INTER-INDUSTRY WAGE DIFFERENTIALS. EVIDENCE FROM DEVELOPED AND DEVELOPING COUNTRIES.

by

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Abstract

THE EFFICIENCY OF INTER-INDUSTRY WAGE DIFFERENTIALS

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This paper investigates the impact of industry effect on wage setting for the same occupational groups divided by wage hierarchy: top-management, middle-class workers and low-wage workers. Data used in this research are taken from WageIndicator dataset for 2010. These data were collected through a web portal connecting to national websites in almost 50 countries. Method of ordinary least squares (OLS) is used in obtaining the results of the wage equations. Results are compared using different set of controls: human capital characteristics and enterprise conditions. Findings from cross-country equations indicate that inter-industry wage differentials are persistent for same set of industries, for employees in the same occupational group controlling for labour characteristics, firm's characteristic and notwithstanding the developed and developing countries. However Manufacturing industry seems to be the lowest paid industry in developing economies, this pattern breaks for advanced economies countries.

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Chapter 1

INTRODUCTION

A perfectly competitive labour market predicts that workers with similar abilities and productivity within same occupation will have equal earnings notwithstanding different industries. However in the real life various industries pay substantially higher wages than others for employees with observable identical characteristics (Dickens and Katz, 1987). Contradicting the competitive framework, markets do not seem to follow the law of one price. The difference in wages should not exist as it will force employees to switch the jobs and causing equalization in the level of earnings.

The existence of a non-competitive mechanism in the setting of unequal wages for equal workers within the same occupation does not solely explain the differences in individual salaries across different industries. There are several factors that have an influence on wage level: firm`s size, unobserved or imperfectly measured workers` abilities, compensations for hazardous conditions of workplace (CWD) or just a specific policy of human resources management within the firm (such firms tend to pay higher salary for the same job in order to reduce costs caused by employee turnover, shirking etc. (Burdett and Mortensen, 1998)) In most cases inter-industry wage differentials are explained by differences in productivity across the industries (Ferreira, 2009).

The main question the research paper will try to answer is: what is the size of inter-industry wage differentials between developing and developed economies? In recent years the problem of wage differentials has been studied in depth all over the world but mostly in the developed and industrialized countries such as

Europe and the US (Benito, 2000), (Rycx, 2002). There are not too many research papers on this topic considering developing countries (Arbache, 2001).

One of the pioneering papers exploring the puzzle of wage differentials across industries confirms the existence of significant magnitude in wage differentials among workers across industries controlling for labour quality, demographic background and numerous firm`s characteristics (Krueger and Summers, 1988). In contrast to the competitive theory of wages these differences persist over time and contradict to the theory of shocks to the labour demand/supply that influence wage level, short run immobility of workers or rent sharing within the firm. Even controlling for compensation wage differentials (including dummies of working conditions into regression equation) the inter-industry wage differentials do not change significantly.

Cross-country comparisons are very useful when analysing questions regarding inter-industry wage differences, as countries` labour markets and types of economies are significantly vary across countries. The research will try to investigate the evidence on the presence of inter-industry wage differentials using the cross-country micro data from WageIndicator using three groups of employees: top-management, middle-class workers and low-wage workers. Each group has two narrow occupation categories. Using these occupations it will try to a) find and compare the effect of the inter-industry wage differentials across different industries among worldwide enterprises, b) connect and explain these differences by means of country's specific development level.

However possible difficulties may arise in the process of estimation the results from regressions. First, it is particular non-probability feature of web-surveys: answers can be biased due to procedure of filling out and personal attitudes of person who answered the survey. Second, problem is connected to the features

of wage settings across industries. Certainly more productive industries tend to hire more productive workers with better abilities and skills/experience and such industries offer higher wages. Only available controls for the firm`s characteristics: size, industry, region, type of the ownership, dangerous working conditions, presence of collective bargaining institutions are used. Thus the approach used in this work should be viewed as complementary to works using probability based surveys and information of industry productivities.

To control for observable characteristics of the employees we will include in the regression different features of worker`s profile e.g. age, sex, years of schooling, urban status, marital status, experience, shift work, supervisory position and occupation Method of ordinary least squares (OLS) is used in obtaining the results of the wage equations.

The remainder of the paper is organized as follows. Chapter 2 discusses literature related to the determinants of wage dispersion with implications to transition countries. Chapter 3 presents description of data used in model. Chapter 4 outlines theoretical and methodological foundation for the model. Chapter 5 provides the empirical results. Chapter 6 discusses obtained results and implications.

Chapter 2

LITERATURE REVIEW

In a market economy where wages are not explicitly set by state, a wide range of earnings occurs. Economic theory explains these differences from the point of various job, firm, worker and current market characteristics. The question arises when worker's industry plays a considerable role in setting his or her wage level even after controlling for working environment and human capital and job characteristics.

Differences in worker`s individual characteristics are widely used in explaining various wage levels. The pioneering theories of wage dispersion for workers rely on the concept of human capital (Mincer, 1962). Cross-sectional wage dispersion and increases in a worker's wage over the life cycle were solely explained by means of human capital characteristics. According to the theory of human capital, the difference in wages arises due to education, innate abilities and accumulation of professional skills. However empirical studies using wage equations of human capital reveal that individual workers characteristics as measures of worker's productivity explain only 30% of variation in earnings across workers. Remaining 70% of the variation is due to unexplained worker's characteristics (Mortensen, 2004).

From the firm side the theory of job search reveals origins why workers with similar skills are paid differently. Wages and prices are determined by competition in the market (Tudela and Smith, 2009). Thus quantity of competing firms influence wage dispersion. If during the searching period for new job only one offer exists, then monopsony wage arises. However when several firms make similar offers oligopolistic Bertrand wages occur. Staff resignations within the

firm and availability of jobs in the market jointly affect the variations and dynamics in wages. Consequently firms adjust their human resources policies and react in different wage levels for workers with similar abilities in response to their on-the-job search behaviour.

There are numerous studies exploring the effects of intra-industry, inter-industry wage premium that affected by the size of the firm. The size of the firms and industry characteristics bring variability in average wage (Mortensen, 2004). The evidence from US data indicates that among different industries average wage per hour varies up to a factor of 2, controlling for sex. Employees get higher premiums when working in a larger firm in the same industry. While choosing a job with large return to the firm size, one should consider such industries: construction (1.70 ratio), mining (1.62 ratio), transportation (1.68 ratio) or finance (1.5 ratio). These ratios give multiplied pecuniary advantage relatively to similar firms of smaller size. However for men and women these ratios differ. The result that only top-managers in larger firms have higher salaries relatively to those who are employed in smaller firms differs from above mentioned studies (Mishra and Smyth, 2011). In such firms middle and low level employees receive considerably less salaries comparatively to those with similar professional characteristics but employed in same type but smaller size of firm within the same sector and area. This can be explained that there exists the correlation between size of the firm and wage gap of managers comparatively to non-managers. Another reason is that smaller firms have higher percentage of middle and high-level managers.

Wage-productivity relationship that affects wage determination across industries can also be viewed form the side of efficiency wage models (Katz, 1986). Real wage of employee has a direct relationship to her productivity. However this relation holds true in both directions. Increased wage level influences worker`s loyalty to the firm, improves morale thus better worker`s effort affects directly

and positively on productivity. Though it is worth to notice that in some industries wage-productivity connection is not such clear and strong (Doeringer and Piore, 1971). For example in some sectors high wages prevail due to high-level of bargaining and existence of collective agreements and powerful labour unions. In other sectors where such negotiations not so strong competitive labour market controls wage level.

In some cases wage differences are set by management in order to induce higher productivity among workers. Team performance has strong correlation with dispersed wage settings (Franck and Nuesch 2007). The panel analysis reveals two major competing views: 1) Positive correlation confirms that differences in wages for team members provide higher motivation for them to work harder and being more productive. 2) Alternatively, inequality in salaries reduces cooperation among teammates which has destructive consequences on firm productivity (negative correlation exists between team performance and wage dispersion).

Market characteristics, fluctuations and changes have an impact on wage levels. Timing and economic reforms must have some effect in wage structure in the short-run. If certain industries had to pay higher wage premium during some period of time they possibly adjust their wage structures while phase of recessions, inflation or changes in political regimes (Arbache, 2001). However this empirical evidence shows that wage structure almost does not change over time and does not depend on short-run economic reforms. There are stable correlation coefficients that almost do not vary over time even when variables that control for human capital characteristics were included into regression equation. This suggests that wage structure is not sensitive to the short-run changes in the demand for labour as well the temporal shock in wages.

The inter-industry wage differentials have been found to be stable over different countries and different time periods (Krueger and Summers, 1988). Manufacturing industries on average pay 20% higher salary for its workers relatively to workers with similar skills in service industries. Even after controlling for personal skills and regional differences industries that initially paid on average higher wage show this impact again. In most cases industries that pay higher (lower) average wages for workers comparing to other industries tend to pay higher (lower) wage for each professional group of workers (occupations). Same authors found high correlation in the wage composition among various important U.S. industries during the 20th century.

Question arises whether specific country`s characteristics or prevailing industry structure plays a significant role in nature of wage setting. Empirically it has been found that for the same industry and for the same occupation controlling for various individual and firm characteristics among several countries correlation coefficient of relative wages is from 0.6 to 0.9 (Katz and Summers, 1989). It shows that wage structure pattern is similar among numerous countries with diverse labour market institutions. This relationship rejects the hypothesis that differences in economic factors can explain the nature of industry wage differentials. This strong and persistent correlation can be explained by factors related to the nature of industrial economies in the whole and not by specific type or state of the country`s economy.

During the years of transition from central-planned economy to market type arose important differences in country's wage structure. Wage dispersion has drastically increased throughout the transition. As a result the years of being part of the USSR, Ukraine had a highly compressed wage structure (IMF, 1991). That was as a result of high role of central planning economy and as a consequence government intervention into wage level determination Wage levels of

professionals were considerably low in comparisons with "blue collar" workers due to attraction of the latter to heavy-industry jobs (Lazear, 1992).

Answers to small differences in wages among industries/occupations for the period of "Soviet era" can be explained by compulsory usage of wage grids (schedules). During that period wage for every occupation and for any level of professional experience was estimated using grids. These grids in fact were main instruments that allowed keeping wages in predetermined corridor so to compress the wage distribution. Another negative effect of employing wage grids is the returns to education were considerably low. In the former Soviet Union countries returns were less than 5% (Fleisher et al, 2004). During transition to market economy returns to education increased largely for the most part of post-socialist countries. Unfortunately Ukraine has the lowest rate among them (Fleisher, 2004).

Wage differentials in Ukraine were researched mainly by using differences in human capital characteristics. In the majority of cases they examine returns to education and gender gap wage differentials. One research related to the industry differentials tried to explain the existence of wage differentials among Ukrainian firms related to their size (Sydorenko, 2007). Its findings confirm classic theories of competitive market structure. The research tried to explain findings by such possible distinctions: larger firms are more efficient, training provision might depend on firm size, capital-labour ratio differences. It found insignificant effect of on-job trainings among Ukrainian enterprises. But positive effect exists of higher volume of sales and fixed assets on wage level. Profit sharing also appeared to have positive as well as economically and statistically significant impact on wages.

In contrast to Ukraine, Eastern and Central Europe post-socialist countries` wage differentials have more attention from the scientists. Although it is known that the former Soviet Union countries faced larger wage distributions relatively to other transition countries (Mickiewicz and Bell, 2000). Empirical evidence from Slovenia explains that dispersion of wages in firm level can be explained by particular wage policies (Haltiwanger and Vodopivec, 2003). These firms that are more flexible in setting wage levels (same as having less compressed wages) are facing less workers turnover and experience better employee-employer match. Hence productivity rises as well as profit.

Additionally transition brought a negative influence on women's wages. During the years of communism women were treated relatively equal to men (Brainerd, 2000). Female-male wage differentials were quite alike to those in the west countries with market economies. Once transition began, consistent increase in female relative wages was observed in all countries of Eastern Europe with except for Ukraine and Russia. The gender gaps in wages and position of women in Ukrainian economy during the transition have not changed significantly (Coupé and Lehmann, 2011). The panel dataset from 1994-2002 of industrial firm in Ukraine follows same firms during the period to capture the effects related to the women`s earnings. Results show that firms on the whole prefer to hire trained men, wage gap even increased and number of women employed in the industrial sector has declined. Women in Ukraine and Russia were affected by depressed relative wages due to widening corridor of wage dispersion. However the empirical results from Poland (Adamchik and Bedi, 2003) show that women`s wages still 22-23% less than men`s and this gap is stable during the years of transition.

Transition also has some positive effects on human capital. Human capital groups with different characteristics now face higher wage dispersion (Noorkoiv et al.,

1998). In contrast inside of the human capital groups (persons with similar professional skills) wage dispersion gets smaller, this is explained by mobility in wages. There is an uneven distribution in salaries between groups of high-educated workers and those with only vocational college education (Maliranta and Vainiomaki, 2002). Moving to market economy brought greater variation in salaries for workers with high-school diploma and almost negligible rise in wage dispersion for low-educated workers.

Taking into account all the sources mentioned above this paper is aimed to make an additional contribution to the development of topic exploring the issue of inter-industry wage differentials. In contrast this work will try to distinguish from wide range of research and explores inter-industry wage differentials using narrow occupation categories , micro data recently available from WageIndicator data set and for level of country`s development.

Chapter 3

DATA DESCRIPTION

The primary data source for this research is the WageIndicator dataset for 2010. These data were collected through a web portal connecting to national websites in almost 50 countries. The websites of some countries have subsections for different target groups, for example youth or women. Main feature of these websites is that they are country adapted but all important tools and characteristics are identical for all countries. Procedure of completing a web-survey takes from 10 to 20 minutes for web-visitors. Due to multilingual feature of this web-survey it is comparable across all participating countries. Multi-country, longitudinal, data on wages are generated by the WageIndicator web-survey. This data represent the worldwide statistics of working conditions, salaries, working hours, benefits and industry interactions.

The national website of WageIndicator comprises free Salary Check. The primarily advantage of Salary Check is it gives detailed description of occupations and industries people employed. Occupations are quite narrowly defined, same are industries. Salary Check provides comprehensive information about individuals` hourly wages; it contains the detailed individual characteristics: age, sex, years of schooling, urban, marital status and occupation as well as it`s employer characteristics such as firm's size, industry, region, type of the firm`s ownership etc. Salary Checks are consisted of data gathered through national WageIndicator websites and updated annually.

Several issues have to be mentioned due to unique features of web-survey. The problem of self-selection arises while discussing the reliability of interpreting and using data from volunteer web surveys. One can point out that sample

distribution of industries, gender, age, occupations etc. presenting in web surveys do not reflect the real distribution in the population. While some countries are more developed and have modern technologies with access to the internet at the same time there are still a lot of countries in the world that merely have enough computers and people who can use them. Similar bias can arise considering the representativeness of different age groups. Obviously older people have less probability of filling the survey due to less probability of having the computer at home and particular PC literally skills. If we assume that even this subgroup has PCs and have enough knowledge to use it still there is large possibility that they will not get to the WageIndicator website.

Another problem arises related to industry and occupation representativeness. Certain industries or occupations can be over-represented as well as under-represented in the survey. It is common knowledge that low-wage workers (for example loaders, drivers, cleaners, plumbers etc) have fewer chances to have computers not only at work place but also at home. However such occupations as secretaries, programmers, journalists, accountants etc. have computers and access to the web at workplace. Also they have higher probability to have them at home. This results in possibility of over-representing such occupations in the web-survey.

There also exists a critique that results from web-survey can not to be generalised because of different psychological human characteristics. Do people tend to be more honest while answering question related to their income, education, age etc. in front of computer monitor? Maybe they feel more comfortable and relaxed when cooperating with machine rather than with another human being. Sometimes due to some psychological "mismatching" between interviewer and interviewed former can collect erroneous information. Also person can lie about her/his real income (if it is too high or too low corresponding to subjective

internal measures). Anonymous web-survey actually can bear above-mentioned problems. But what if people tend to lie more during the process of web-based filling? They do not have any restrictions; nobody can check whether information filled-in is truthful. Any teenager can go any time to the web-site and just put whatever information she or he wants. This gives vast space for misusing the initial aim of WageIndicator web-survey. These two possible biases (one from individual interviews another from internet-based questionnaire) can mitigate each other in sense that distribution and possibility of misusing must be the same for both cases.

Additional problem related the psychological side is that people who agreed to participate in the web-survey primarily and inwardly DO differ from the people who rejected opportunity to be a volunteer and answer several questions. However a lot of paper-based surveys also gather information from the targeted participants on the basis of voluntary participation. That`s why one should not overstate enormous selection bias in the WageIndicator data relatively to the other existing surveys of another type.

What can be done to overcome the self-selection bias? For instance weighting procedures related to the issue of differences in characteristics of internet users versus non-internet users does not correct the existing problem of non-representativeness. Studies based on WageIndicator dataset use various kinds of weights and the results of them are quite diverse. This underlines that there still does not exists a solution that could enhance the predictive power of the web-surveys (Pedraza et al, 2010). It was shown that using various weighted and unweighted methods using WageIndicator dataset results in equivalent estimations. One can see such findings as supporting argument for WageIndicator usefulness and its possibility to generalise the final results to the whole population.

Chapter 4

METODOLOGY DESCRIPTION

The dataset used in this research is containing cross-country information for year 2010. Primarily there were 412287 observations. The sample was restricted to workers aged from 17 to 50 years old, working at paid job. The process constructing the sample for analysis has three important steps. First, as this research is interested in wage differentials for the same occupations across different industries three-digit classification created by International Labour Organization, ISCO-08 (International Standard Classification of Occupations) with 146 unique detailed occupations was used. The list with the most frequent of occupations was created.

Analysis of wage differentials implemented in this paper uses procedure introduced by Kruger and Summers. They regressed logarithm of gross hourly wages on set of control variables and n-1 industry dummies. Omitted industry dummy corresponds to the constant term and all wages are compared to it. However some disadvantages exist considering the base industry. Choice of omitted industry affects estimated standard errors (Haisken-DeNew and Schimidt, 1997). Errors vary significantly for each case of choosing base industry and do not depend on sample size.

Method of choosing main variables of interest used in this work considerably differs from Krueger's approach that was widely employed by vast majority of researchers on this topic. The difference follows from selecting occupations of interest. Typically 12 broad occupation categories were used in previous works: managers, professionals, technicians, sales, clerical, service, operatives, semi-skilled, crafts, supervisors, labourers, transportation equipment operators.

However there are some doubts considering whether such highly aggregated group of professionals or managers can be compared across different industries. Though they belong to the top of occupational hierarchy main responsibilities and professional requirements differ from industry to industry.

This research will try to solve the problem of broad defining and will use only narrow occupational groups and will compare wages among high-wage versus low-wage workers.. Such occupations must be very specific and have unified requirements that do not depend on industry employed. For example skills for such occupations as software and applications developers, finance professionals, architects etc. do not depend and do not change from industry to industry. Thus the wages of such narrow occupational categories can be compared controlling for the industry they are employed.

To be comparable across different industries, each occupation has to be presented at least 15 times within each industry. It has no economic sense to compare wage of secretary in industry "X" to industry "Y" if only one secretary employed in "X" and 50 secretaries employed in "Y". Using this restriction for sample construction were left the most frequent 6 occupational categories: Managing directors and chief executives, Sales and purchasing agents and brokers Business services and administration managers, Software and applications developers and analysts, Sales, marketing and development managers, Numerical clerks (low-wage). In the Appendix A, detailed job requirements are presented, according to International Standard Classification of Occupations.

Two-digit NACE (French: Nomenclature statistique des activités économiques dans la Communauté européenne classification) statistical classification of economic activities for industry standardized by Eurostat was employed. There are namely 21 industries: Agriculture, forestry and fishing; Mining and quarrying;

Manufacturing; Electricity, gas, steam and air condition; Water supply; sewerage, waste management; Construction; Wholesale and retail trade; Transportation and storage; Accommodation and food service activities; Information and communication; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities; Public administration and defence; Education; Human health and social work activities; Arts, entertainment and recreation; Other service activities; Activities of households as employers; Activities of extraterritorial organisations. Also each industry had to have at least 15 observations within each occupation category. If these requirements were not met such observation were dropped as well.

The estimation procedure consists of a number of cross-sectional equations that allow investigating the effect of industry type on wage level. The main idea is to control for various characteristics such as quality of human capital, type of working conditions, demographic background. Industry dummy will be subject of further analysis so that to find its impact on setting the relative wage.

Inter-industry wage differentials will be calculated by Ordinary Least Squares using cross-section Mincer-type wage equation:

$$\ln w_i = \alpha + \sum \gamma_j X_{j,i} + \sum \beta_g Y_{g,i} + \sum \delta_l Z_{l,i} + \varepsilon_i \qquad (1)$$

$\ln w_i$ -is the logarithm of gross-hourly wage for individual *i* converted into a standardised hourly wage in US dollars, using purchasing power parities on an annual basis (PPP). The PPP's is based on the PENN WORLD TABLES.

X is representing the vector of worker's individual characteristics as well it is combining conditions of working place. X can be divided into three categories of

variables: related to the firm characteristics, related to the individual characteristics and related to the position the individual holds. To control for firm's quality were used such variables: existence of collective agreement, type of firm (domestic versus multinational), firm size, urban/rural location of the firm.. Presence of collective agreement on the firm or national level tends to positively influence worker's wages. Such workers on average receive 2-3% higher wages (Rycx, 2002). According to the classic labour economic theories firm size directly affects wages as larger firms tend to pay higher wages due to better efficiency. International firms also on average pay higher salaries for their workers relatively to domestic firms. Firms located in rural regions on the contrary pay less wages comparatively to the similar firm in large cities of the country. There are 8 urbanisation level dummies representing urban/rural location of establishment.

Human capital characteristics that influence the wage level are: age, gender, experience, education, marital status. Younger workers have smaller salaries as they have not accumulated enough professional skills. Gender wage gap widely studied in economic literature shows negative impact on female wage level relatively to male wage level within same professional characteristics and age. This is explained by different economics of men and women. Women usually spend several years on child bearing, while the same time men are getting more experience and advance in their careers. Another explanation that some professions are predominately occupied by men and are better performed by men. These professions usually require higher physical power and endurance and higher wage can not be viewed as discrimination. Accumulation of experience plays key role in determining worker's compensation. More experienced workers as a rule get higher wages because experience reflects their greater productivity. However squared and cubed experience terms were included in regression equation as they have positive but concave effect on wage. The last variable related to personal characteristics that must have some impact on wage is marital

status. Married men on average have higher wage than single ones (Antonovics and Town, 2004). However for single women it is vice versa holding other factors constant.

Third group of explanatory variables consists of characteristics of position person employed. Most important factors of influence: number of working hours, seniority status, shift work, overtime work, dangerous/unhealthy work conditions. All of them influence positively on wage size. Extra work dummies representing the person received bonus for shift / unsocial hours / weekend allowance.

Y and Z include occupation and industry dummies. The last parameters are: α- the intercept, γ, β, δ are the parameters of interest, ε_i - is the error term. (See Table 1 and Table 2 of descriptive statistics).

One of problems that can arise from estimation is endogeneity issue. Omitted variable bias exists if any of explanatory variables is correlated with error term, ε_i. Indeed existence of unobservable human capital characteristics contained in error term (ability, motivation, etc) that is not available for research might be correlated to education or occupation person employed. However if education has considerably varies in the population relative to the covariance between education and ability, then the bias can be small (Wooldridge, 2002).

Chapter 5

EMPIRICAL RESULTS

This section represents empirical results of industry effects on wage level using different sets of controls for six occupations representing three main income groups. First, wages were compared with no controls for human/enterprise characteristic. Second, individual characteristics were introduced. Third, both human capital and firm`s characteristics were included to control for wage differences.

To capture the evidence of wage efficiency, three different specifications were tested. First regression used no controls for human or enterprise characteristics. Table 3 reports raw inter-industry wage differentials as results of OLS regression using clustered robust standard errors to control for heteroscedasticity. Cluster was used on country level. The main variable of interest is logarithm of hourly wages. The base industry to compare wages was chosen as the most frequent one – Manufacturing. Therefore it was dropped to avoid multicollinearity. Six occupation categories are grouped by wage level: high, middle, low. Regression outcomes show that there exists substantial variation in wage differences among industries.

One should point out that as this survey is not representative, non-random, it is important to focus on the size of the coefficients, more than on the significance levels.

While working in "Wholesale and retail trade" managing directors on average receive 10% more than in "Manufacturing" However other occupations receive lower wages: from 7% to 18% less. Financial and insurance industry seems to be

the best paid industry for all types of occupations. At the same time Education is the lowest one. High- wage employees also receive less in wages: Managing directors receive on average 60% less salary while employed in Education sector; Finance professional receive 37& less salaries. Education sector show the smallest returns in wages with and without controls.

Important to see to which extent inter-industry wage differentials change once individual characteristics were included. These controls are: age, age squared, marital status and interactions with gender, level of education and interactions with experience, experience squared, and experience cubed. Table 4 report the results from OLS regression. The findings appeared to be quite mixed. While some differences in wages compared with the base industry became smaller, for other occupations the differences became even bigger.

In the third step wage level was controlled for both important groups of characteristics: human capital and enterprise. Controls for enterprise and job position are: ownership, firm size, region of location, work conditions (dangerous/unhealthy), presence of collective agreement, whether person works overtime/shifts, supervises others. Table 5 reports main results from OLS regression controlling for all above mentioned factors. Findings show that wages for the same occupations substantially differ across industries, even after controlling for employee`s working conditions and human capital characteristics.

Compared the estimates from all three tables, the industry differences tend to decrease in most of the cases. However just few of them became larger or almost did not changed substantially.

Other variables show their signs corresponding to economic theory. Salary grows with age, high educated workers get from 13% higher wages (depending of occupation employed) compared to low educated; females get from 10% to

25% less salary than males. In wholly foreign owned firms employees get from 15% to almost 30% higher wages compared to wholly domestic owned.. Increase in distance from large and metropolitan cities significantly reduces wages from 15% to 35% for town and small city accordingly. In general, all control variables explain 39%-56% of variation in inter-industry wages.

Wage differences must be different for various labour market institutions. In the next step same inter-industry wage differentials using same set of occupations were compared relatively to developing and developed economies. According to economic theory more developed countries on average specialize in services, information technology sectors where high-qualified workforce is required. While developing countries are more specialising in labour-intensive sectors (e.g. Agriculture). Using available data of world countries classification for 2010 released by IMF (Table 6) on level of development wage differentials were compared to two groups: developed and developing countries.

One issue related to WageIndicator data set exists regarding under-representativeness of some industries. To overcome this problem, inter-industry wage differentials were compared only to most frequent industries. By examining the data, 5 industries appeared to be present for all 6 occupation of interest. These industries are: Wholesale and retail trade, Information and communication, Financial and insurance activities, Professional, scientific, Manufacturing. Each occupation category presents in these industries in all specifications: for developed and developing countries. However industries frequencies are unevenly distributed among occupations.

While WageIndicator data were not gathered using probability sampling, it is important to use probability weights for industries separately for each

occupation. These weights serve the same purposes as with probability-based surveys: industries were given their relative population representation.

Estimation results of wages differences for all occupations across main industries controlling for level of development are presented in Table 7, 8, 9, 10, 11, 12. For each occupation, results were estimating using 5 regressions, each time omitting different industries. Hence it was possible to find the lowest and the highest paid industry relatively to all remained.

Compared all tables, using these robustness checks, appeared that results almost were not sensitive to different specifications. "Information and communication" and "Financial and insurance activities" pay on average more for all occupations, for both developed and developing economies. Thus, the inter-industry wage differentials can be attributed to productivity side. It can be concluded that such industries are more productive worldwide, notwithstanding differences in country`s economy characteristics or labour market attributes.

However, interesting pattern appeared for "Manufacturing" and "Wholesale and retail trade". While Manufacturing was the primarily lowest paid industry for all occupation categories in developing countries, the role of the lowest paid industry switched to "Wholesale and retail trade" for developed economies. This holds through for all occupations. In developing countries "Wholesale and retail trade" industry paid even more than "Professional, scientific industry". Consequently, "Professional, scientific industries" are more paid in developed countries.

This can be explained by the means of available size of financing to the R&D. The levels of government and private companies support are usually higher in advanced economies; also more educated and professional labour is available. However developing countries are more oriented to sales and consuming.

Chapter 6

CONCLUSIONS

In this paper the issue of inter-industry wage differentials were examined using micro data from WageIndicator web-survey. These micro data comprises various countries with different institutional characteristics for wage settings. The major limitation of such kind of data set is its non-random nature and results can not be extrapolated to the population at large. As the survey is not representative, it was important to focus on the size of the coefficients, more than on the significance levels. The evidence found in this paper show that inter-industry wage-differentials are higher in emerging and developing markets. These results imply that more coordination exists among industries in advanced economies. Consequently, developing countries have weaker labour market institutions and less power of collective bargaining for its workers.

Low-wage industries (high-wage industries) tend to be offer low wage (high-wage) for all occupations, relatively to other industries. "Information and communication" and "Financial and insurance activities" pay higher wages almost in all cases, for developing and advanced economies and for all six occupations of interest. These findings suggest that these industries on average are more productive than others. While examining wage differentials relative to "Manufacturing" industry, appeared it was the lowest paid sector for almost all occupations in developing countries. But this finding does not hold in developed countries. One can conclude, that developing economies are more consume oriented while developed countries produce more in per capita terms. Also wages in "Professional, scientific" sector higher in developed countries, indicating more focusing on R&D side of the economy.

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Table 1: Summary statistics of continuous variables.

Variable	N	Mean	SD	Min	Max
Age	66733	33,41143	7,916845	17	50
Age^2	66733	1178,999	555,7872	289	2500
Experience	66733	12,407	8,298879	1	34
Experience squared	66733	222,8039	257,2978	1	1156
Experience cubed	66733	4821,423	7505,81	1	39304
Wage per hour	66733	17,79663	31,92218	1,000906	397,8245

Note: wage is gross-hourly in US dollars, standardised by (PPP)

Table 2: Descriptive statistics of categorical variables.

Category	Percent
Gender	
Female	43.59
Current marital status	
Married	46.07
Never married	46.43
Educational level	
Low education	19.71
Middle education	26.83
Organization is domestic or foreign-owned	
Wholly domestic owned	77.68
Wholly foreign owned	14.05
Firm size workplace	
1 - 50	43.68
50 - 100	12.17
100 - 200	10.87
NACE-2001 industries 1 digit	
A Agriculture, forestry and fishing	1,56
B Mining and quarrying	1,26
C Manufacturing	17,85
D Electricity, gas, steam	1,42
E Water supply; sewerage, waste	0,65
F Construction	6,21
G Wholesale and retail trade	14,9
H Transportation and storage	5,02
Accommodation and food service	2,77
J Information and communication	10,14
K Financial and insurance activities	6
L Real estate activities	0,93
M Professional, scientific	9,33
N Administrative and support service ac	3,68
O Public administration and defense	3,49
P Education	4,52
Q Human health and social work	6,01
R Arts, entertainment and recreation	1,58

S	Other service activities	2,68

Table 2: Descriptive statistics of categorical variables-Continued.

Category	Percent
Occupation, ISCO	
Managing directors and chief executives	8,68
Business services and administration ma	21,36
Occupation, ISCO	
Database and network professionals	11,24
Numerical clerks	33,99
Dangerous/unhealthy work conditions	
Yes	5.61
Works overtime?	
Yes	5.78
Has supervisory position?	
Yes	30.89
Shift / unsocial hours / weekend allowance	
Yes	30.52
Combined urbanization level	
A large city (1 - 2 million)	30.87
The suburbs of a large/metro city	2.83
A town or a small city (10,000 - 1 mil)	28.04
Country of work	
Germany	14,53
Netherlands	13,67
Brazil	10,95
Argentina	9,17
Belarus	9,1
South Africa	6,41
Belgium	5,7
Russian Federation	5,22
Spain	4,36
Colombia	2,98
Kazakhstan	2,26
Sweden	2,18
United Kingdom	2,1
Ukraine	2,09
India	1,51

Table 3: Estimation results of cross-country regression OLS, with no controls.

	(1) Managing directors	(2) Software and appli-s develo-s	(3) Marketing and develop-t managers	(4) Business and admi-n professionals	(5) Sales and purcha-g agents	(6) Num-al clerks
Agriculture, forestry	-0.105	0.0564	0.121	0.155	-0.224*	0.0224
	(0.418)	(0.160)	(0.193)	(0.162)	(0.113)	(0.141)
Mining and quarrying	0.360	0.254*	0.321	0.367**	0.219*	0.230*
	(0.244)	(0.149)	(0.267)	(0.154)	(0.126)	(0.127)
Electricity, gas,	-0.202	0.106	-0.0929	-0.159	0.00546	0.0457
	(0.126)	(0.141)	(0.149)	(0.194)	(0.149)	(0.0908)
Water supply; sewerage	0.131	-0.164	0.186***	-0.462**	-0.0272	-0.0523
	(0.319)	(0.236)	(0.0547)	(0.171)	(0.0722)	(0.126)
Construction	-0.00136	-0.390**	0.0214	-0.0824	-0.224**	-0.0481
	(0.103)	(0.188)	(0.204)	(0.0629)	(0.105)	(0.0467)
Wholesale and retail trade	0.106	-0.0794	-0.125	-0.109	-0.184**	-0.108
	(0.0885)	(0.0855)	(0.0906)	(0.0781)	(0.0822)	(0.0694)
Transportation and storage	-0.0855	-0.221***	-0.175	-0.190**	-0.313***	-0.0760
	(0.109)	(0.0741)	(0.127)	(0.0868)	(0.0745)	(0.0785)
Accommodation and food service	0.279*	-0.524*	-0.283	-0.392***	-0.299**	-0.0571
	(0.157)	(0.294)	(0.184)	(0.125)	(0.129)	(0.0805)
Information and communication	0.318**	0.0263	0.138*	0.0932	-0.00348	0.190*
	(0.132)	(0.0824)	(0.0776)	(0.0983)	(0.0606)	(0.0963)
Financial and	0.419	0.179**	0.192	0.277**	-0.0346	0.124**

insurance						
	(0.286)	(0.0835)	(0.171)	(0.102)	(0.0617)	(0.0586)

Table 3: Estimation results of cross-country regression OLS, with no controls- Continued.

	Managing directors	Software and appli-s develo-s	Marketing and develop-t managers	Business and admi-n professionals	Sales and purcha-g agents	Num-al clerks
Real estate	0.0879	-0.100	-0.342*	-0.235	-0.0878	-0.116**
	(0.144)	(0.354)	(0.195)	(0.196)	(0.235)	(0.0486)
Professional, scientific and technical activities	0.0231	-0.0627	-0.0705	-0.142	-0.124	-0.150**
	(0.108)	(0.0739)	(0.109)	(0.120)	(0.0855)	(0.0622)
Administrative and support	-0.524**	-0.230***	0.0161	-0.243**	-0.342***	-0.246***
	(0.228)	(0.0802)	(0.213)	(0.118)	(0.0944)	(0.0776)
Public administration	0.220	-0.143	-0.640	-0.0497	-0.0566	0.0290
	(0.212)	(0.0871)	(0.393)	(0.102)	(0.338)	(0.0827)
Education	-0.174	-0.316***	-0.0208	-0.118	0.0299	-0.144*
	(0.308)	(0.113)	(0.152)	(0.0954)	(0.134)	(0.0748)
Human health and social work	-0.336**	-0.0769	0.150	-0.209***	-0.0950	-0.186**
	(0.145)	(0.126)	(0.233)	(0.0469)	(0.106)	(0.0836)
Arts, entertainment and recreation	-0.227	0.234	-0.317***	-0.0919	-0.499***	0.125
	(0.161)	(0.198)	(0.0947)	(0.203)	(0.0925)	(0.148)
Other service activities	-0.406**	-0.150	-0.338	-0.191	-0.212*	-0.227**
	(0.186)	(0.134)	(0.343)	(0.113)	(0.110)	(0.0972)
Constant	2.902***	2.854***	2.687***	2.781***	2.527***	2.218***
	(0.0323)	(0.0662)	(0.0628)	(0.0529)	(0.0468)	(0.0452)
Observations	907	3,602	1,352	2,233	1,948	2,292
R-squared	0.319	0.256	0.359	0.338	0.462	0.463

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4: Estimation results of cross-country regression OLS, controlled for human capital characteristics.

	(1) Managing directors	(2) Software and applications developers	(3) Marketing and development managers	(4) Business and administration professionals	(5) Sales and purchasing agents	(6) Numerical clerks
Age	0.159**	0.0941***	0.0225	0.135***	0.0755**	0.109***
	(0.0694)	(0.0315)	(0.0586)	(0.0413)	(0.0344)	(0.0325)
Age^2	-0.00164*	-0.00101**	0.000195	-0.00143***	-0.000739	-0.00149***
	(0.000922)	(0.000417)	(0.000827)	(0.000521)	(0.000479)	(0.000481)
Middle education	0.873**	0.204	-0.0579	0.486***	0.112**	-0.0535
	(0.398)	(0.138)	(0.429)	(0.155)	(0.0501)	(0.0858)
High education	1.187***	0.385***	0.355	0.822***	0.385***	0.170**
	(0.369)	(0.132)	(0.341)	(0.0797)	(0.0909)	(0.0756)
Experience	0.0780**	0.0978***	0.0706**	0.0516**	0.0168	0.00920
	(0.0351)	(0.0274)	(0.0311)	(0.0207)	(0.0262)	(0.0144)
Middle educ*Experience_2	-0.0287*	-0.00422	0.00822	-0.0143*	-0.00449	0.00969***
	(0.0141)	(0.00581)	(0.0178)	(0.00818)	(0.00349)	(0.00270)
Higheduc*Experience	-0.0246*	-0.0103*	-0.000322	-0.0159***	-0.00962*	0.00610
	(0.0124)	(0.00587)	(0.0134)	(0.00497)	(0.00555)	(0.00438)
Experience^2	-0.00297	-0.00580***	-0.00384*	-0.00249*	-0.00101	-0.000453
	(0.00221)	(0.00173)	(0.00201)	(0.00142)	(0.00167)	(0.00109)
Experience^3	3.94e-05	0.000110***	4.55e-05	3.85e-05	1.66e-05	1.50e-05
	(4.28e-05)	(3.44e-05)	(4.06e-05)	(3.23e-05)	(3.16e-05)	(2.52e-05)
Female	0.0636	-0.211***	-0.0900	-0.278***	-0.161***	-0.249***
	(0.104)	(0.0664)	(0.0612)	(0.0564)	(0.0528)	(0.0360)
Widowed	0.102	-0.0221	0.417	0.394***	-0.0501	-0.321**
	(0.507)	(0.327)	(0.245)	(0.0666)	(0.0839)	(0.136)
Divorced	-0.131	-0.104	-0.0205	-0.164	-0.232**	-0.0624
	(0.0900)	(0.0720)	(0.129)	(0.133)	(0.0922)	(0.143)
Never married	-0.0873	-0.0670**	0.0154	-0.192***	-0.0799**	-0.0658
	(0.0534)	(0.0267)	(0.0627)	(0.0493)	(0.0320)	(0.0472)

Table A4: Estimation results of cross-country regression OLS, controlled for human capital characteristics-Continued.

	Managing directors	Software and applications developers	Marketing and development managers	Business and administration professionals	Sales and purchasing agents	Numerical clerks
Female*Widowed	-1.411**	-0.106	-0.555**	-0.352	0.0270	
	(0.514)	(0.394)	(0.242)	(0.357)	(0.270)	
Female*Divorced	-0.0251	0.0542	-0.132	0.226	0.257**	0.0304
	(0.171)	(0.156)	(0.157)	(0.159)	(0.101)	(0.143)
Female*Never mar	-0.0814	0.127*	-0.0769	0.255***	0.0375	0.118**
	(0.153)	(0.0739)	(0.107)	(0.0720)	(0.0651)	(0.0433)
Agriculture, for-ry	-0.0493	0.101	0.246	0.115	-0.235**	0.0422
	(0.372)	(0.151)	(0.241)	(0.154)	(0.0889)	(0.153)
Mining and quarrying	0.349	0.290**	0.376	0.305*	0.119	0.254**
	(0.234)	(0.127)	(0.312)	(0.150)	(0.109)	(0.122)
Electricity, gas,	-0.171	0.177	-0.0839	-0.225	-0.0688	0.0384
	(0.131)	(0.124)	(0.158)	(0.205)	(0.130)	(0.0987)
Water supply; sewerage	0.0437	-0.123	-0.0222	-0.348***	-0.0427	-0.0700
	(0.318)	*(0.224)*	*(0.0729)*	*(0.106)*	*(0.0710)*	*(0.0673)*
Construction	*0.107*	*-0.184*	*0.108*	*-0.0625*	*-0.204**	*-0.0324*
	(0.0698)	*(0.120)*	*(0.170)*	*(0.0502)*	*(0.103)*	*(0.0480)*
Wholesale and retail trade	*0.125*	*-0.0441*	*-0.0135*	*-0.00858*	*-0.140**	*-0.0662*
	(0.0780)	*(0.0766)*	*(0.0758)*	*(0.0590)*	*(0.0775)*	*(0.0725)*
Transportation and storage	*0.0470*	*-0.143***	*-0.125*	*-0.109*	*-0.268****	*-0.0301*
	(0.115)	*(0.0622)*	*(0.0971)*	*(0.0670)*	*(0.0775)*	*(0.0761)*
Accommodation and food service	*0.149*	*-0.433**	*-0.221*	*-0.223***	*-0.172*	*-0.00619*
	(0.189)	*(0.239)*	*(0.191)*	*(0.103)*	*(0.139)*	*(0.0763)*
Information and communication	*0.386****	*0.0999*	*0.204****	*0.116*	*-0.0479*	*0.211***
	(0.104)	*(0.0757)*	*(0.0524)*	*(0.0875)*	*(0.0659)*	*(0.0855)*
Financial and	*0.466**	*0.191***	*0.337**	*0.263****	*-0.0165*	*0.145****

insurance						
	(0.232)	*(0.0841)*	*(0.174)*	*(0.0844)*	*(0.0617)*	*(0.0526)*
Real estate	*0.0513*	*-0.0592*	*-0.143*	*-0.110*	*-0.0935*	*-0.114***
	(0.142)	*(0.268)*	*(0.169)*	*(0.178)*	*(0.217)*	*(0.0442)*
Professional, scientific and technical activities	*0.0571*	*0.0443*	*0.00705*	*-0.0952*	*-0.0965*	*-0.0697*
	(0.118)	*(0.0669)*	*(0.0938)*	*(0.0925)*	*(0.0766)*	*(0.0655)*
Administrative and support	*-0.364**	*-0.0931*	*0.194*	*-0.157*	*-0.321****	*-0.137***
	(0.181)	*(0.0905)*	*(0.188)*	*(0.120)*	*(0.0853)*	*(0.0568)*
Public administration	*0.150*	*-0.0869*	*-0.528*	*-0.0524*	*0.00140*	*0.0231*
	(0.183)	*(0.0897)*	*(0.324)*	*(0.0930)*	*(0.355)*	*(0.0896)*
Education	*-0.0973*	*-0.211***	*0.0473*	*-0.122**	*0.116*	*-0.138**
	(0.329)	*(0.0959)*	*(0.158)*	*(0.0694)*	*(0.146)*	*(0.0731)*
Human health and social work	*-0.347****	*-0.00753*	*0.219*	*-0.146***	*-0.119*	*-0.155***
	(0.123)	*(0.128)*	*(0.212)*	*(0.0563)*	*(0.103)*	*(0.0704)*
Arts, entertainment and recreation	*-0.185***	*0.273*	*-0.173**	*0.0622*	*-0.335****	*0.205*
	(0.0675)	*(0.188)*	*(0.0976)*	*(0.164)*	*(0.0987)*	*(0.149)*
Other service activities	*-0.360***	*-0.107*	*-0.109*	*-0.225**	*-0.189*	*-0.152*
	(0.135)	*(0.103)*	*(0.202)*	*(0.111)*	*(0.113)*	*(0.0964)*
Constant	*-1.950*	*0.256*	*1.101*	*-0.842*	*0.727*	*0.242*
	(1.241)	*(0.503)*	*(1.166)*	*(0.770)*	*(0.532)*	*(0.605)*
Observations	*907*	*3,602*	*1,352*	*2,233*	*1,948*	*2,292*
R-squared	*0.459*	*0.348*	*0.433*	*0.436*	*0.513*	*0.527*

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table5: Estimation results of cross-country regression OLS, controlled for human capital characteristic and firm/job characteristics and conditions.

	(1) Managing directors	(2) Software and applications developers	(3) Marketing and development managers	(4) Business and administration professionals	(5) Sales and purchasing agents	(6) Numerical clerks
Age	0.180***	0.085***	0.035	0.117***	0.073**	0.099***
	(0.062)	(0.028)	(0.047)	(0.027)	(0.028)	(0.026)
Age^2	-0.002**	-0.001**	-0.000	-0.001***	-0.001*	-0.001***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Middle education	0.817**	0.217*	-0.104	0.460***	0.089	-0.024
	(0.326)	(0.107)	(0.386)	(0.162)	(0.060)	(0.088)
High education	1.055***	0.331***	0.216	0.750***	0.287***	0.139*
	(0.303)	(0.104)	(0.311)	(0.103)	(0.089)	(0.072)
Experience	0.048	0.083***	0.051*	0.030	0.012	0.004
	(0.037)	(0.023)	(0.029)	(0.020)	(0.023)	(0.014)
Middle educ*Experience_2	-0.028**	-0.006	0.010	-0.015*	-0.003	0.007**
	(0.011)	(0.006)	(0.017)	(0.008)	(0.004)	(0.003)
High educ*Experience	-0.024**	-0.010**	0.004	-0.018***	-0.008	0.006
	(0.010)	(0.005)	(0.014)	(0.005)	(0.005)	(0.004)
Experience^2	-0.001	-0.005***	-0.003	-0.001	-0.001	-0.000
	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)
Experience^3	0.000	0.000***	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Female	0.093	-0.212***	-0.089	-0.244***	-0.148***	-0.206***
	(0.103)	(0.058)	(0.053)	(0.055)	(0.049)	(0.038)
Widowed	0.646*	0.138	0.453*	0.858***	-0.031	-0.272*
	(0.328)	(0.437)	(0.224)	(0.107)	(0.147)	(0.141)
Divorced	-0.085	-0.119	-0.025	-0.160	-0.202**	-0.098
	(0.093)	(0.072)	(0.126)	(0.126)	(0.084)	(0.133)
Never married	-0.072	-0.054**	0.040	-0.174***	-0.099***	-0.078
	(0.048)	(0.025)	(0.051)	(0.042)	(0.031)	(0.053)
Female*Widowed	-2.039***	-0.289	-0.623**	-0.766**	0.005	
	(0.387)	(0.485)	(0.244)	(0.367)	(0.270)	
Female*Divorced	-0.044	0.054	-0.107	0.215	0.257***	0.068
	(0.175)	(0.155)	(0.155)	(0.157)	(0.088)	(0.134)
Female*Never married	-0.084	0.090	-0.127	0.206***	0.070	0.109**
	(0.138)	(0.062)	(0.096)	(0.069)	(0.058)	(0.048)
Collective agreement	-0.042	0.029	0.067*	0.065	0.015	0.047*
	(0.054)	(0.033)	(0.038)	(0.053)	(0.026)	(0.026)
Partly domestic, partly foreign	0.203***	0.097*	0.215**	0.192***	0.103**	0.065*
	(0.073)	(0.049)	(0.092)	(0.066)	(0.040)	(0.035)
Foreign owned	0.299***	0.232***	0.250***	0.260***	0.151**	0.214***
	(0.073)	(0.062)	(0.085)	(0.075)	(0.060)	(0.050)
Supervisor	-0.037	0.190***	0.093*	0.040	0.119***	0.142***
	(0.069)	(0.022)	(0.051)	(0.047)	(0.037)	(0.034)

Table5: Estimation results of cross-country regression OLS, controlled for human capital characteristic and firm/job characteristics and conditions-Continued.

	Managing directors	Software and applications developers	Marketing and development managers	Business and administration professionals	Sales and purchasing agents	Numerical clerks
Works overtime	*-0.360***	*-0.194***	*-0.313*	*-0.221***	*-0.164*	*-0.084*
	(0.093)	*(0.071)*	*(0.188)*	*(0.080)*	*(0.105)*	*(0.057)*
Shift work	*-0.134***	*-0.066**	*-0.067*	*-0.037*	*-0.087*	*-0.086***
	(0.052)	*(0.034)*	*(0.049)*	*(0.036)*	*(0.057)*	*(0.039)*
The suburbs	*-0.152*	*0.097*	*0.053*	*0.366**	*0.062*	*0.051*
	(0.279)	*(0.155)*	*(0.228)*	*(0.185)*	*(0.266)*	*(0.135)*
A town	*-0.376****	*-0.217****	*-0.293****	*-0.186****	*-0.098***	*-0.134****
	(0.076)	*(0.043)*	*(0.077)*	*(0.039)*	*(0.045)*	*(0.041)*
A small city	*-0.403****	*-0.198****	*-0.273****	*-0.254****	*-0.173****	*-0.199****
	(0.080)	*(0.045)*	*(0.071)*	*(0.080)*	*(0.059)*	*(0.052)*
A country village	*-0.249****	*-0.183****	*-0.174***	*-0.212****	*-0.130****	*-0.191****
	(0.068)	*(0.046)*	*(0.073)*	*(0.059)*	*(0.047)*	*(0.050)*
Rural area	*-0.391***	*-0.253****	*-0.313*	*-0.314****	*-0.109*	*-0.152***
	(0.157)	*(0.036)*	*(0.199)*	*(0.098)*	*(0.091)*	*(0.068)*
Firm size >200	*0.246****	*0.067**	*0.229****	*0.184****	*0.117***	*0.117****
	(0.080)	*(0.038)*	*(0.050)*	*(0.048)*	*(0.042)*	*(0.027)*
Firm size >500	*0.326****	*-0.004*	*0.079*	*0.250****	*0.154***	*0.121***
	(0.114)	*(0.052)*	*(0.064)*	*(0.060)*	*(0.059)*	*(0.045)*
Firm size >1000	*0.153**	*0.078**	*0.269**	*0.311****	*0.183***	*0.147***
	(0.081)	*(0.046)*	*(0.138)*	*(0.065)*	*(0.067)*	*(0.069)*
Firm size >5000	*0.313****	*0.150***	*0.403****	*0.326****	*0.368****	*0.253***
	(0.101)	*(0.056)*	*(0.106)*	*(0.083)*	*(0.075)*	*(0.119)*
Dangerous working cond-s	*-0.044*	*-0.154**	*-0.083*	*-0.141***	*-0.175***	*-0.105**
	(0.078)	*(0.086)*	*(0.095)*	*(0.063)*	*(0.069)*	*(0.060)*
Agriculture, forestry	*0.169*	*0.216*	*0.341*	*0.260**	*-0.146*	*0.131*
	(0.327)	*(0.137)*	*(0.217)*	*(0.143)*	*(0.092)*	*(0.155)*
Mining and quarrying	*0.440**	*0.295***	*0.350*	*0.401****	*0.070*	*0.241**
	(0.254)	*(0.138)*	*(0.228)*	*(0.111)*	*(0.133)*	*(0.122)*
Electricity, gas,	*-0.092*	*0.179*	*-0.035*	*-0.145*	*-0.101*	*0.076*
	(0.131)	*(0.119)*	*(0.168)*	*(0.213)*	*(0.108)*	*(0.096)*
Water supply; sewerage	*0.196*	*-0.089*	*0.009*	*-0.238*	*0.001*	*-0.055*
	(0.272)	*(0.254)*	*(0.059)*	*(0.142)*	*(0.093)*	*(0.041)*
Construction	*0.072*	*-0.107*	*0.159*	*0.041*	*-0.154*	*0.017*
	(0.072)	*(0.115)*	*(0.154)*	*(0.046)*	*(0.096)*	*(0.047)*
Wholesale and retail trade	*0.141**	*-0.055*	*0.046*	*0.046*	*-0.067*	*-0.026*
	(0.077)	*(0.070)*	*(0.073)*	*(0.058)*	*(0.072)*	*(0.057)*
Transportation and storage	*0.010*	*-0.135***	*-0.053*	*-0.112*	*-0.239****	*-0.047*
	(0.113)	*(0.055)*	*(0.096)*	*(0.067)*	*(0.068)*	*(0.055)*

Table5: Estimation results of cross-country regression OLS, controlled for human capital characteristic and firm/job characteristics and conditions-Continued.

	Managing directors	Software and applications developers	Marketing and development managers	Business and administration professionals	Sales and purchasing agents	Numerical clerks
Accommodation and food service	*0.062*	*-0.329**	*-0.124*	*-0.164**	*-0.116*	*-0.059*
	(0.192)	*(0.190)*	*(0.207)*	*(0.085)*	*(0.129)*	*(0.070)*
Information and communication	*0.313****	*0.089*	*0.213****	*0.112*	*-0.032*	*0.162***
	(0.096)	*(0.053)*	*(0.049)*	*(0.099)*	*(0.062)*	*(0.074)*
Financial and insurance	*0.365**	*0.152***	*0.295*	*0.286****	*-0.022*	*0.140***
	(0.197)	*(0.074)*	*(0.174)*	*(0.089)*	*(0.054)*	*(0.052)*
Real estate	*0.025*	*-0.057*	*0.026*	*0.023*	*0.019*	*-0.050*
	(0.184)	*(0.278)*	*(0.160)*	*(0.186)*	*(0.210)*	*(0.050)*
Professional, scientific and technical activities	*0.080*	*0.048*	*0.064*	*0.025*	*-0.026*	*0.010*
	(0.106)	*(0.052)*	*(0.085)*	*(0.078)*	*(0.075)*	*(0.042)*
Administrative and support	*-0.329**	*-0.107*	*0.192*	*-0.056*	*-0.319****	*-0.103**
	(0.165)	*(0.085)*	*(0.191)*	*(0.100)*	*(0.082)*	*(0.051)*
Public administration	*0.229*	*-0.068*	*-0.386*	*0.077*	*-0.020*	*0.084*
	(0.174)	*(0.087)*	*(0.360)*	*(0.090)*	*(0.274)*	*(0.087)*
Education	*0.046*	*-0.160**	*0.140*	*-0.024*	*0.194*	*-0.118*
	(0.247)	*(0.087)*	*(0.148)*	*(0.061)*	*(0.135)*	*(0.078)*
Human health and social work	*-0.351***	*0.028*	*0.344**	*-0.073*	*-0.133*	*-0.093*
	(0.143)	*(0.121)*	*(0.198)*	*(0.047)*	*(0.091)*	*(0.075)*
Arts, entertainment and recreation	*-0.055*	*0.251*	*-0.089*	*0.171*	*-0.230***	*0.199*
	(0.096)	*(0.183)*	*(0.100)*	*(0.139)*	*(0.107)*	*(0.155)*
Other service activities	*-0.338***	*-0.071*	*-0.035*	*-0.085*	*-0.120*	*-0.100*
	(0.146)	*(0.093)*	*(0.163)*	*(0.098)*	*(0.108)*	*(0.113)*
Constant	*-1.923**	*0.469*	*1.043*	*-0.512*	*0.765*	*0.382*
	(1.086)	*(0.457)*	*(0.916)*	*(0.537)*	*(0.472)*	*(0.525)*
Observations	*907*	*3,602*	*1,352*	*2,233*	*1,948*	*2,292*
R-squared	*0.532*	*0.393*	*0.485*	*0.495*	*0.543*	*0.559*

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 6: Level of country development, by IMF.

Country	Developed, Yes/No		Developed, Yes/No
Austria	Yes	Angola	No
Belgium	Yes	Azerbaijan	No
Czech Republic	Yes	Bulgaria	No
Denmark	Yes	Chile	No
Finland	Yes	Colombia	No
France	Yes	El Salvador	No
Germany	Yes	Guatemala	No
Italy	Yes	India	No
Netherlands	Yes	Indonesia	No
Poland	Yes	Kazakhstan	No
Portugal	Yes	Mozambique	No
Slovakia	Yes	Namibia	No
Spain	Yes	Paraguay	No
Sweden	Yes	Romania	No
United Kingdom	Yes	Ukraine	No
United States	Yes	Zambia	No
		Zimbabwe	No
		Hungary	No

Table 7: Estimation results of inter-industry wage differentials, OLS. Numerical clerks.

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Wholesale and retail trade	0.0502	0.00790	-0.108	-0.203***		0.0167	-0.0606	-0.143*	-0.0549	
	(0.0994)	(0.0594)	(0.0890)	(0.0652)		(0.0927)	(0.0650)	(0.0706)	(0.0921)	
Information and communication	0.253**	0.211**	0.0946		0.203***	0.0715	-0.00578	-0.0879		0.0549
	(0.108)	(0.0815)	(0.125)		(0.0652)	(0.0881)	(0.0450)	(0.0682)		(0.0921)
Financial and insurance activities	0.159*	0.116*		-0.0946	0.108	0.159	0.0822		0.0879	0.143*
	(0.0847)	(0.0611)		(0.125)	(0.0890)	(0.0941)	(0.0675)		(0.0682)	(0.0706)
Professional, scientific	0.0423		-0.116*	-0.211**	-0.00790	0.0773		-0.0822	0.00578	0.0606
	(0.0592)		(0.0611)	(0.0815)	(0.0594)	(0.0580)		(0.0675)	(0.0450)	(0.0650)
Manufacturing		-0.0423	-0.159*	-0.253**	-0.0502		-0.0773	-0.159	-0.0715	-0.0167
		(0.0592)	(0.0847)	(0.108)	(0.0994)		(0.0580)	(0.0941)	(0.0881)	(0.0927)

Table 7: Estimation results of inter-industry wage differentials, OLS. Numerical clerks-Continued.

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Constant	-0.948	-0.906	-0.789	-0.695	-0.898	1.066	1.144	1.226	1.138	1.083
	(1.123)	(1.091)	(1.098)	(1.046)	(1.072)	(0.952)	(0.992)	(1.035)	(1.013)	(1.016)
Observations	857	857	857	857	857	687	687	687	687	687
R-squared	0.394	0.394	0.394	0.394	0.394	0.282	0.282	0.282	0.282	0.282

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

Table 8: Estimation results of inter-industry wage differentials, OLS. Business services and administration managers.

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Wholesale and retail trade	0.0749	0.0205	-0.165*	-0.0128		0.0577	-0.0207	-0.313**	-0.136	
	(0.0676)	(0.102)	(0.0857)	(0.109)		(0.114)	(0.0302)	(0.105)	(0.114)	
Information and communication	0.0876	0.0332	-0.152		0.0128	0.194	0.115	-0.177		0.136
	(0.0996)	(0.125)	(0.113)		(0.109)	(0.204)	(0.118)	(0.106)		(0.114)
Financial and insurance activities	0.240***	0.185**		0.152	0.165*	0.371**	0.292**		0.177	0.313**
	(0.0815)	(0.0884)		(0.113)	(0.0857)	(0.166)	(0.0979)		(0.106)	(0.105)
Professional, scientific	0.0544		-0.185**	-0.0332	-0.0205	0.0784		-0.292**	-0.115	0.0207
	(0.116)		(0.0884)	(0.125)	(0.102)	(0.0971)		(0.0979)	(0.118)	(0.0302)
Manufacturing		-0.0544	-0.240***	-0.0876	-0.0749		-0.0784	-0.371**	-0.194	-0.0577

	(0.116)	(0.0815)	(0.0996)	(0.0676)		(0.0971)	(0.166)	(0.204)	(0.114)

Table 8: Estimation results of inter-industry wage differentials, OLS. Business services and administration managers.-Continued.

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Constant	-1.808**	-1.753**	-1.568**	-1.720**	-1.733**	2.018	2.096	2.388*	2.211	2.075
	(0.667)	(0.707)	(0.712)	(0.699)	(0.679)	(1.246)	(1.298)	(1.274)	(1.350)	(1.319)
Observations	900	900	900	900	900	495	495	495	495	495
R-squared	0.546	0.546	0.546	0.546	0.546	0.295	0.295	0.295	0.295	0.295

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

Table 9: Estimation results of inter-industry wage differentials, OLS. 2.Sales and purchasing agents and brokers.

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Wholesale and retail trade	0.0348	0.0222	0.144	0.143		-0.192***	-0.114	-0.198***	-0.206**	
	(0.108)	(0.118)	(0.107)	(0.0852)		(0.0466)	(0.0768)	(0.0434)	(0.0817)	
Information and communication	-0.108	-0.121	0.000748		-0.143	0.0143	0.0921	0.00838		0.206**
	(0.133)	(0.0980)	(0.115)		(0.0852)	(0.0727)	(0.118)	(0.101)		(0.0817)
Financial and insurance activities	-0.109**	-0.122**		-0.000748	-0.144	0.00597	0.0837		-0.00838	0.198***
	(0.0488)	(0.0562)		(0.115)	(0.107)	(0.0699)	(0.0944)		(0.101)	(0.0434)
Professional, scientific	0.0126		0.122**	0.121	-0.0222	-0.0778		-0.0837	-0.0921	0.114
	(0.0882)		(0.0562)	(0.0980)	(0.118)	(0.0852)		(0.0944)	(0.118)	(0.0768)
Manufacturing		-0.0126	0.109**	0.108	-0.0348		0.0778	-0.00597	-0.0143	0.192***

	(0.0882)	(0.0488)	(0.133)	(0.108)		(0.0852)	(0.0699)	(0.0727)	(0.0466)

Table 9: Estimation results of inter-industry wage differentials, OLS. 2.Sales and purchasing agents and brokers-Continued.

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Constant	-0.324	-0.311	-0.433	-0.432	-0.289	2.228**	2.150**	2.234**	2.242**	2.036**
	(0.410)	(0.389)	(0.408)	(0.385)	(0.398)	(0.771)	(0.796)	(0.772)	(0.814)	(0.789)
Observations	759	759	759	759	759	781	781	781	781	781
R-squared	0.476	0.476	0.476	0.476	0.476	0.260	0.260	0.260	0.260	0.260

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

Table 10: Estimation results of inter-industry wage differentials, OLS. Sales, marketing and development managers.

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Wholesale and retail trade	0.0442	-0.0692	-0.365**	-0.149		-0.00853	-0.120	-0.155	-0.352**	
	(0.120)	(0.132)	(0.135)	(0.114)		(0.0938)	(0.194)	(0.306)	(0.117)	
Information and communication	0.193**	0.0798	-0.216		0.149	0.343**	0.232*	0.197		0.352**
	(0.0714)	(0.212)	(0.148)		(0.114)	(0.121)	(0.120)	(0.314)		(0.117)
Financial and insurance activities	0.410**	0.296		0.216	0.365**	0.146	0.0352		-0.197	0.155
	(0.163)	(0.189)		(0.148)	(0.135)	(0.242)	(0.370)		(0.314)	(0.306)
Professional, scientific	0.113		-0.296	-0.0798	0.0692	0.111		-0.0352	-0.232*	0.120
	(0.192)		(0.189)	(0.212)	(0.132)	(0.197)		(0.370)	(0.120)	(0.194)
Manufacturing		-0.113	-0.410**	-0.193**	-0.0442		-0.111	-0.146	-0.343**	0.00853

	(0.192)	(0.163)	(0.0714)	(0.120)		(0.197)	(0.242)	(0.121)	(0.0938)

Table 10: Estimation results of inter-industry wage differentials, OLS. Sales, marketing and development managers.-Continued.

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Constant	0.992	1.106	1.402	1.185	1.036	2.914	3.025*	3.061*	3.258*	2.906
	(0.957)	(0.974)	(0.978)	(0.922)	(0.942)	(1.661)	(1.675)	(1.509)	(1.658)	(1.722)
Observations	721	721	721	721	721	385	385	385	385	385
R-squared	0.488	0.488	0.488	0.488	0.488	0.383	0.383	0.383	0.383	0.383

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

Table 11: Estimation results of inter-industry wage differentials, OLS. 5.Software and applications developers and analysts.

	(1)	(5)	(2)	(4)	(3)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Wholesale and retail trade	0.0686	-0.0842	-0.150*	-0.113		-0.164**	-0.163*	-0.303**	-0.161**	
	(0.0969)	(0.0787)	(0.0817)	(0.0656)		(0.0570)	(0.0757)	(0.134)	(0.0652)	
Information and communication	0.181***	0.0284	-0.0375		0.113	-0.00270	-0.00183	-0.142		0.161**
	(0.0540)	(0.0363)	(0.0636)		(0.0656)	(0.0456)	(0.0361)	(0.109)		(0.0652)
Financial and insurance activities	0.219***	0.0659		0.0375	0.150*	0.139	0.140		0.142	0.303**
	(0.0686)	(0.0765)		(0.0636)	(0.0817)	(0.122)	(0.0981)		(0.109)	(0.134)
Professional, scientific	0.153**		-0.0659	-0.0284	0.0842	-0.000874		-0.140	0.00183	0.163*
	(0.0642)		(0.0765)	(0.0363)	(0.0787)	(0.0432)		(0.0981)	(0.0361)	(0.0757)
Manufacturing		-0.153**	-0.219***	-0.181***	-0.0686		0.000874	-0.139	0.00270	0.164**

	(0.0642)	(0.0686)	(0.0540)	(0.0969)		(0.0432)	(0.122)	(0.0456)	(0.0570)

Table 11: Estimation results of inter-industry wage differentials, OLS. 5.Software and applications developers and analysts.- Continued

	(1)	(5)	(2)	(4)	(3)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					Developed				
Constant	0.388	0.541	0.607	0.569	0.457	1.841**	1.840**	1.980**	1.838**	1.677**
	(0.577)	(0.609)	(0.567)	(0.594)	(0.564)	(0.638)	(0.644)	(0.666)	(0.627)	(0.664)
Observations	1,600	1,600	1,600	1,600	1,600	1,529	1,529	1,529	1,529	1,529
R-squared	0.365	0.365	0.365	0.365	0.365	0.268	0.268	0.268	0.268	0.268

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

Table 12: Estimation results of inter-industry wage differentials, OLS. Managing directors.

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					**Developed**				
Wholesale and retail trade	0.267***	0.0370	-0.441**	-0.201		-0.0629	0.175	-0.00920	-0.222	
	(0.0612)	(0.201)	(0.190)	(0.141)		(0.108)	(0.158)	(0.175)	(0.144)	
Information and communication	0.468**	0.238	-0.240		0.201	0.159	0.397	0.213		0.222
	(0.158)	(0.222)	(0.197)		(0.141)	(0.171)	(0.245)	(0.189)		(0.144)
Financial and insurance activities	0.708***	0.478		0.240	0.441**	-0.0537	0.184		-0.213	0.00920
	(0.202)	(0.327)		(0.197)	(0.190)	(0.124)	(0.163)		(0.189)	(0.175)
Professional, scientific	0.230		-0.478	-0.238	-0.0370	-0.238*		-0.184	-0.397	-0.175
	(0.163)		(0.327)	(0.222)	(0.201)	(0.130)		(0.163)	(0.245)	(0.158)
Manufacturing		-0.230	-0.708***	-0.468**	-0.267***		0.238*	0.0537	-0.159	0.0629
		(0.163)	(0.202)	(0.158)	(0.0612)		(0.130)	(0.124)	(0.171)	(0.108)

Table 12: Estimation results of inter-industry wage differentials, OLS. Managing directors.-Continued

	(1)	(3)	(2)	(5)	(4)	(1)	(2)	(3)	(4)	(5)
	Omitted industry					Omitted industry				
	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade	Manufacturing	Professional, scientific	Financial and insurance activities	Information and communication	Wholesale and retail trade
	Developing					**Developed**				
Constant	-4.985**	-4.755**	-4.277**	-4.517**	-4.718**	2.831**	2.593**	2.777**	2.989**	2.768**
	(1.713)	(1.694)	(1.692)	(1.698)	(1.697)	(0.948)	(0.939)	(0.957)	(1.022)	(0.960)
Observations	386	386	386	386	386	261	261	261	261	261
R-squared	0.694	0.694	0.694	0.694	0.694	0.543	0.543	0.543	0.543	0.543

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
Notes: Other control variables included are: age and its square, experience and level of education interactions, experience squared, gender and marital status interactions; dummy variables for overtime, supervisory, shift work, collective agreement, firm ownership, size, urban status, work conditions.

APPENDIX A

Detailed description of used occupations, by *International Standard Classification of Occupations (ISCO)*

1. Numerical clerks

Lead Statement

Numerical clerks obtain, compile and compute accounting, bookkeeping statistical, financial, and other numerical data, and take charge of cash transactions incidental to business matters.

2. Sales and purchasing agents and brokers

Lead Statement

Sales and purchasing agents and brokers represent companies, governments and other organizations to buy and sell commodities, goods, insurance, shipping and other services to industrial, professional, commercial or other establishments, or act as independent agents to bring together buyers and sellers of commodities and services.

3. Business and administration professionals

Lead Statement

Business and administration professionals perform analytical, conceptual and practical tasks to provide services in financial matters, human resource development, public relations and marketing, sales in the technical, medical, information and communication technology areas and conduct, reviews of organizational structures, methods and systems as well as quantitative analyses of information affecting investment programs.

4. Managing directors and chief executives

Lead statement

Managing directors and chief executives formulate and review the policies and plan, direct coordinate and evaluate the overall activities of enterprises or organizations (except special interest organizations and government departments) with the support of other managers, usually within guidelines established by a

board of directors or a governing body to whom they are answerable for the operations undertaken and results.

5. Software and applications developers and analysts

Lead Statement

Software and applications developers and analysts conduct research, plan, design, write, test, provide advice on and improve information technology systems, such as hardware, software and other applications to meet specific requirements.

6. Sales, marketing and development managers

Lead Statement

Sales, marketing and development managers plan, organize, direct, control and coordinate the advertising, public relations, research and development, and sales and marketing activities of enterprises and organizations, or of enterprises that provide such services to other enterprises and organizations.