and Dickerson 2004, Du Caju, Katay, Lamo, Nicolitsas and Poelhekke 2010), the existence of inter-industry wage differentials remains a complex puzzle and constitutes an ongoing discussion up until the most recent papers by Magda, Rycx, Tojerow and Valsamis (2011). In particular, Du Caju et al. (2012) suggest that the increase in profits generated by the achievement of a competitive position in export markets yields higher wages. In an earlier paper (Du Caju, Rycx and Tojerow 2011), the authors employ Belgian firm profitability data to confirm that rent-sharing accounts for a significant fraction of inter-industry wage differentials. Motivated by the unobserved heterogeneity hypothesis debate, Martins (2004) assumes that industry wage premia should be more pronounced at the upper part of the conditional wage distribution where high-skilled workers are over-represented. Conversely, this wage premium should be substantially lower at the bottom end of the wage distribution. Based on quantile regression analysis, empirical estimates of industry effects along the wage distribution strongly resemble those obtained at the mean employing Ordinary Least Squares (OLS) estimation. Therefore, he argues that unobservable differences across workers are not a critical element in explaining industry wage premia in Portugal in the period before the outburst of the financial crisis of 2007. From a slightly different angle, Felbermayr, Hauptmann and Schmerer (2014) document a negative association between export intensity and rent-sharing in plants where wages are collectively negotiated. Lundin and Yun (2009) suggest that industries with greater technological intensity tend to enjoy higher wage premia.

Likewise, Card, Cardoso and Kline (2013) attribute the existence of gender wage discrimination effects in Portugal to the lower relative bargaining power of female employees in sharing profitability gains with their employers. This source of earnings differentials persists even within industry and occupation cells.

Although the existence of sectoral wage premia is neither a recent nor ephemeral phenomenon, the combined influence of employer-employee idiosyncratic characteristics and sectoral affiliation on wage structures has received limited attention. This is all the more the case in Greece where a recent, in-depth analysis is missing so far in the literature. Additionally, the role of rent-sharing or unobserved quality differences across workers has been rather sidestepped. Little is known about the most recent contribution of unmeasured worker and firm heterogeneity in explaining inter-industry earnings disparities along the wage distribution. In fact, empirical evidence on inter-industry wage differentials in Greece comes from studies that examine the issue at a highly aggregated level (Du Caju et al. 2010). Although Papapetrou (2008), Daouli, Demoussis, Giannakopoulos and Laliotis (2013), Christopoulou and Monastiriotis (2014) have estimated wage equations for Greece, Nicolitsas (2011) finds evidence in favour of the existence of sizeable inter-industry wage differentials even after controlling for employee and employer characteristics, there exists no up-to-date, comprehensive study of inter-industry wage differentials in Greece that relates to rent-sharing or to the unobserved heterogeneity hypothesis. Our aim is to bridge that gap.

Methodologically, we apply a combination of restricted least squares and quantile regression techniques with cluster robust standard errors at the firm level to investigate the structure and determinants of inter-industry wage differentials in Greece. The benchmark estimation approach is restricted least squares which delivers industry dummy coefficient estimates as deviations from the employment-weighted mean and adjusts the standard errors accordingly. Using weighted OLS, we examine to what extent inter-industry wage differentials are due to rent-sharing. Quantile regression techniques with cluster robust standard errors at the firm level aim at investigating whether and to what extent inter-industry wage differentials derive from worker heterogeneity in the form of unobserved quality. This combined approach is, to the best of our knowledge, unique in the literature and outperforms the traditional methodological approaches such as OLS and 2SLS (Du Caju et al. 2011), fixed effects

(Torres et al. 2013) or OLS and fixed effects estimators (Felbermayr et al. 2014). Individual observations from different groups or clusters are often speciously assumed to be conditionally independent. However, intra-cluster correlation is not ruled out. This implies that the correlation between observations (workers) within a common unit (firm) may be higher than the average correlation of observations between units. Allowing for intra-cluster correlation is particularly relevant when cross-sectional regressions using micro data contain some explanatory variables observed only at a more aggregate level. Therefore, ignoring the cluster design could yield biased estimates by inflating t-values and overstating the precision of empirical estimates (Moulton 1986, 1990). Along these lines, quantile regressions have recently been explored (Biagetti and Scicchitano 2011) though the correlation of the error terms within clusters (firms) remains, again, overlooked. Following the early contribution of Koenker and Bassett (1978), conventionally employed methods assume that observations from different groups or clusters are conditionally independent but intra-cluster correlation is not ruled out. To address these shortcomings, Parente and Santos Silva (2016) most recently propose a variation of the asymptotic covariance matrix that accommodates clustering. Given that firm heterogeneity turns out to be a key determinant of wage diversity even for firms operating in the same sector, standard empirical methods may yield spurious results unless a better-fitting model is employed. What distinguishes this paper from earlier work is the ability to simultaneously apportion the respective contributions of rent-sharing and unobserved heterogeneity hypotheses, under methodological assumptions that have been overlooked though improve estimation efficiency and provide a superior fit to the idiosyncratic features of the dataset.

To conduct this study, we utilize the European Union Structure of Earnings Survey (SES) for Greece, which follows a two-stage random sampling approach of employees clustered within firms. SES data are combined with ICAP's databank sector-level information on financial variables such as firms' balance sheet information; and with ELSTAT's sectoral employment statistics. Data refer to 2010 when the first elements of the economic adjustment programme to deal with the chronic deficiencies of the economy and restore sustainable public finances, competitiveness and set the foundation for long-term growth, were being put into place. Results can though be safely generalized to other countries with similar industrial distributions of employment and business structures.

The remainder of this paper is structured as follows. Section 2 outlines the methodology and section 3 describes the data. Section 4 presents the empirical results. Section 5 concludes and provides policy implications.

2. Methodology

The baseline wage equation for estimation is:

$$\ln(w_{ij}) = a_o + \beta X_{ij} + \gamma Y_{ij} + \delta S_{ij} + \mathrm{V_{ij}} \qquad (1)$$

where $\mathrm{w_{ij}}$ is the natural logarithm (ln) of the gross hourly wage of individual i employed at firm j. $\mathrm{X_{ij}}$ is a vector of worker's individual characteristics (dummy variable for gender, type of employment contract, managerial position, part-time employment, marital status, 8 educational dummies, 9 occupational dummies and 8 dummies for seniority within the current firm). $\mathrm{Y_{ij}}$ is a vector of employer characteristics (dummy variable for public/private ownership of the firm, 7 firm size dummies, 7 dummies indicating the type of collective bargaining and 13 regional dummies) and $\mathrm{S_{ij}}$ contains 75 dummies relating to the sectoral affiliation of individuals/firms at the NACE two-digit level. The composite error term $\mathrm{V_{ij}} = \mathrm{u_j} + \varepsilon_{\mathrm{ij}}$ comprises a firm specific unobserved effect $\mathrm{u_j}$, possibly correlated with the explanatory variables and an idiosyncratic component, $\varepsilon_{\mathrm{ij}}$, independent of the explanatory variables. OLS implicitly assumes the impact of the independent variables along the conditional wage distribution to be unimportant. To check the validity of this hypothesis, quantile regressions are also employed.

Motivated by multilevel modeling considerations, we investigate potential hierarchical structure of the dataset that calls for clustering of the error terms to circumvent biased estimation of disturbances and significance levels. Intraclass correlation calculations suggest that firm heterogeneity constitutes a key determinant of wage diversity, even among firms operating in the same sector.[1] We find that gross

[1] The random intercept induces residual within-cluster correlation, known as the intraclass correlation (ρ), which is estimated using the delta method and always falls in the range of (0,1) because of non-negative variance

hourly wages are moderately correlated within the same firm, such that firm-level random effects account for approximately 33% of the total residual variance.

Additionally, to test whether a 3-level nested model, where employees are nested within firms and firms within sectors, is empirically warranted, we run the multilevel regression using only the dependent variable and the hypothetical 3-level random effect covariates and, subsequently, check the covariance matrix of the logarithms of the standard deviation estimates. We exponentiate the variances and then square the estimated square-rooted variances of interest to work out point and interval estimates. Only a small fraction of the observed variability in wages across workers is due to differences in sectoral affiliation at the NACE two-digit level which, again, confirms the firm-level clustering. Therefore, firm heterogeneity emerges as a key determinant of wage diversity even among firms operating in the same sector of the economy, as suggested in Gannon and Nolan (2004).

To obtain industry dummy coefficient estimates as deviations from the employment-weighted mean and adjust the standard errors accordingly, we implement restricted least squares estimation under the constraint that the sum of the coefficients on the industry dummies, weighted by the industry employment shares in the sample, equals zero (Lundin and Yun 2009, Paz 2014). Therefore, the normalized wage differentials can be interpreted as the difference in wages for a worker in a given industry relative to the average worker in all industries, conditional on other wage-influencing factors. The choice of the omitted industry does not affect the normalized wage premia and their standard errors (Goldberg and Pavcnik 2005). To ensure consistency with the standard OLS modeling approach, the constrained linear regression model employed for the estimation of inter-industry wage differentials allows for intragroup correlation of gross hourly wages among workers employed in the same firm through firm-level clustering of the error terms.

Finally, we investigate whether and to what extent inter-industry wage differentials derive from worker heterogeneity in the form of unobserved quality. In

components. Intraclass correlation refers to correlation among observations within a higher-level unit (such as firm or sector). Following Wang, Yu and Shete (2014), the intraclass correlation for a 2-level nested random intercept model (assuming independent residual structures) is calculated as follows:

$$\rho = corr\left(w_{ij}, w'_{ij}\right) = \frac{\sigma_2^2}{\sigma_1^2 + \sigma_2^2}$$

where σ_1^2 denotes level-1 (within subject) variance and σ_2^2 level-2 (between subject) variance. It corresponds to the marginal correlation between gross hourly wages of workers i and i' employed in the same firm j. The clustering at firm level, instead of two-digit sectoral level, is selected due to an intraclass correlation at zero in the latter case.

this context, valid inference is performed by using a consistent estimator of the covariance matrix of the asymptotic distribution of the quantile regression estimator when the error terms are correlated within clusters but remain independent across clusters, a methodological extension largely overlooked in related literature.

Resulting from Koenker and Bassett (1978), we estimate the θ^{th} quantile of the conditional distribution of the dependent variable, as described by equation (1), $y = \ln(w_{ij})$, given the set of independent variables x denoted $Q\theta(y|x) = x'\beta o$, where x and βo are k x 1 vectors.. The vector of parameters is indexed by θ. The estimation is performed using the sample $\{(y_{gi,}x_{gi,}),\ g = 1,\ldots\ldots,G,\ i = 1,\ldots\ldots,n_g\}$, where g indexes a set of G groups or clusters (firms), each with n_g elements. Therefore, we estimate:

$$y_{gi} = x'_{gi}\beta o + u_{gi}$$

$$\Pr(u_{gi} \leq 0|x_{gi}) = \theta$$

Following the most recent contribution of Parente and Santos Silva (2016), we consider the properties of the estimator of βo, with n_g fixed and $G \rightarrow \infty$, where the error terms u_{gi} are assumed to be uncorrelated across clusters but correlated within clusters. We consider the case where $n_g = n$ for the sake of simplicity.

The quantile regression estimator for clustered data is defined:

$$\hat{\beta} = argmin\ \frac{1}{G}\sum_{g=1}^{G}\sum_{i=1}^{n}\rho_\theta\ (y_{gi} - x'_{gi}\beta),$$

$$\beta \in R^k$$

where $\rho_\theta\,(a) = a\,(\theta - I\,[\alpha < 0\,])$ is known as the check function and I[e] is the indicator function of the event e.

The consistency of $\widehat{\beta}$ can be proved under the assumption that:

$$\sqrt{G}\ \ (\hat{\beta} - \beta o) \xrightarrow{D} N\ (0, \Omega)$$

with $\Omega = B^{-1}AB^{-1}$. To ensure consistency of $\widehat{\beta}$, it is necessary to have a consistent estimator of Ω.

Bootstrapping procedures to estimate Ω would be impractical, especially when quantile regressions take many iterations to converge.

Therefore, a consistent estimator of A is given by:

$$\widehat{A} = \frac{1}{G} \sum_{g=1}^{G} \sum_{i=1}^{n} \sum_{j=1}^{n} x_{gi}\, x'_{gj} \psi_{\theta}\,(\hat{u}_{gi})\, \psi_{\theta}(\hat{u}_{gj}),$$

where $\hat{u}_{gi} = y_{gi} - x'_{gi}\hat{\beta}$.

A consistent estimator of B is given by:

$$\widehat{B} = \frac{1}{2\hat{c}_G G} \sum_{g=1}^{G} \sum_{i=1}^{n} I[\,|\,\hat{u}_{gi}\,| \leq \hat{c}_G]\, x_{gi}\, x'_{gi}$$

where the bandwidth $\hat{c}_G$ may be a function of the data.

To establish the consistency of $\widehat{B}$, an additional assumption is required and defined:

$$\hat{c}_G = \mathrm{k}\, [\Phi^{-1}(\theta + \mathrm{h_{nG}}) - \Phi^{-1}(\theta - \mathrm{h_{nG}})].$$

F is a distribution function. If f is Gaussian (normal), then $(f'/f)\, \mathrm{F}^{-1} = -\Phi^{-1}$ and $\mathrm{h_{nG}}$ is:

$$\mathrm{h_{nG}} = (\mathrm{nG})^{-1/3}\, (\Phi^{-1}\left(1 - \frac{0.05}{2}\right))^{\frac{2}{3}}\, [\frac{1.5(\varphi\left(\Phi^{-1}(\theta)\right))^{2}}{2\left(\Phi^{-1}(\theta)\right)^{2}+1}]^{\frac{1}{3}}$$

and k is a robust estimate of scale, defined as the median absolute deviation of the θ^{th} quantile regression residuals.

3. Data

The present analysis is based on the European Union Structure of Earnings Survey (SES) compiled by Eurostat for 2010. The SES is a large enterprise sample survey conducted in 20 European countries with a 4-year frequency. It provides detailed and comparable information on a number of individual characteristics of employees such as sex, occupation, length of service, educational level, earnings (annual and monthly) and hours of work. These data are matched with information about employers for which each employee is working for, namely sectoral affiliation, level of wage bargaining, size and location of the enterprise.[2] In Greece, the standardized firm-level survey is conducted by the Hellenic Statistical Authority (ELSTAT). The statistics of the SES refer to enterprises with at least 10 employees operating in all areas of economic activities in the European Community (NACE). Business activities, which are included in SES microdata, are mentioned in NACE Rev. 2 sections B to S.

The 2010 wave of the SES was conducted using a representative sample of 39,830 individuals working for 2,545 establishments. The SES is compiled using a two-stage random sampling approach of firms (first stage) and employees (second stage). The establishments are randomly chosen from the population and report data on a random sample of employees, thus SES is a stratified sample. After the exclusion of incorrect or missing values and outlying observations (NACE sector B-Mining) the final sample is 39,201 observations and 2,517 establishments. The dataset contains sample weights provided by SES to make it comparable to the overall population by extrapolation.

The dependent variable is gross hourly wages excluding bonuses (wage), calculated by dividing total gross earnings (including earnings for overtime hours and premia for shift work, holidays and/or medical examinations) by the corresponding number of total paid hours. Gross hourly wages including bonuses are obtained by adding to the total gross earnings the annual bonuses and then dividing them by the number of total paid hours, respectively. Based on available data, gross hourly wages excluding bonuses constitutes our preferred variable and the one typically used in similar studies.

Table 1 reports the means and standard errors of selected variables in the SES for the year 2010. Descriptives refer to the weighted sample on aggregate (columns 1-2) and then separately for men and women (columns 3-6). The average value of gross hourly wage (excluding bonuses) amounts to €11.82 (€12.92 for males and €10.62 for females, respectively). The majority of employees have a permanent/indefinite duration employment contract (88.7%) while almost 48% of them are women. Also noteworthy is that almost one quarter of workers possesses a university degree or higher and more than 40% of them have between 1-5 years of seniority in the firm.

[2] SES has the advantage of providing earnings information standardized across countries and repeated over regular time intervals. The collection of the data through the employer minimizes the measurement error typically associated with household data (Du Caju et al. 2010).

Figure 1 shows the weighted gross hourly earnings by NACE two-digit sector of economic activity as well as deviations from the sample mean and aggregated sector means. Raw differentials are reported, that is not controlling for individual and firm characteristics. The largest gross hourly wages are reported in manufacturing of coke and petroleum and electricity/gas supply, much higher than the respective averages for manufacturing and utilities. At the bottom of the scale, and less than the sample mean, we find food service and beverage activities, office administrative and other personal service activities. Similar outcomes are reported in Lundin and Yun (2009), Du Caju et al. (2011) and Magda et al. (2011).

Evidence from an additional dataset has been employed to investigate the contribution of rent-sharing to inter-industry wage differentials and explore firms' financial dimension in parallel to earnings' policy. SES matched employer-employee dataset is combined with information on financial variables such as firm profitability (EBITDA - earnings before interest, tax, depreciation and amortization), total assets and net sales, provided by ICAP. The ICAP group maintains one of the largest company databases in the Balkans, the ICAP databank, comprising extensive financial and business information on around 60,000 Greek companies. A key advantage of this database is that it contains not only companies listed on the Athens Stock Exchange but also unlisted ones such as SMEs. To account for the responsiveness of wages to sectoral employment shifts, the resulting dataset is further combined with ELSTAT's data on sectoral employment growth. This combination is, to the best of our knowledge, unique in the empirical literature for Greece.

[Insert Table 1]

[Insert Figure 1]

4. Empirical results

4.1. Inter-industry wage differentials among male/female employees

In this section, we examine whether and how inter-industry wage differentials may vary between male and female employees, using constrained linear regression with intragroup correlation at the firm level and employment weights. Related issues are discussed in Chzhen and Mumford (2011). Table 2 reports inter-industry wage differentials for NACE two-digit industries in 2010 in Greece using as the dependent variable the natural logarithm of gross hourly earnings excluding bonuses (lwage). Column 1 refers to males while column 2 refers to females. Results show the existence of significant wage differentials among workers employed in different sectors of the economy, even after controlling for personal and workplace characteristics.[3] Empirical findings are consistent with previous studies that investigate the structure of inter-industry wage differentials and remain broadly similar to Figure 1 (a few exceptions noted).

On balance, the best paying industry is manufacturing of coke and refined petroleum products, closely followed by water and air transportation activities, manufacturing of tobacco products and financial activities (except insurance and pension funding). High paying industries also comprise electricity, gas, steam and air conditioning supply, water collection, treatment and supply, manufacturing of pharmaceuticals, telecommunications as well as programming and broadcasting activities. Other sectors closely affiliated to water and air transport, such as warehouse and support activities for transportation, enjoy significant wage premia. Marginally positive differentials are also reported for manufacturing of other non-metallic minerals, sewerage and publishing activities (at the 5% significance level). Similar evidence is reported by Du Caju et al. (2012).

The hierarchy of sectors in terms of wage premia remains almost unchanged with minor differences reported among male/female employees. Yet, it appears that, men capture a disproportionate part of the wage premia associated with certain high paying industries while negative wage differentials are more intense among women. Particularly, the wage premium associated with manufacturing of tobacco, telecommunications, electricity, gas, steam and air conditioning supply, water transportation and publishing activities appears to be more pronounced for male employees, such that they enjoy higher wage premia than their female counterparts. Likewise, females employed in air transport as well as in financial service activities capture a larger fraction of industry-specific wage premia than males employed in the same industries.

[3] Results for personal and workplace controls are not reported in Table 2 and are available from the authors upon request.

The lowest paying industries comprise accommodation, food and beverage services activities, manufacturing of textiles/leather products/rubber and plastic/motor vehicles and trailers/ furniture, construction of buildings, security and investigation activities and other personal service activities, the latter embracing washing, cleaning, hairdressing, physical well-being activities and funeral services, broadly as suggested in Magda et al. (2011). Other low paying services sectors are information service (data processing/web portals) and employment activities (employment agency/human resources provision), advertising and market research and postal and courier activities. For males (column 1), the earnings gap is not uniform across sectors of economic activity but varies substantially between minus 42.48% in office administrative, office support and other business support activities, minus 18.88% in retail trade (except of motor vehicles and motor cycles) to minus 17.70% in services to buildings and landscape, all respective to employment-weighted mean hourly earnings. For females (column 2), a similar pattern is detected, namely minus 50.38% in employment activities, minus 35.12% in office administrative, office support and other business support activities, minus 9.12% in retail trade (except of motor vehicles and motor cycles) and minus 13.43% in services to buildings and landscape.[4] Along these lines, the negative wage differentials reported in employment activities, human health activities and advertising and market research (market research and public opinion polling) are predominantly associated with female employment.

Overall, the results suggest that individual wages are not solely determined by personal characteristics and task descriptions but also by the idiosyncratic features of the employers in each sector. The Wald chi-squared test of joint significance of the industry dummy variables returns a highly significant statistic for males ($F(73, 21564) = 10.72, Prob > F = 0.0000$) and females ($F(73, 17387) = 6.34, Prob > F = 0.0000$).

[Insert Table 2]

[4] To get the difference in percentage terms, the following transformation is performed: $(\exp(x) - 1) * 100$, where x is the estimated dummy coefficient. This is due to the semi-logarithmic form of the estimated wage equation.

4.2. Inter-industry wage differentials and rent-sharing

As a next step, we examine to what extent inter-industry wage differentials are explained by the rent-sharing phenomenon. Following Du Caju et al. (2012), estimated regression coefficients of inter-industry wage differentials are regressed upon a set of explanatory variables comprising the natural logarithm of sectoral profitability and its lagged value, the Herfindahl-Hirschman index of market concentration[5] (both in terms of net sales and total assets) and a measure of profitability as a share of total assets. Building on the wage curve theory (Blanchflower and Oswald 1994), we further investigate whether inter-industry wage differentials are responsive to sectoral employment shifts. To this end, estimated regression coefficients of inter-industry wage differentials are regressed upon changes in employment shares (Δempsh) and levels (Δemp). Using OLS, results are reported in Table 3. F-tests confirm the results' robustness.

Findings show that rent-sharing is more pronounced in firms with high profitability because a rise in a sector's profitability leads to an increase in wage levels (column 1)[6]. Therefore, workers earn significantly higher wages when employed in more profitable firms, as suggested in Plasman, Rycx, and Tojerow (2006) and Du Caju et al. (2011). Concerning contemporaneous profits (column 2), results are marginally lower in magnitude though still positively signed. Columns (3) and (4) additionally investigate the influence of market power and concentration on the existence of inter-industry wage differentials (Abowd et al. 2012). We find a significantly positive effect of the Herfindahl index for net sales (column 3) and total assets (column 4) on inter-industry wage differentials, at the highest level of significance. This result is consistent with rent-sharing theory. Increases in market concentration suppress competitive forces and may translate into higher wage levels.

[5] As a proxy of market power, the Herfindahl-Hirschman index is calculated by squaring the net sales or total assets of all firms in a NACE two-digit economic sector, and then summing the squares, as follows:

$$HHI_{net\ sales} = \sum_{i=1}^{n} (NS_i\ )^2$$

$$HHI_{total\ assets} = \sum_{i=1}^{n} (TA_i\ )^2$$

where i is the number of firms within each sector, NS denotes net sales and TA stands for total assets.

[6] To control for potential endogeneity of profitability measures, we use lagged profits as instruments for contemporaneous profits as the benchmark scenario (column 1) while additionally account for contemporaneous profits in column 2.

Since product market conditions prevailing in each industry appear to be tightly related to wage developments, there is much less scope for labour market developments to feed through to wage growth. This is based on empirical evidence which shows that, whereas employment growth is not statistically significant, the Herfindahl index for net sales and total assets is strongly significant. We would, thus, expect higher employment growth to be weakly associated with inter-industry wage differentials. Indeed, the impact of employment growth - in shares (Δempsh) and levels (Δemp) – on wage differentials turns out to be subdued (columns 6 and 7). This is also ascertained by Cholezas and Kanellopoulos (2015), who attribute the weak responsiveness of wages to local market conditions in the early phases of the economic adjustment programme (till 2011) to the relatively inflexible Greek labour market.

[Insert Table 3]

4.3. Inter-industry wage differentials across the wage distribution

As discussed earlier, there are reasons to believe that inter-industry wage disparities may differ at various points of the conditional wage distribution. The unobserved heterogeneity hypothesis implies higher industry premia at the top, where high quality workers are over-represented, than at the bottom of the wage distribution, where low ability workers are likely to be positioned (Martins, 2004). Underlying is the assumption that the premia associated with high-wage industries are driven by higher industry returns at the upper end of the distribution, where top performers in terms of unobserved ability are most likely to be found. Following Parente and Santos Silva (2016), we examine inter-industry wage disparities at various points of the conditional wage distribution by estimating quantile regressions with robust and firm-level clustered standard errors.

Table 4 presents the average (mean) inter-industry wage differentials[7] (column 1) and the inter-industry quantile regression estimates at selected points of the conditional wage distribution (columns 2-6).[8] The standard errors are asymptotically valid under heteroskedasticity and misspecification. The robust covariance matrix is

[7] Linear regression is also robust to intra-cluster correlation at the firm level.

[8] Results for personal and workplace controls are not reported in Table 4 and are available from the authors upon request.

computed following Powell (1984), Chamberlain (1994) and Angrist, Chernozhukov and Fernández-Val (2006). Finally, columns 7-8 present interquantile regression coefficients with bootstrap standard errors that are also robust to intra-cluster correlation.[9] For each percentile, the Parente-Santos Silva test strongly rejects the null hypothesis of no intra-cluster correlation. [10]

The empirical results provide evidence of high wage dispersion across industries at the mean of the conditional wage distribution (column 1), even after controlling for personal and workplace characteristics. In line with Table 2, high paying industries primarily consist of manufacturing of coke and refined petroleum products, water and air transportation activities, manufacturing of tobacco products, financial activities, electricity, gas, steam and air conditioning supply, water collection, treatment and supply, manufacturing of pharmaceuticals, telecommunications as well as programming and broadcasting activities and warehouse and support activities for transportation. Similar evidence for wage differentials is reported by Du Caju et al. (2012).

The lowest paying industries are far less concentrated in terms of market structure and comprise office administrative, office support and other business support activities, employment activities, security and investigation and other personal service activities (Magda et al. 2011). Other low paying services sectors are information service and food and beverage services activities, broadly as suggested in section 4.1. The earnings gap is not uniform across sectors of economic activity but varies substantially between minus 33.37% in employment activities to minus 9.86% in food service and beverage activities, all respective to the reference category. There is also evidence of a wage penalty associated with retail trade.

However evidence for the unobserved heterogeneity hypothesis is rather scant. It is solely in water and air transport, telecommunications, publishing activities and manufacturing of other transport equipment that wage premia are higher at the top than at the bottom of the wage distribution due to unobservable quality differences

[9] Findings remain robust to alternative definitions of the dependent variable and are available from the authors upon request.

[10] The Parente-Santos Silva (PSS) test for intra-cluster correlation rejects the null hypothesis of independently distributed observations within firms at the 10th percentile ($PSS\ test = 60.824,\ p\ value = 0.000$); 25th percentile ($PSS\ test = 99.846,\ p\ value = 0.000$); 50th percentile ($PSS\ test = 115.751,\ p\ value = 0.000$); 75th percentile ($PSS\ test = 102.262,\ p\ value = 0.000$); 90th percentile ($PSS\ test = 71.322,\ p\ value = 0.000$).

across workers. Employees in these particular industries appear to disproportionately benefit from sectoral wage premia if they are positioned at the upper tails of the conditional pay distribution. At the two lowest percentiles (10th and 25th) no robust evidence of wage premia is consistently detected.

On the top of limited evidence in favour of the unobserved heterogeneity hypothesis, it is shown that empirical estimates at different points of the wage distribution broadly conform well to the OLS estimates at the mean, with a few exceptions: The wage premium associated with manufacturing of coke and refined petroleum is much larger at the 25th, 50th (median) and 75th percentiles (even higher than the mean in column 1), pointing to a rather compressed wage distribution. Also, the wage premia associated with computer programming consultancy and related activities appear to be higher for the top and bottom of the pay scale. This implies a more dispersed wage structure. Conversely, the wage penalty related to office administrative, office support and other business support activities is decreasing with the percentiles (from -0.663 at the 10th percentile to 0.0124 at the 90th percentile) and remains statistically significant solely at the 10th and 25th percentiles (columns 2 and 3). This suggests that low-wage workers capture a higher fraction of the wage penalty associated with that particular industry. In the case of security and investigation activities, however, the wage penalty decreases in significance at the 10th percentile, which means that the effect is negligible at the left tail of the distribution.

To further test the unobserved heterogeneity hypothesis, we investigate the difference in the returns across different points of the conditional wage distribution. Columns 7-8 of Table 4 report interquantile coefficient estimates and the appropriate standard errors obtained by bootstrapping.[11] As measures of the relative dispersion in the wage distribution, we employ differences in log wages at the 25th versus the 75th and the 10th versus the 90th percentiles. In particular, the model fits:

$$Q_{0.75(y)} - Q_{0.25(y)} = (a_{0.75} - a_{0.25}) + (b_{0.75,1} - b_{0.25,1})x_1 + (b_{0.75,2} - b_{0.25,2})x_2$$

$$Q_{0.90(y)} - Q_{0.10(y)} = (a_{0.90} - a_{0.10}) + (b_{0.90,1} - b_{0.10,1})x_1 + (b_{0.90,2} - b_{0.10,2})x_2$$

where x_1 and x_2 represent vectors of regressors outlined in equation (1).

[11] The default of fifty bootstrap replications was deemed as adequate for estimates of standard errors and, thus, variance estimates, normal-approximation confidence intervals and statistical inference. Bootstrapping quantile regressions with more replications would prove impractical in terms of computation of the bootstrap covariance matrix, mainly due to the large number of regressors (Parente and Santos Silva 2016).

Again, we find that the interquantile differences between the upper and the lower levels of the distribution are not bigger for the industries with high OLS returns compared to the industries with low OLS returns. In particular, it is solely in water transport, manufacturing of other transport equipment and publishing activities that the average earnings differential is more positive and significant at the upper end of the conditional wage distribution. Such significantly positive interquantile differences lend some credence to the unobserved heterogeneity hypothesis though still limited in scope and focus. On balance, high-wage industries do not appear to draw disproportionately more on high-ability employees. Conversely, in columns 7 and 8, the significantly negative difference in returns between the top and the bottom of the wage distribution in manufacturing of tobacco translates into higher wage premia at the lower end of the conditional wage distribution for that particular industry. This implies that medium and low-wage workers capture a disproportionately higher fraction of wage premia associated with the manufacturing of tobacco industry. Likewise, the wage penalty associated with employment activities mostly applies to lower-wage employees and not to those positioned at the upper tail of the wage distribution, as implied by the positive and highly significant interquantile coefficient estimates in columns 7-8 and also verified by the significant wage penalties reported for employment activities at the 10th, 25th and 50th percentiles.

Finally, Table 5 presents Spearman and Kendall correlations among the industry returns at the mean (OLS returns) and the industry returns across the distribution (quantile regression returns) and the quantile differences among the upper and lower levels of the distribution ($\theta75$-$\theta25$, $\theta90$-$\theta10$). It appears that the OLS results at the mean are strongly correlated with those at the top and bottom percentiles and also at the median (50th percentile). Spearman's rank correlation coefficient is above 0.80 and strongly significant while Kendall's rank correlation coefficient is above 0.67 and strongly significant. Unlike the unobserved heterogeneity hypothesis, the correlation between OLS coefficients and those at the top percentile is not found to be substantially higher than the correlation between OLS coefficients and those at the bottom percentile. Moreover, the correlation between OLS results and the differences between returns at the top and bottom percentiles of the wage distribution is very low and weakly significant. Similar findings are reported for Portugal (Martins, 2004).

[Insert Table 4]

[Insert Table 5]

5. Conclusion

In this analysis we employ restricted least squares and weighted OLS estimators to investigate the structure and determinants of inter-industry wage differentials in Greece, the role of rent-sharing and the responsiveness of wage developments to sectoral employment shifts. We additionally apply quantile regression techniques with cluster robust standard errors at the firm level to investigate whether and to what extent inter-industry wage differentials derive from worker heterogeneity in the form of unobserved quality. In this context, valid inference is performed by using a consistent estimator of the covariance matrix of the asymptotic distribution of the quantile regression estimator that accommodates clustering, a methodological extension largely overlooked in related literature. Ignoring the cluster design could yield biased estimates by underestimating the size of the standard errors on coefficients and, hence, overestimating t-statistics. To conduct this study, we utilize the European Union Structure of Earnings Survey (SES) for Greece, which follows a two-stage random sampling approach of employees clustered within firms. Data refer to 2010 when the first elements of the economic adjustment programme to deal with the chronic deficiencies of the economy and restore sustainable public finances, competitiveness and set the foundation for long-term growth, were being put into place.

Results provide evidence of high wage dispersion across industries at the mean of the conditional wage distribution, even after controlling for personal and workplace characteristics. The best paying industries are by far the manufacturing of coke and refined petroleum products, along with water and air transportation activities, manufacturing of tobacco products and financial activities, electricity/gas supply, water collection, manufacturing of pharmaceuticals, telecommunications as well as programming and broadcasting activities. The lowest paying industries comprise office administrative, office support and other business support activities, employment activities, security and investigation and other personal service activities, information service and food and beverage services activities.

Evidence for the unobserved heterogeneity hypothesis is rather scant. It is solely in water and air transport, telecommunications, publishing activities and manufacturing of other transport equipment that wage premia are higher at the top than at the bottom of the wage distribution due to unobservable quality differences across workers. Employees in these sectors disproportionately benefit from sectoral wage premia if they are positioned at the upper tails of the conditional pay distribution. Spearman and Kendall correlation coefficient estimates corroborate these findings. Such weak evidence in favour of the unobserved heterogeneity hypothesis calls for more thorough re-examination of labour and product market structures behind wage premia as well as potential reforms that need to be implemented.

Our empirical findings suggest that there is room for efficiency wage or rent-sharing theories in accounting for a large part of inter-industry wage differentials tentatively implying that firm heterogeneity in the ability-to-pay matters more than employee unobservable attributes in the wage determination process. Workers earn significantly higher wages when employed in more profitable firms. Higher product market concentration implies higher wage premia. The responsiveness of wage developments to sectoral employment shifts turns out to be subdued in the early phases of the economic adjustment programme.

References

Abowd, J. M., Kramarz, F., Lengermann, P., McKinney, K. L., and Roux, S. (2012). Persistent inter-industry wage differences: rent sharing and opportunity costs. *IZA Journal of Labor Economics*, 1(7): 1-25.

Angrist, J., Chernozhukov, V. and Fernández-Val, I. (2006). Quantile regression under misspecification, with an application to the U.S. wage structure. *Econometrica*, 74: 539-563.

Biagetti, M. and Scicchitano, S. (2011). Exploring the inter-industry wage premia in Portugal along the wage distribution: evidence from EU-SILC data. *Economics Bulletin*, 31(1): 93-99.

Blanchflower, D. G. and Oswald, A. J. (1994). *The wage curve*. Cambridge, MA: MIT Press**.**

Card, D., Cardoso, A. and Kline, P. (2013). Bargaining and the gender wage gap: a direct assessment. *IZA Working Paper*: No. 7592.

Carruth, A., Collier, W. and Dickerson, A. (2004). Inter-industry wage differences and individual heterogeneity. *Oxford Bulletin of Economics and Statistics*, 66(5): 811-846.

Chamberlain, G. (1994). Quantile regression, censoring, and the structure of wages. *Advances in Econometrics: Sixth World Congress*, 2: 171-209.

Cholezas, I. and Kanellopoulos, N. (2015). Labour market reforms in Greece and the wage curve. *Economics Letters,* 136: 19-21.

Christopoulou, R. and Monastiriotis, V. (2014). The Greek public sector wage premium before the crisis: size, selection and relative valuation of characteristics. *British Journal of Industrial Relations*, 52(3): 579-602.

Chzhen, Y. and Mumford, K. (2011). Gender gaps across the earnings distribution for full-time employees in Britain: Allowing for sample selection. *Labour Economics*, 18(6): 837-844.

Daouli, J., Demoussis, M., Giannakopoulos, N. and Laliotis, I. (2013). Firm-level collective bargaining and wages in Greece: a quantile decomposition analysis. *British Journal of Industrial Relations*, 51(1): 80-103.

Dickens, W. T. and Katz, L. F. (1987). Inter-industry wage differences and theories of wage determination. *NBER Working Paper*: No. w2271.

Du Caju, P., Katay, G., Lamo, A., Nicolitsas, D. and Poelhekke, S. (2010). Inter-industry wage differentials in EU countries: what do cross-country time varying data add to the picture?. *Journal of the European Economic Association,* 8(2-3): 478-486.

Du Caju, P., Rycx, F. and Tojerow, I. (2011). Inter-industry wage differentials: how much does rent sharing matter?. *The Manchester School*, 79(4): 691-717.

Du Caju, P., Rycx, F. and Tojerow, I. (2012). Wage structure effects of international trade in a small open economy: the case of Belgium. *Review of World Economics*, 148: 297-331.

Felbermayr, G., Hauptmann, A. and Schmerer, H. (2014). International trade an collective bargaining outcomes: evidence from German employer-employee data. *The Scandinavian Journal of Economics*, 116(3): 820-837.

Gannon, B. and Nolan, B. (2004). Inter-industry wage differentials in Ireland. *Economic and Social Review*, 35(2): 157-182.

Ge, S. and Macieira, J.C. (2014). Unobserved worker quality and inter-industry wage differentials. *SSRN Working Paper*: No. 2396656.

Goldberg, P. and Pavcnik, N. (2005). Trade, wages, and the political economy of trade protection: evidence from the Colombian trade reforms. *Journal of International Economics*, 66(1): 75-105.

Koenker, R. and Bassett, G. (1978). Regression quantiles. *Econometrica*, 46(1): 33-50.

Krueger, A. and Summers, L. (1988). Efficiency wages and inter-industry wage structure. *Econometrica*, 56(2): 259-293.

Lundin, N. and Yun, L. (2009). International trade and inter-industry wage structure in Swedish manufacturing: evidence from matched employer-employee data. *Review of International Economics*, 17(1): 87-102.

Magda, I., Rycx, F., Tojerow, I. and Valsamis, D. (2011). Wage differentials across sectors in Europe. *Economics of Transition*, 19(4): 749-769.

Martins, P. (2004). Industry wage premia: evidence from the wage distribution. *Economics Letters*, 83(2): 157–163.

Mehta, A. & Sun, W. (2013). Does industry affiliation influence wages? Evidence from Indonesia and the Asian Financial Crisis. *World Development*, 51: 47-61.

Moulton, B.R. (1986). Random group effects and the precision of regression estimates. *Journal of Econometrics*, 32(3): 385-397.

Moulton, B.R. (1990). An illustration of a pitfall in estimating the effects of aggregate variables on micro units. *Review of Economics and Statistics*, 72: 334-338.

Nicolitsas, D. (2011). Evidence on inter-industry wage differentials in Greece. *Essays in economics: applied studies in the Greek economy, eds. S. Balfousias, P.*

Hatzipanagiotou, and K. Kanellopoulos, Athens: Centre of Planning and Economic Research, 285-316.

Papapetrou, E. (2008). Evidence on gender wage differentials in Greece. *Economic Change and Restructuring*, 41(2): 155-166.

Parente, P.M. and Santos Silva, J. (2016). Quantile regression with clustered data. *Journal of Econometric Methods*, 5(1): 1-15.

Paz, L. (2014). Trade liberalization and the inter-industry wage premia: the missing role of productivity. *Applied Economics*, 46(4): 408-419.

Plasman, R., Rycx, F. and Tojerow, I. (2006). Industry wage differentials, unobserved ability, and rent-sharing: evidence from matched worker-firm data, 1995-2002. *IZA Working Paper*: No. 2387.

Powell, J. L. (1984). Least absolute deviation estimation for the censored regression model. *Journal of Econometrics*, 25: 303-325.

Schunck, R. (2013). Within and between estimates in random-effects models: Advantages and drawbacks of correlated random effects and hybrid models. *The Stata Journal*, 13(1): 65-76.

Smith, R. S. (1979). Compensating wage differentials and public policy: a review. *Industrial and Labor Relations Review*, 339-352.

Thaler, R. (1989). Anomalies: interindustry wage differentials. *Journal of Economic Perspectives*, 3(4): 181-193.

Torres, S., Portugal, P., Addison, J. and Guimaraes, P. (2013). The sources of wage variation: a three-way high-dimensional fixed effects regression model, *IZA Working Paper*: No. 7276.

Wang, J., Yu, R. and Shete, S. (2014). Comparison of multilevel modeling and the family-based association test for identifying genetic variants associated with systolic and diastolic blood pressure using Genetic Analysis Workshop 18 simulated data. *BMC Proceedings*, 8(Suppl 1): S30.

TABLE 1. Descriptive statistics of selected variables							
		1	2	3	4	5	6
				MALE		FEMALE	
VARIABLES	Description	**mean**	**standard error**	**mean**	**standard error**	**mean**	**standard error**
dependent variable: gross hourly wage		11.8281	0.0557	12.9243	0.0847	10.6249	0.0689
explanatory variables: dummies for personal, workplace and other controls							
Education	Primary	0.0625	0.0017	0.0766	0.0027	0.0471	0.0020
	Lower secondary	0.0970	0.0023	0.1150	0.0031	0.0772	0.0033
	General upper secondary	0.4194	0.0038	0.4199	0.0051	0.4187	0.0056
	Technical/Artistic/Prof.upper secondary	0.0616	0.0017	0.0624	0.0024	0.0606	0.0025
	Higher non-university	0.0919	0.0021	0.0803	0.0027	0.1046	0.0031
	University	0.2088	0.0033	0.1812	0.0040	0.2391	0.0053
	Postgraduate	0.0564	0.0021	0.0611	0.0029	0.0512	0.0031
	PhD	0.0025	0.0003	0.0034	0.0004	0.0016	0.0003
Gender	Female	0.4768	0.0039	-	-	-	-
Seniority in the firm	1-5 years of experience	0.4350	0.0039	0.4236	0.0052	0.4474	0.0058
	5-10 years of experience	0.2104	0.0031	0.2074	0.0042	0.2137	0.0046
	10-15 years of experience	0.1277	0.0024	0.1242	0.0033	0.1316	0.0035
	15-20 years of experience	0.0826	0.0022	0.0851	0.0028	0.0799	0.0034
	20-25 years of experience	0.0759	0.0019	0.0768	0.0025	0.0749	0.0029
	25-30 years of experience	0.0505	0.0016	0.0609	0.0023	0.0391	0.0021
	30-35 years of experience	0.0154	0.0008	0.0187	0.0012	0.0118	0.0012
	35-40 years of experience	0.0025	0.0006	0.0034	0.0011	0.0016	0.0004
Occupation	Senior officials, chief executives, legislators	0.0377	0.0014	0.0476	0.0021	0.0269	0.0017
	Scientists, engineers and other professionals	0.2567	0.0037	0.2257	0.0046	0.2908	0.0057
	Technicians, medical assistants and executive secretariat	0.1136	0.0022	0.1021	0.0029	0.1262	0.0032
	General office clerks	0.1592	0.0026	0.1259	0.0033	0.1957	0.0042
	Personal care and related workers, salespersons	0.1815	0.0031	0.1349	0.0039	0.2327	0.0048
	Mixed-animal producers, forestry and related workers	0.0007	0.0002	0.0011	0.0003	0.0001	0.0001
	Housebuilders, metal moulders, electrical/electronic mechanics and handicraft workers	0.0677	0.0017	0.1157	0.0031	0.0151	0.0009
	Plant operators and drivers	0.0805	0.0020	0.1442	0.0036	0.0106	0.0008
	Labourers and door to door salespersons	0.1023	0.0024	0.1027	0.0031	0.1019	0.0038
Employment contract	Permanent/indefinite duration	0.8871	0.0027	0.8992	0.0035	0.8738	0.0042
Employment status	Part-time employment	0.0808	0.0026	0.0479	0.0030	0.1169	0.0044
Managerial position	Managers	0.1007	0.0022	0.1191	0.0032	0.0805	0.0030
Public sector firm	Public sector employment	0.2760	0.0035	0.2481	0.0046	0.3066	0.0054
Size of the establishment	10-19 employees	0.0993	0.0019	0.0947	0.0024	0.1044	0.0028
	20-49 employees	0.1723	0.0030	0.1588	0.0037	0.1872	0.0048
	50-99 employees	0.1049	0.0023	0.1137	0.0033	0.0952	0.0033
	100-249 employees	0.1484	0.0033	0.1695	0.0047	0.1251	0.0044
	250-499 employees	0.1079	0.0026	0.1147	0.0035	0.1004	0.0039
	500-999 employees	0.1045	0.0025	0.0956	0.0031	0.1143	0.0040
	1000 and more	0.2628	0.0031	0.2531	0.0040	0.2734	0.0046
Observations		39,201	39,201	21,689	21,689	17,512	17,512

Figure 1. Inter-industry wage differentials

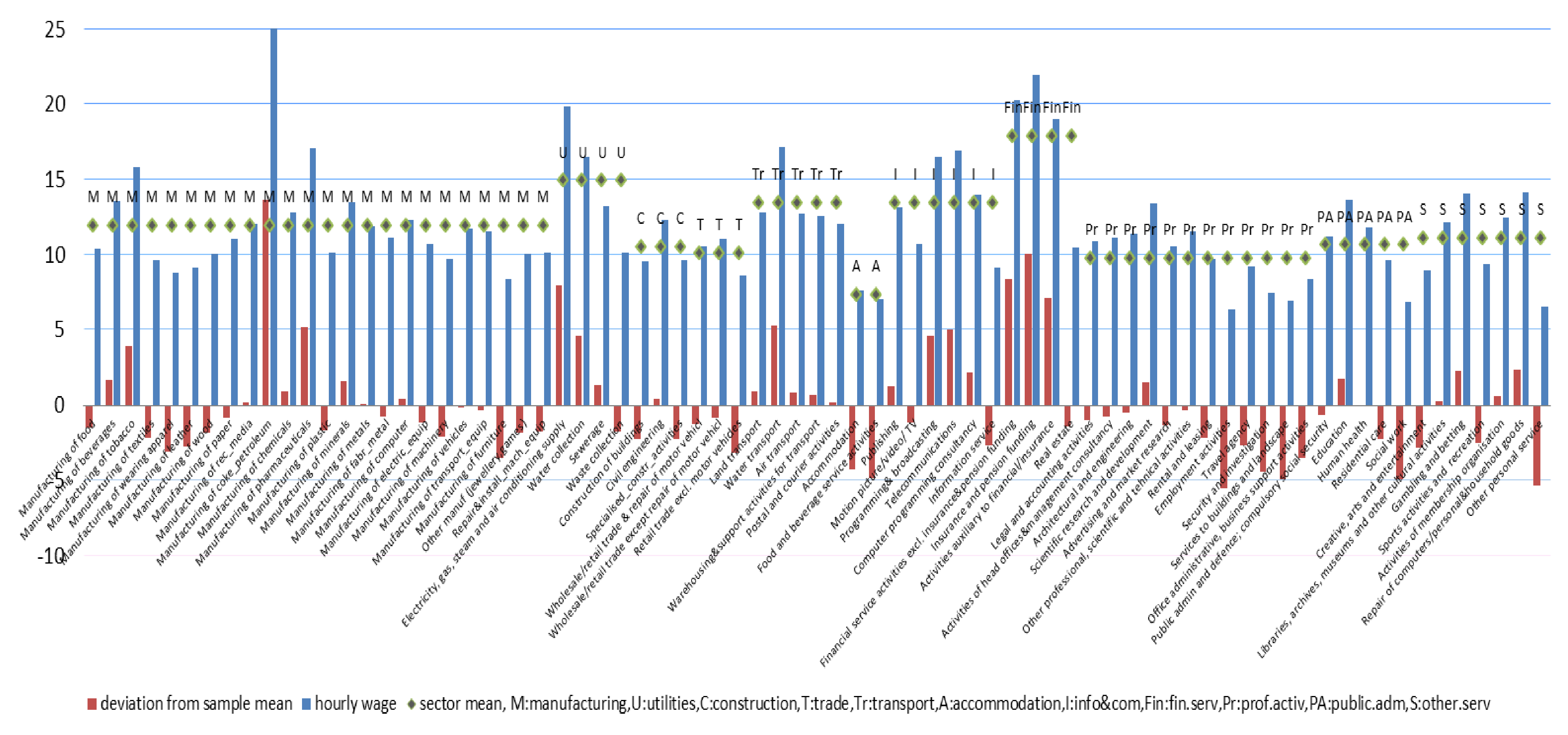

TABLE 2. Inter-industry wage differentials					
dependent variable: lwage		1 MALE		2 FEMALE	
industry	Description NACE two-digit codes				
		coefficient	**standard error**	**coefficient**	**standard error**
Manufacturing	Manufacturing of beverages	0.0287	0.0416	0.0707	0.0927
	Manufacturing of tobacco products	0.255***	0.0352	0.139	0.0951
	Manufacturing of textiles	-0.170**	0.0664	-0.0709	0.0573
	Manufacturing of wearing apparel	-0.0458	0.0592	-0.0606*	0.0345
	Manufacturing of leather and related products	-0.239***	0.0921	-0.0741	0.0503
	Manufacturing of wood	-0.0494	0.049	0.0673	0.0898
	Manufacturing of paper and paper products	-0.0409	0.0429	-0.0991*	0.0548
	Printing and reproduction of recorded media	0.0618*	0.0339	0.0179	0.062
	Manufacturing of coke and refined petroleum products	0.431***	0.0755	0.409***	0.13
	Manufacturing of chemicals	0.0112	0.0454	0.0359	0.0532
	Manufacturing of pharmaceuticals	0.207***	0.0374	0.203***	0.0407
	Manufacturing of rubber and plastic products	-0.118***	0.0383	-0.0633*	0.0382
	Manufacturing of other non-metallic minerals	0.0784**	0.0378	0.0774	0.0519
	Manufacturing of basic metals	0.0312	0.0399	-0.0184	0.0703
	Manufacturing of fabricated metals	-0.0325	0.0343	-0.0195	0.0444
	Manufacturing of computer, electronic and optical products	-0.00542	0.0423	-0.0877	0.0723
	Manufacturing of electrical equipment	-0.0869*	0.0484	0.0436	0.107
	Manufacturing of machinery and equipment	-0.0508	0.0322	-0.0480	0.0548
	Manufacturing of motor vehicles and trailers	-0.168***	0.0427	-0.211	0.298
	Manufacturing of other transport equipment	0.130	0.0856	-0.329	0.202
	Manufacturing of furniture	-0.163***	0.0437	-0.207***	0.0599
	Other manufacturing	-0.0221	0.05	-0.0260	0.0527
	Repair and installation of machinery equipment	0.0144	0.0978	-0.0615	0.192
Electricity, gas, water supply	Electricity, gas, steam and air conditioning supply	0.301***	0.0285	0.119***	0.0315
	Water collection, treatment and supply	0.169***	0.044	0.102*	0.0614
	Sewerage	0.140**	0.068	0.0893	0.0699
	Waste collection, materials recovery	0.126	0.0943	0.126**	0.054
Construction	Construction of buildings	-0.116**	0.0464	-0.0765	0.0803
	Civil engineering	0.0234	0.0383	0.0193	0.0901
	Specialised construction activities	-0.0336	0.0465	-0.178***	0.0674
Wholesale and retail trade	Wholesale and retail trade and repair of motor vehicles and motorcycles	-0.0300	0.0332	-0.170***	0.0591
	Wholesale trade except of repair of motor vehicles and motorcycles	-0.00742	0.0274	-0.0168	0.0276
	Retail trade except of motor vehicles and motorcycles	-0.173***	0.0287	-0.0873***	0.0261
Transportation and storage	Land transport and transport via pipelines	0.0620*	0.0343	0.0380	0.056
	Water transport	0.400***	0.0902	0.300***	0.0736
	Air transport	0.170**	0.0687	0.238***	0.0763
	Warehousing and support activities for transportation	0.0853**	0.0421	0.0449	0.0382
	Postal and courier activities	-0.0527*	0.0301	-0.214***	0.033
Accommodation and food services	Accommodation	-0.0634*	0.0328	-0.0773**	0.0356
	Food and beverage service activities	-0.192***	0.0608	-0.173***	0.059
Information and communication	Publishing activities	0.107**	0.0487	0.0588	0.0565
	Motion picture, video and TV programme	-0.0832	0.0686	0.0159	0.086
	Programming and broadcasting activities	0.106***	0.0409	0.153**	0.0608
	Telecommunications	0.252***	0.0706	0.133	0.0991
Financial and insurance activities	Computer programming consultancy and related activities	0.0580	0.0428	0.00916	0.0741
	Information service activities	-0.132*	0.0727	-0.220***	0.0672
	Financial service activities except insurance and pension funding	0.253***	0.0377	0.314***	0.0386
	Insurance, reinsurance and pension funding	0.251	0.24	0.293	0.223
	Activities auxiliary to financial and insurance activities	0.232	0.199	-0.0516	0.109
	Real estate activities	-0.140	0.101	-0.0266	0.0741

*** p<0.01, ** p<0.05, * p<0.1

TABLE 2 - *continued*					
dependent variable: lwage		1 MALE		2 FEMALE	
industry	Description NACE two-digit codes				
		coefficient	**standard error**	**coefficient**	**standard error**
Professional, scientific, technical, administration and support service	Legal and accounting activities	-0.199***	0.0694	-0.173**	0.0705
	Activities of head offices and management consultancy	0.00520	0.0986	-0.119**	0.0514
	Architectural and engineering activities	-0.0257	0.097	0.0552	0.0633
	Scientific research and development	-0.0409	0.107	-0.0575	0.0815
	Advertising and market research	-0.0578	0.0808	-0.176***	0.0526
	Other professional, scientific and technical activities	-0.0102	0.0975	-0.000680	0.15
	Rental and leasing activities	-0.0861	0.0812	-0.0335	0.0715
	Employment activities	-0.260***	0.0796	-0.408***	0.154
	Travel agency, tour operator reservation service and related activities	-0.0938	0.0893	-0.00923	0.0871
	Security and investigation activities	-0.260***	0.0483	-0.209***	0.0514
	Services to buildings and landscape activities	-0.163***	0.0415	-0.126**	0.0497
	Office administrative, office support and other business support activities	-0.354***	0.0994	-0.301***	0.0828
Public administration, defence, education, health, social work	Public administration and defence; compulsory social security	-0.195***	0.0532	-0.185***	0.04
	Education	-0.0779**	0.0323	-0.0821**	0.0389
	Human health activities	-0.100***	0.023	-0.113***	0.0238
	Residential care activities	-0.0318	0.11	-0.109	0.165
	Social work activities without accommodation	0.0128	0.0787	-0.119	0.075
Other services	Creative, arts and entertainment activities	-0.104	0.102	-0.0704	0.0479
	Libraries, archives, museums and other cultural activities	-0.00188	0.172	-0.0110	0.118
	Gambling and betting activities	0.0657	0.0798	0.184	0.143
	Sports activities and amusement and recreation activities	-0.143*	0.0751	-0.204**	0.0989
	Activities of membership organisation	0.0755	0.122	-0.0390	0.0356
	Repair of computers and personal and household goods	0.0134	0.254	-0.00548	0.155
	Other personal service activities	-0.395***	0.0709	-0.212***	0.0407
Constant		1.287***	0.04	1.285***	0.052
Observations		21,689	21,689	17,512	17,512
Number of groups		2,445	2,445	2,338	2,338
*** p<0.01, ** p<0.05, * p<0.1					

TABLE 3. Inter-industry wage differentials and rent-sharing

dependent variable: Inter-industry wage differentials (regression coefficients) weighted by the inverse of standard errors (OLS)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
lagged profits (ln)	0.0397*	-	-	-	-	-	-
	(1.982)						
profits (ln)	-	0.0264*	-	-	-	-	-
		(1.800)					
Herfindahl index_net sales	-	-	0.264***	-	-	-	-
			(3.344)				
Herfindahl index_total assets	-	-	-	0.224**	-	-	-
				(2.418)			
profits to total assets	-	-	-	-	-0.524	-	-
					(-1.249)		
Δempsh	-	-	-	-	-	0.104	-
						(0.802)	
Δemp	-	-	-	-	-	-	0.105
							(0.802)
Constant	-0.539**	-0.366*	-0.0635***	-0.0654***	-0.00288	-0.0196	-0.0182
	(-2.015)	(-1.958)	(-3.776)	(-3.639)	(-0.0863)	(-1.005)	(-0.898)
Observations	67	51	51	51	51	69	69

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

TABLE 4. Industry wage differentials along the distribution									
dependent variable: lwage		1	2	3	4	5	6	7	8
	estimation level	**mean**	**Q 0.10**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**	**Q 0.75-0.25**	**Q 0.90-0.10**
industry	Description (NACE two-digit codes)								
Manufacturing	Manufacturing of beverages	0.126***	0.117*	0.0947**	0.0787*	0.101**	0.155*	0.0142	0.0376
		(2.837)	(1.768)	(2.282)	(1.935)	(2.054)	(1.892)	(0.307)	(0.477)
	Manufacturing of tobacco products	0.272***	0.324***	0.349***	0.313***	0.218***	0.131***	-0.131***	-0.193***
		(6.048)	(4.642)	(7.439)	(6.458)	(7.277)	(3.726)	(-3.876)	(-2.827)
	Manufacturing of textiles	-0.0619	-0.0378	-0.0561	-0.0678**	-0.0477	-0.0413	0.0142	-0.00347
		(-1.179)	(-0.584)	(-1.404)	(-2.015)	(-0.759)	(-1.143)	(0.267)	(-0.0162)
	Manufacturing of wearing apparel	0.00575	-0.0407	-0.0159	-0.0164	-0.0215	-0.0234	-0.00722	0.0173
		(0.138)	(-0.629)	(-0.373)	(-0.584)	(-0.692)	(-0.241)	(-0.176)	(0.171)
	Manufacturing of leather and related products	-0.0373	-0.0467	-0.0441	-0.0844*	0.00708	-0.0165	0.0512	0.0302
		(-0.496)	(-0.689)	(-0.700)	(-1.672)	(0.116)	(-0.276)	(0.474)	(0.222)
	Manufacturing of wood	0.0458	0.0984	0.0499	-0.00216	-0.0275	-0.000131	-0.0774**	-0.0985
		(0.783)	(1.482)	(0.838)	(-0.0418)	(-0.436)	(-0.000854)	(-2.072)	(-0.768)
	Manufacturing of paper and paper products	0.0798**	0.0841	0.0744**	0.0588	0.104***	0.0702	0.0294	-0.0138
		(2.069)	(1.520)	(2.384)	(1.415)	(3.351)	(1.408)	(0.927)	(-0.204)
	Printing and reproduction of recorded media	0.129***	0.0995**	0.0708**	0.0972*	0.125***	0.127***	0.0547	0.0273
		(3.116)	(2.032)	(2.121)	(1.934)	(3.026)	(3.031)	(1.359)	(0.480)
	Manufacturing of coke and refined petroleum products	0.486***	0.428*	0.516***	0.542***	0.553***	0.490***	0.0371	0.0628
		(5.237)	(1.662)	(4.890)	(4.654)	(7.551)	(8.142)	(0.298)	(0.336)
	Manufacturing of chemicals	0.117***	0.106**	0.111***	0.0810**	0.0927***	0.0724*	-0.0178	-0.0338
		(2.898)	(2.431)	(3.494)	(2.147)	(3.009)	(1.876)	(-0.547)	(-0.521)
	Manufacturing of pharmaceuticals	0.259***	0.234***	0.213***	0.233***	0.219***	0.232***	0.00548	-0.00225
		(5.388)	(4.648)	(5.458)	(4.597)	(4.057)	(3.797)	(0.0892)	(-0.0255)
	Manufacturing of rubber and plastic products	0.0302	0.000351	-0.0259	-0.0418	0.0127	0.0358	0.0387	0.0355
		(0.746)	(0.00718)	(-0.757)	(-1.004)	(0.207)	(0.601)	(0.581)	(0.451)
	Manufacturing of other non-metallic minerals	0.135***	0.117*	0.0939**	0.122***	0.128***	0.128***	0.0346	0.0113
		(3.574)	(1.956)	(2.145)	(3.295)	(4.165)	(3.337)	(1.220)	(0.172)
	Manufacturing of basic metals	0.120***	0.128***	0.106***	0.0767	0.0823*	0.0496	-0.0241	-0.0786
		(2.719)	(2.884)	(2.623)	(1.408)	(1.715)	(1.068)	(-0.588)	(-1.289)
	Manufacturing of fabricated metals	0.0495	0.0625	0.0594*	0.0376	0.0343	0.00647	-0.0251	-0.0561
		(1.459)	(1.442)	(1.851)	(1.370)	(1.253)	(0.177)	(-0.889)	(-1.151)
	Manufacturing of computer, electronic and optical products	0.0407	0.0369	0.0480	0.0112	-0.0136	0.00355	-0.0615	-0.0333
		(0.893)	(0.511)	(0.919)	(0.303)	(-0.425)	(0.0740)	(-1.057)	(-0.331)
	Manufacturing of electrical equipment	0.000475	-0.0110	0.0107	-0.0208	-0.0472	-0.00588	-0.0579	0.00516
		(0.0108)	(-0.187)	(0.251)	(-0.684)	(-0.741)	(-0.119)	(-1.288)	(0.0483)
	Manufacturing of machinery and equipment	0.0453	0.0718	0.0449	0.0290	-0.00757	-0.0385	-0.0525	-0.110
		(1.287)	(1.350)	(1.597)	(1.061)	(-0.264)	(-0.950)	(-1.593)	(-1.487)
	Manufacturing of motor vehicles and trailers	-0.0385	0.0441	-0.0315	-0.0748**	-0.122***	-0.101	-0.0906	-0.145
		(-0.528)	(0.654)	(-0.679)	(-2.385)	(-2.578)	(-0.437)	(-0.994)	(-0.855)
	Manufacturing of other transport equipment	0.171**	0.0525	0.0474	0.177	0.292***	0.308***	0.242**	0.256**
		(2.131)	(0.438)	(0.771)	(1.270)	(3.552)	(5.777)	(2.564)	(2.558)
	Manufacturing of furniture	-0.0746*	-0.0572	-0.0600	-0.0863***	-0.103**	-0.109***	-0.0430	-0.0519
		(-1.831)	(-0.828)	(-1.521)	(-2.625)	(-2.091)	(-2.622)	(-1.183)	(-0.662)
	Other manufacturing	0.0997**	0.105**	0.0732	0.0228	0.0636	0.0662	-0.00961	-0.0386
		(2.366)	(1.997)	(1.627)	(0.619)	(0.408)	(1.546)	(-0.192)	(-0.469)
	Repair and installation of machinery equipment	0.136*	-0.00637	-0.00854	0.120	0.180**	0.288***	0.188**	0.295**
		(1.710)	(-0.0969)	(-0.0362)	(1.596)	(1.984)	(3.751)	(2.068)	(2.518)

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

TABLE 4 - *continued*

		1	2	3	4	5	6	7	8
	estimation level	**mean**	**Q 0.10**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**	**Q 0.75-0.25**	**Q 0.90-0.10**
Electricity, gas, water supply	Electricity, gas, steam and air conditioning supply	0.358***	0.398***	0.376***	0.358***	0.383***	0.354***	0.00779	-0.0444
		(8.077)	(6.234)	(7.923)	(7.369)	(10.41)	(9.684)	(0.0883)	(-0.354)
	Water collection, treatment and supply	0.235***	0.239**	0.263***	0.259***	0.262***	0.227***	-0.000715	-0.0124
		(4.906)	(2.553)	(5.682)	(5.590)	(6.378)	(4.541)	(-0.0152)	(-0.122)
	Sewerage	0.0439	0.0629	0.0941	0.0564	0.100	0.123*	0.00625	0.0602
		(0.473)	(0.643)	(0.717)	(0.839)	(1.395)	(1.918)	(0.0715)	(0.264)
	Waste collection, materials recovery	0.0481	0.0314	0.0654	0.120	0.121**	0.0592	0.0555	0.0278
		(0.568)	(0.289)	(0.737)	(0.816)	(2.124)	(0.519)	(0.490)	(0.159)
Construction	Construction of buildings	0.0189	-0.0107	0.0378	0.0137	0.0373	0.0102	-0.000542	0.0209
		(0.444)	(-0.152)	(0.756)	(0.387)	(1.112)	(0.206)	(-0.0138)	(0.233)
	Civil engineering	0.129***	0.0585	0.153***	0.158***	0.174***	0.184***	0.0209	0.126
		(2.878)	(0.445)	(3.295)	(3.581)	(3.707)	(3.936)	(0.295)	(0.811)
	Specialised construction activities	0.0470	0.0298	0.0515	0.0336	0.0439	-0.0287	-0.00758	-0.0585
		(1.188)	(0.583)	(0.971)	(0.872)	(1.339)	(-0.986)	(-0.189)	(-1.043)
Wholesale and retail trade	Wholesale and retail trade and repair of motor vehicles and motorcycles	0.0724**	0.0668	0.0636*	0.0465	0.0589*	0.0534	-0.00475	-0.0134
		(2.025)	(1.608)	(1.899)	(1.570)	(1.745)	(1.034)	(-0.147)	(-0.292)
	Wholesale trade except of motor vehicles and motorcycles	0.0719**	0.0782**	0.0501*	0.0294	0.0408	0.0552	-0.00939	-0.0230
		(2.241)	(2.101)	(1.908)	(0.976)	(1.227)	(1.276)	(-0.320)	(-0.478)
	Retail trade except of motor vehicles and motorcycles	-0.0383	0.0208	-0.00863	-0.0614**	-0.0922***	-0.146***	-0.0836***	-0.167***
		(-1.195)	(0.517)	(-0.310)	(-2.508)	(-3.355)	(-4.207)	(-3.288)	(-3.256)
Transportation and storage	Land transport and transport via pipelines	0.156***	0.193**	0.168***	0.149***	0.165***	0.131**	-0.00284	-0.0622
		(3.407)	(2.472)	(3.821)	(3.481)	(3.636)	(1.974)	(-0.0556)	(-0.672)
	Water transport	0.511***	0.340***	0.371***	0.462**	0.560***	0.512***	0.193***	0.172**
		(5.414)	(3.368)	(4.793)	(2.415)	(8.455)	(13.52)	(3.341)	(2.106)
	Air transport	0.266***	0.164	0.192	0.188**	0.260***	0.268***	0.0678	0.104
		(3.060)	(1.217)	(1.427)	(2.179)	(3.733)	(4.880)	(0.869)	(0.545)
	Warehouse and support activities for transportation	0.168***	0.124**	0.120***	0.107**	0.141***	0.178***	0.0218	0.0533
		(4.208)	(2.452)	(3.482)	(2.557)	(2.945)	(3.222)	(0.597)	(0.696)
	Postal and courier activities	-0.0141	0.0545	0.0409	0.00789	-0.0265	-0.0993***	-0.0673	-0.154
		(-0.366)	(0.868)	(1.276)	(0.228)	(-0.570)	(-2.656)	(-0.994)	(-1.133)
Accommodation and food services	Accommodation	0.0173	0.0834**	0.0365	-0.0259	-0.0357	-0.0681**	-0.0722*	-0.151**
		(0.490)	(2.122)	(1.054)	(-0.749)	(-1.129)	(-1.974)	(-1.810)	(-2.523)
	Food service and beverage activities	-0.0940**	-0.194**	-0.132**	-0.0472	-0.0434*	-0.109***	0.0888*	0.0843
		(-2.214)	(-2.191)	(-2.246)	(-1.348)	(-1.650)	(-3.727)	(1.647)	(0.973)
Information and communication	Publishing activities	0.164***	0.0872	0.100**	0.107***	0.174***	0.184***	0.0742**	0.0968
		(3.665)	(1.501)	(2.057)	(2.748)	(5.365)	(2.754)	(2.075)	(1.485)
	Motion picture, video and TV programme	0.0620	-0.0938	0.000527	-0.0197	0.0925	0.0948	0.0989	0.189
		(0.919)	(-1.256)	(0.00958)	(-0.276)	(0.766)	(1.483)	(0.896)	(0.937)
	Programming and broadcasting activities	0.166***	0.0735	0.157**	0.169***	0.171***	0.124***	0.0139	0.0510
		(3.225)	(0.457)	(2.165)	(2.891)	(4.176)	(3.498)	(0.182)	(0.402)
	Telecommunications	0.227**	0.153	0.169	0.266	0.261***	0.181***	0.0925	0.0283
		(2.539)	(1.637)	(1.236)	(1.453)	(3.655)	(3.882)	(1.154)	(0.295)
Financial and insurance activities	Computer programming consultancy and related activities	0.164***	0.144***	0.120***	0.0978*	0.189***	0.154***	0.0693	0.0101
		(3.503)	(2.970)	(2.882)	(1.678)	(3.906)	(4.384)	(1.386)	(0.130)
	Information service activities	-0.0961*	-0.00600	-0.0215	-0.124***	-0.141***	-0.124	-0.120	-0.118
		(-1.650)	(-0.0706)	(-0.432)	(-3.440)	(-2.872)	(-1.478)	(-0.907)	(-0.878)
	Financial service activities except insurance and pension funding	0.329***	0.362***	0.322***	0.301***	0.277***	0.248***	-0.0449	-0.115
		(6.944)	(6.478)	(5.989)	(6.741)	(5.509)	(4.617)	(-0.885)	(-1.364)
	Insurance, reinsurance and pension funding	0.337*	0.259***	0.171	0.279	0.445**	0.510***	0.274	0.251
		(1.825)	(2.668)	(1.527)	(1.034)	(2.456)	(3.835)	(1.628)	(1.064)
	Activities auxiliary to financial and insurance activities	0.154	0.0780	0.0540	0.135	0.156**	0.145**	0.112**	0.0673
		(1.507)	(1.026)	(0.925)	(1.277)	(2.355)	(2.294)	(1.987)	(0.397)
	Real estate activities	0.0641	0.0455	0.0806*	0.0356	0.115	0.0902	0.0342	0.0447
		(0.696)	(0.197)	(1.838)	(0.235)	(0.880)	(0.477)	(0.444)	(0.451)

Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

TABLE 4 - *continued*									
		1	2	3	4	5	6	7	8
	estimation level	**mean**	**Q 0.10**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**	**Q 0.75-0.25**	**Q 0.90-0.10**
Professional, scientific, technical, administration and support service	Legal and accounting activities	-0.127	-0.136	-0.0447	-0.0905*	-0.117*	-0.0738	-0.0726	0.0624
		(-1.488)	(-0.608)	(-0.699)	(-1.829)	(-1.807)	(-1.100)	(-1.116)	(0.239)
	Activities of head offices and management consultancy	0.0216	-0.133*	-0.0414	-0.0404	0.0736	0.0686	0.115	0.201
		(0.319)	(-1.705)	(-0.761)	(-0.659)	(0.661)	(0.472)	(1.385)	(1.470)
	Architectural and engineering activities	0.0613	0.114	0.0457	0.0816	0.0443	0.0602	-0.00139	-0.0533
		(0.637)	(1.158)	(0.738)	(1.273)	(0.763)	(0.980)	(-0.0215)	(-0.262)
	Scientific research and development	0.117	0.0441	0.0731	0.0719	0.0707	0.0228	-0.00236	-0.0213
		(1.529)	(0.439)	(1.249)	(0.958)	(0.995)	(0.193)	(-0.0491)	(-0.220)
	Advertising and market research	-0.0808	-0.212**	-0.122*	-0.127***	-0.0495	0.0129	0.0725	0.225
		(-1.339)	(-2.180)	(-1.686)	(-3.334)	(-0.665)	(0.166)	(1.064)	(1.395)
	Other professional, scientific and tehnical activities	0.0489	0.0848	0.0366	0.0358	-0.0245	-0.0641	-0.0611	-0.149
		(0.480)	(1.138)	(0.292)	(0.561)	(-0.464)	(-0.447)	(-0.551)	(-0.725)
	Rental and leasing activities	0.0431	0.137**	0.0473	-0.0463	0.0387	0.00851	-0.00866	-0.129
		(0.745)	(2.187)	(0.963)	(-0.624)	(0.401)	(0.0839)	(-0.107)	(-1.227)
	Employment activities	-0.288***	-0.394***	-0.511***	-0.318***	-0.0694	-0.0805	0.441***	0.313**
		(-3.000)	(-4.455)	(-7.943)	(-2.722)	(-0.804)	(-0.283)	(4.051)	(1.966)
	Travel agency, tour operator reservation service and related activities	0.113**	0.0437	0.0796	0.0778*	0.127***	0.143	0.0476	0.0995
		(1.969)	(0.503)	(1.159)	(1.711)	(2.718)	(1.511)	(0.587)	(0.786)
	Security and investigation activities	-0.187***	-0.351*	-0.189***	-0.174***	-0.191***	-0.247***	-0.00296	0.104
		(-3.517)	(-1.905)	(-3.418)	(-4.352)	(-5.896)	(-6.582)	(-0.0720)	(1.080)
	Services to buildings and landscape activities	-0.0354	-0.141**	-0.113	-0.0607	-0.0218	-0.0850**	0.0907*	0.0563
		(-0.619)	(-2.235)	(-1.074)	(-1.075)	(-0.473)	(-2.329)	(1.807)	(0.889)
	Office administrative, office support and other business support activities	-0.230**	-0.663***	-0.213***	-0.195*	-0.0806	0.0124	0.132	0.676**
		(-2.351)	(-3.199)	(-3.989)	(-1.908)	(-1.576)	(0.135)	(0.938)	(2.560)
Public administration, defence, education, health, social work	Public administration and defence; compulsory social security	-0.0537	-0.0607	-0.106**	-0.0899**	-0.0748**	-0.0457	0.0309	0.0150
		(-1.198)	(-0.855)	(-2.332)	(-2.215)	(-1.994)	(-0.724)	(0.674)	(0.136)
	Education	0.0702*	0.112*	0.102**	0.0823**	0.0325	-0.0460	-0.0699	-0.158*
		(1.680)	(1.692)	(2.190)	(2.562)	(1.087)	(-1.291)	(-1.514)	(-1.808)
	Human health activities	0.00386	-0.0412	-0.0728*	-0.0580*	-0.0345	-0.0393	0.0382	0.00197
		(0.105)	(-0.653)	(-1.704)	(-1.876)	(-1.305)	(-1.191)	(0.936)	(0.0259)
	Residential care activities	0.0382	0.00370	0.0289	0.0392	0.0538	-0.0203	0.0249	-0.0240
		(0.533)	(0.0565)	(0.559)	(0.441)	(0.764)	(-0.545)	(0.353)	(-0.293)
	Social work activities without accommodation	0.0671	0.165	0.121	0.0113	0.0408	-0.0701	-0.0800	-0.235
		(0.889)	(1.362)	(1.332)	(0.233)	(0.453)	(-1.059)	(-0.456)	(-0.946)
Other services	Creative, arts and entertainment activities	-0.0126	-0.162*	-0.0318	0.0263	-0.0105	-0.0317	0.0213	0.130
		(-0.187)	(-1.923)	(-0.213)	(0.337)	(-0.264)	(-0.796)	(0.229)	(0.920)
	Libraries, archives, museums and other cultural activities	0.0311	-0.122	0.0191	0.0481	0.0812	0.0628	0.0621	0.185
		(0.315)	(-0.426)	(0.213)	(0.751)	(1.004)	(1.095)	(0.605)	(1.006)
	Gambling and betting activities	0.224*	0.191**	0.179**	0.213	0.259**	0.279***	0.0807	0.0885
		(1.958)	(2.499)	(1.961)	(1.126)	(2.069)	(3.942)	(0.768)	(0.573)
	Sports activities and amusement and recreation activities	-0.0717	-0.168*	-0.210***	-0.0775	-0.00547	0.0500	0.205***	0.218*
		(-0.932)	(-1.957)	(-4.047)	(-1.479)	(-0.0386)	(0.556)	(2.707)	(1.665)
	Activities of membership organisation	0.0764	0.124**	0.107*	0.0786	0.107	0.116	-0.000128	-0.00758
		(0.831)	(2.026)	(1.731)	(0.813)	(1.179)	(0.532)	(-0.00172)	(-0.0579)
	Repair of computers and personal and household goods	0.0278	-0.0925	-0.0883*	-0.106	-0.0631	0.553***	0.0252	0.646
		(0.152)	(-0.896)	(-1.743)	(-1.623)	(-0.406)	(6.785)	(0.0778)	(1.468)
	Other personal service activities	-0.0833*	-0.0714	-0.0748*	-0.114**	-0.108***	-0.115**	-0.0328	-0.0439
		(-1.882)	(-0.542)	(-1.935)	(-2.298)	(-3.035)	(-2.247)	(-0.832)	(-0.322)
Constant		1.215***	0.494***	0.952***	1.393***	1.662***	1.881***	0.711***	1.387***
		(29.00)	(7.094)	(16.73)	(34.46)	(52.43)	(53.37)	(11.46)	(15.44)
Observations		39,201	39,201	39,201	39,201	39,201	39,201	39,201	39,201
Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1									

TABLE 5
Correlation betw een OLS and quantile regression coefficients

	spearman's rank correlation coefficient	Prob>|t|	kendall's rank correlation coefficient	Prob>|z|
10th percentile	0.854	0.0000	0.6823	0.0000
25th percentile	0.9178	0.0000	0.7690	0.0000
50th percentile	0.9504	0.0000	0.8227	0.0000
75th percentile	0.9418	0.0000	0.7975	0.0000
90th percentile	0.8462	0.0000	0.6786	0.0000
(75th-25th) percentile	0.1716	0.1438	0.1337	0.0929
(90th-10th) percentile	0.0016	0.9895	0.0137	0.8666

BANK OF GREECE WORKING PAPERS

185. Adam, A., and T., Moutos, "Industry-Level Labour Demand Elasticities Across the Eurozone: Will There Be Any Gain After the Pain of Internal Devaluation?" July, 2014.

186. Tagkalakis, O.A., "Fiscal Policy, Net Exports, and the Sectoral Composition of Output in Greece", September 2014.

187. Hondroyiannis, G. and D., Papaoikonomou, "When Does it Pay To Tax? Evidence from State-Dependent Fiscal Multipliers in the Euro Area", October 2014.

188. Charalambakis, C. E., "On Corporate Financial Distress Prediction: What Can we Learn From Private Firms in a Small Open Economy?, November 2014.

189. Pagratis, S., E., Karakatsani and E. Louri, "Bank Leverage and Return on Equity Targeting: Intrinsic Procyclicality of Short-Term Choices", November 2014.

190. Evgenidis, A. and C., Siriopoulos, "What are the International Channels Through Which a US Policy Shock is Transmitted to the World Economies? Evidence from a Time Varying Favar", January 2015.

191. Louzis, D. P., and A.T., Vouldis, "Profitability in the Greek Banking System: a Dual Investigation of Net Interest and Non-Interest Income", February 2015.

192. Papaspyrou, S.T, "EMU 2.0 - Drawing Lessons From the Crisis - a New Framework For Stability and Growth", March 2014.

193. Litina, A and T, Palivos, "Corruption and Tax Evasion: Reflections on Greek Tragedy", June 2015.

194. Balfoussia, H. and H.D. Gibson, "Financial Conditions and Economic Activity: The Potential Impact of the Targeted Longer-Term Refinancing Operations (TLTROS)", July 2015.

195. Louzis, P. D., "Steady-State Priors and Bayesian Variable Selection in VAR Forecasting", July 2015.

196. Zografakis, S. and A., Sarris, "The Distributional Consequences of the Stabilization and Adjustment Policies in Greece During the Crisis, with the Use of A Multisectoral Computable General Equilibrium Model", August 2015.

197. Papageorgiou, D. and E. Vourvachaki, "The Macroeconomic Impact of Structural Reforms in Product and Labour Markets: Trade-Offs and Complementarities", October 2015.

198. Louri, H., and P. M. Migiakis, "Determinants of Euro-Area Bank Lending Margins: Financial Fragmentation and ECB Policies", October 2015.

199. Gibson, D. H, S.G. Hall, and G. S. Tavlas, "The effectiveness of the ECB's asset purchase programs of 2009 to 2012", November 2015.

200. Balfoussia, H and D. Malliaropulos, "Credit-less recoveries: the role of investment-savings imbalances", November 2015.

201. Kalyvitis, S., "Who Exports High-Quality Products? Some Empirical Regularities from Greek Exporting Firms", December 2015.

202. Papadopoulos, S., P. Stavroulias and T. Sager, "Systemic Early Warning Systems for EU15 Based on the 2008 Crisis", January 2016.

203. Papadopoulos, G., S. Papadopoulos and T. Sager, "Credit Risk Stress Testing for EU15 Banks: a Model Combination Approach", January 2016.

204. Louzis, P. D., "Macroeconomic Forecasting and Structural Changes in Steady States", March 2016.

205. Christodoulakis, N. and C. Axioglou, "Underinvestment and Unemployment: the Double Hazard in the Euro Area", April 2016.

206. Bardaka, C. I., “Structural and Cyclical Factors of Greece’s Current Account Balances: A Note”, May 2016.

207. Lothian, J. R., and G. S. Tavlas, “How Friedman and Schwartz Became Monetarists”, May 2016.

208. Balfoussia, H. and H. D. Gibson, “Firm Investment and Financial Conditions in the Euro Area: Evidence from Firm-Level Data”, June 2016.

209. Samantas, G.I., “On the Optimality of Bank Competition Policy”, July 2016.

210. Malliaropulos, D., and P.M. Migiakis, “The Re-Pricing of Sovereign Risks Following the Global Financial Crisis”, July 2016.

211. Asimakopoulos, I., P.K. Avramidis, D. Malliaropulos, N. G. Travlos, “Moral Hazard and Strategic Default: Evidence from Greek Corporate Loans”, July 2016.

212. Tavlas, S.G., “New Perspectives on the Great Depression: a Review Essay”, September 2016.