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Public vs. private sector wage skill premia in recession: Croatian experience

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Contents

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Abstract

Recent crisis in Croatia has more adversely affected private than public sector workers. However, the question is whether the pay schemes are more related to the nature of jobs in the public sector, where certain skills are in demand and consequently paid more than in the private sector. To shed some light on this issue, wages during the period 2008–2014 have been analysed in two sectors separately. For each sector wage skill premium was assessed by classifying workers into three skills groups: the first is related to abstract problem solving and organizational tasks, the second is relatively more routine-task intensive, while the third is primarily manual-task intensive.

Additional emphasis is placed on the young workers (up to age 30). There are two reasons for this. The first is related to the adverse effects recent recession had on youth labour market outcomes throughout the European Union. Croatia, with the youth unemployment rate of 45.5 percent (age group 15–24) in 2014 is no exception to this problem. The second reason is related to the question of a specific active labour market policy (ALMP) measure design for inclusion of young people in the labour market by offering them internship/traineeship subsidized in the amount of an approximately minimum wage. The question remains whether such measure channels young workers into certain jobs and disrupts normal labour market competition due to its wide popularity.

Key words: public vs. private sector, wage differences, skill premia, Croatia.
JEL classification: J31, J33, J45

Razlike u premijama na vještine tijekom recesije između privatnog i javnog sektora: slučaj Hrvatske

Sažetak

Privatni sektor u Republici Hrvatskoj u većoj je mjeri bio zahvaćen učincima posljednje gospodarske krize u odnosu na javni sektor. Pitanje je u kojoj mjeri su razlike u plaćama posljedica strukture poslova u javnom sektoru, u kojem se traže specifične vještine i posljedično više plaćaju u odnosu na privatni sektor. Iz tog razloga se u radu analiziraju odvojeno plaće u javnom i privatnom sektoru tijekom razdoblja 2008.–2014. Za svaki sektor se analizira jaz plaća koji nastaje kao posljedica specifičnih vještina, pri čemu se identificiraju tri skupine vještina: prve se odnose na poslovne zadatke koji u povezani s rješavanjem apstraktnih problema i upravljanjem; druge se odnose na pretežno rutinske poslovne zadatke; i treće se odnose na pretežno manualno-intenzivne radne zadatke.

Poseban naglasak u radu stavljen je i na mlade zaposlene (do 30 godina starosti), iz dvaju razloga. Prvi se odnosi na posebno izražene negativne učinke krize na ishode na tržištu rada mladih u cijeloj Europskoj uniji. Hrvatska sa stopom nezaposlenosti mladih od 45,5 posto (za dobnu skupinu 15–24) u 2014. godini nije izuzetak. Drugi razlog je postojanje specifične mjere aktivne politike zapošljavanja kojoj je namjera bila uključivanje mladih ljudi u svijet rada putem programa stručnog osposobljavanja u subvencioniranom iznosu otprilike jednakom minimalnoj plaći. Pitanje koje se postavlja: utječe li popularnost te mjere na uobičajeno funkcioniranje tržišta rada i kanaliziranje mladih u određena zanimanja.

Ključne riječi: razlike u plaćama između privatnog i javnog sektora, premija za vještine, Hrvatska.
JEL klasifikacija: J31, J33, J45

1 Introduction[1]

Croatia is a post-transition economy whose economic progress is still under the strong influence of developments in the public sector. Even though Eurostat data reveals that the share of total general government expenditures in GDP (46.9 percent) was just below the EU-28 average (47.4 percent) in 2015, fast-growing fiscal debt reaching 86 percent of GDP has emphasized the issue of fiscal sustainability. Thus, the public sector, as a significant employer in the Croatian labour market has encountered important problems during the latest economic crisis. Namely, the need for fiscal consolidation has propagated the idea of employment ban, which has been, with more or less willingness and success, implemented in various general government segments. The relative failure to curb employment growth[2] in specific segments of the public sector has been also attributed to political cycles. In addition to restrictions in employment, the crisis has also brought the issues of public sector workers' productivity and the adequacy of current wage schemes to attention. Little has been done, although announcements for the public sector restructuring are frequent in the public domain.

The public sector is on average perceived as a secure although not a generous employer[3]. The benefits of such employment relationship can be considered additionally attractive in times of economic crisis, i.e. low job creation and high unemployment rates. It has been frequently stated that private sector employees suffered the effects of the crisis, while public sector employees were somewhat sheltered, in particular by the collective agreements. The other side of the debate states that the private sector is able to offer greater wage flexibility, precisely due to less regulation. The anecdotal evidence is that skills upgrading may be more rewarding for the private sector employees than it is for the public sector employees.

The relative position of young workers during the crisis is of additional concern. Precisely low job creation has inspired one of the active labour market policy measures introduced by the Croatian government in order to alleviate the effects of the crisis. Since private sector was in the phase of shedding labour and public sector enforced employment ban (in order to try to stop further increases in public deficit), the young people were caught in a disadvantaged position. This has been in particular evident in regulated professions where they were required to either formally have internship/traineeship period or prepare themselves for professional certificate/license exam. To provide easier entry into labour market for the young, a new active labour market policy measure was introduced in 2010. Upon the Workplace Training measure introduction, the target group was limited to individuals below 25 years of age (in cases of upper secondary educated) and below 29 (in case of tertiary education) who had no more than six months of prior work experience. In 2012, the measure was extended to all registered unemployed who had less than 12 months of prior work experience. The maximum duration of benefit was extended to 3 years. The redesign of the measure has enabled diversification on the side of the beneficiaries but also on the side of the employers

[1] The analysis in the paper rests on the individual Croatian Labour Force Survey data provided by the Croatian Central Bureau of Statistics. The data has been obtained through the project *ZAMAH - The Impact of the Recession on the Structure and Flow of Youth Unemployment in Croatia* (HR.3.2.01-0136) that has been funded with support from the European Social Fund (ESF) which is a part of the European Union (EU) Structural Funds. The paper reflects the views only of the author and none of the institutions cited above cannot be held responsible for any use which may be made of the information contained therein.

[2] Indeed, studies show that the number of employees in public services actually increased during the crisis (Vukšić, 2014; Nestić, Rubil and Tomić, 2015).

[3] For an excellent overview of the changes in public sector employment size during the crisis, as well as the key differences in comparison to private sector during that period, please consult Franičević and Matković (2013).

(now including enterprises, crafts, non-government organisations), which has additionally contributed to the popularity of the measure. The wide application of the measure led to the question whether it provides a stepping stone into the labour market or creates a dead end. Specifically, the measure allowed employers to increase their workforce with substantial amount of subsidy from the government. However, after the training period has ended, a lot of young workers did not stay in employment, but were replaced by new interns/trainees (HZZ and IPSOS, 2016). So, it could be expected that the average relative wage for the young workers lucky enough to be in a working relationship has been additionally pushed downwards, in particular for specific categories of workers. Previous studies in Croatia did not focus on this specific question. The aim of this paper is not to analyse the impact of the measure itself, but to additionally provide analysis for the section of the labour market affected by the measure.

The main contribution of the present paper is to enhance the existing discussions with a special focus on specific segments of the employment relationship. Empirical analysis is focused on the evolution of wage skill premia in the public and private sector during the last economic crisis in Croatia. In defining different skill levels we rely on the skill-biased technology literature, which we assume to be relevant for Croatia due to the following:

- Small open economy argument. The size of the Croatian economy implies that it is a price-taker on an international market for most tradable products. The competition pressures in the tradable sector are consequently also under the influence of the skill-biased technology development in trading partners. In addition to the demand to adopt technology, this also influences the ability of the tradable sector to negotiate the wages only taking into consideration local economic conditions.
- EU – integration process entails institutional changes that can be reflected in additional administrative burden for the public officials. The governments can address these issues by adopting new technologies (which creates additional demand for high-skill public officials) or by increasing the workload (which creates additional demand for routine-task workers). In relatively good economic times, both can lead to increased wage pressures. However, whether the same is the case in a country with growing fiscal imbalances in times of economic downturn is an open question.
- Post-transition economy. This argument captures the changing patterns of an economy, with shifting union densities in specific sectors and increased individual wage setting in emerging sectors (for example, services). Skills upgrading might be difficult due to inherited rigid (not only educational) institutional system. Ongoing reforms of the labour market can have uneven effects for specific labour market demand. Structural changes of an economy can create excess supply of workers whose skills might become obsolete. Post-transitional countries differ in the abilities of their institutional structures to adapt swiftly enough to accommodate both supply and demand changes in those circumstances. Implicit evidence shows that Croatia is not among the star examples when it comes to reform implementation.

This paper takes the following structure: In the next section we briefly summarize the related literature and provide aggregate indicators for Croatia; Section 3 provides a description of the empirical approach; Section 4 presents the results and discussions; and, finally, the last section offers conclusions.

2 Key findings from the previous literature review and initial evidence from Croatia

The idea that wages are correlated with workers' skills is certainly not a novel one; researchers have long since postulated that technology development creates increased demand for workers with specific skills which translates into wage premia if skill supply is not increasing by the same rate (Tinbergen, 1974; Welch, 1973; Katz and Murphy, 1992; Card and Lemieux, 2001). By now there is substantial literature on the effects of technological change on labour markets – on the one side, the issue is related to the relative shift of labour demand with regard to workers' skills and on the other side, the rising inequalities in wages with regard to skill. An important strand of the literature is focused on trade, where the main question of whether trade with economically unequal partners whose comparative advantage relies on inexpensive labour will have unfavourable effects for the low-skilled workers in the more advanced economy (Acemoglu, 2002). The empirical literature which examines the effects of globalisation on wage inequality and skill upgrading in industrial economies has questioned predictions of the traditional trade theories (Goldberg and Pavcnik, 2007). Explanations for the findings of empirical studies have been offered in the form of trade-induced skill-biased technical change (Acemoglu, 2003; Thoenig and Verdier, 2003) or capital-skill complementarity (Burstein, Cravino and Vogel, 2013). Additional explanations have been offered through the impact on the distributional effects related to firm heterogeneity and selection into export markets (Bernard and Jensen, 1997; Yeaple, 2005; Verhoogen, 2008), as well as labour market imperfections (Helpman, Itskhoki and Redding, 2010). The extent to which labour market imperfections will be translated into wage skill premia also depends on the labour mobility between individual economic sectors. Excessive labour supply, for example, in the manufacturing sector exposed to competition might not easily be transferred to increased public sector demand. However, skill-biased technological change model was not able to explain the evidence supporting the polarisation of the labour market – increased demand and relative wages at the top and bottom of the distribution with simultaneous decline in the middle (Autor, Katz and Kearney, 2006; Autor and Dorn, 2013; Machin and van Reenen, 2007). It has to be emphasized that these effects have been mostly documented for advanced economies.

The explanation for the phenomena found in empirical studies was further sought in the models adding physical capital as a third production factor, assuming simultaneously a decrease of capital prices as a result of technological shock. The result implied both an increase of the share of high skilled workers in the labour force and wage skill premium increase (Autor and Dorn, 2013; Krusell et al., 2000). Another types of models suggested that exposure to technology by itself produces heterogeneity among workers, creating demand for workers with specific skills and wage-skill premia (Jovanovic, 1998; Caselli, 1999; Violante, 2002). Some models assume not only heterogeneity among workers, but also among different jobs/tasks (Sattinger, 1975). Certainly, these types of models are more readily transferred to a wider set of countries, since even in less developed economies, specific workers' knowledge can create specific labour demand. Additionally, it has been frequently emphasized that EU integration process itself creates a demand for administrative workers with special skills, such as those related to EU funding opportunities. Thus, both public and private sector workers can face technology-specific demand shifts.

The wage differential gap between the public and private sector is also a well-researched phenomena (Smith, 1976; Borjas, 2002; Dustmann and van Soest, 1997; de Castro et al., 2013), associated with the notion that government as a non-profit oriented employer has the monopolistic

power which influences the wage determination process (Reder, 1975). The process itself can be associated with the goal of the ruling party to maximize the chances to win the elections, which, in the case of Croatia, is vivid in the dating of the signatures of collective agreements before the elections. There are two additional segments when transition economies are concerned. The first is that privatization might not be completed in all economic sectors equally, and consequently, state-owned enterprises performance is also affected by the participation in the international market, while wage setting mechanism might follow non-market related schemes. At the same time, efficiency of the public sector workers could also be influenced by the imported technology bias. The latter does not only reflect capital transfer, but also the know-how[4] transfer. Whether this is transferred or not into public sector wages, remains an open question. However, workers might gain important skills transferable to the private sector, and unless the wage system acknowledges this potential, the important shortages might occur despite nominal abundance of the public sector employees.

Political, institutional and economic reasons can be provided to explain the determination of public and private sector wages. While the public sector is subject to political constraints, the private sector is subject to profit constraints. In most cases, the public sector's objective is to create an image of an employer willing to pay higher wages to its employees, especially to its lower-skilled workers due to their large share in the workforce and projecting the image of caring for those with disadvantages. Such image might be rewarded by the public in the election time. Due to the same reason, the government might be reluctant to award higher wages to high-skilled workers, as the public may not want to see public servants earning more than comparably trained and experienced private sector counterparts (Bender, 2003). Evidence of this has been recently provided by Nikolić, Rubil and Tomić (forthcoming). They point to a significant public sector premium at and below the median of the wage distribution accompanied by significant penalty for having a public sector job for workers at the top percentiles of the wage distribution in Croatia.

A similar situation also applies to the wages for young workers. The notion that younger workers are on average achieving smaller wages has been already incorporated in the traditional Mincer-wage equation. The explanation offered for this empirical relationship is that as workers gain experience on the job, their productivity increases, which is recognized by their employer by a higher wage offer. The question remains whether this is the same for each type of job/task. Certainly, for creative tasks, the relationship between experience and productivity is not linear. Thus, in cases when employers favour creative outcomes, they might chose to additionally reward their most creative employees. If wage-setting mechanisms are rigid, as might be the case in the public sector, the private sector could be the one offering higher rewards to young (and potentially creative) individuals.

Existing studies in Croatia have established that, similar to many other post transition economies, many labour market frictions influence the wage-setting mechanism. Orsini and Ostojić (2015) emphasize the crucial role of the public sector as a leader in the wage-setting mechanism in Croatia, thus contributing to labour market frictions. Tomić (2014) emphasized the inadequate matching mechanism that contributes to high structural unemployment. Existing and perceived labour market

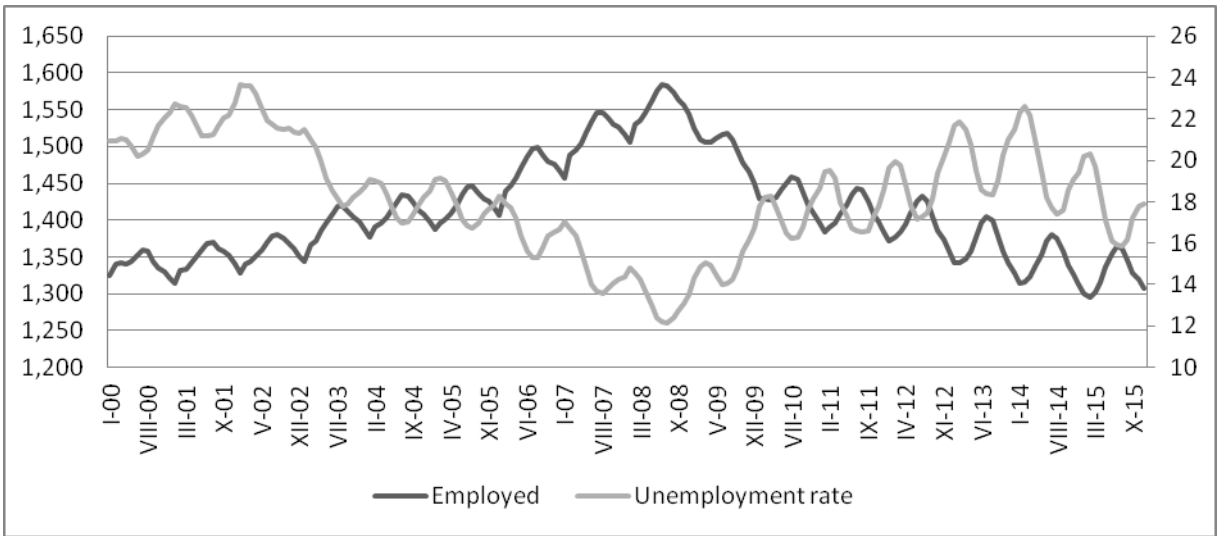
[4] For example, in specific cases of EU integration processes and numerous twinning projects designed for the capacity-building of public officials.

rigidity[5] in aggregate and specific segments of the economy is emphasized in many public debates, but attempts to increase flexibility are met with frown from the union representatives.

Kunovac and Pufnik (2015) provide evidence of firm-level labour market adjustment during the latest economic crisis in Croatia. The detailed analysis based on a survey[6] reveals a relatively high share of collective bargaining coverage (47 percent) in private firms, implying the adverse insider-outsider effect for the new entrants (young) also in terms of wages. According to the results, however, internal factors have the most significant influence on determining the entry wage of newly hired workers. The main message is that, faced with adverse shock, firms in Croatia reacted by reducing employment, rather than reducing wages. Whether this was similarly resolved in the public and private sector—if we consider specific types of tasks—is explored in the rest of the paper.

The analysis focuses on the period of recent economic crisis in Croatia. According to the Croatian Central Bureau of Statistics data, negative GDP growth rates have been estimated for the years 2009–2014, with the end of 2008 already indicating a decline. The beginning of the crisis also marks important changes on the Croatian labour market, as illustrated by Figure 1.

Figure 1: Unemployment rate and total employment (in 000) in Croatia, 2000–2015



Source: Central Bureau of Statistics.

It can clearly be seen that since the crisis, the total number of employed (measured in thousands on the left-hand scale; including self-employed, freelances, workers in agriculture) has started to decrease. Regardless of the occasional seasonal increases in employment, the downward trend is evident. On the contrary, the unemployment rate started to increase. From the literature review we already know that the private sector employers responded by reducing employment. But, it remains

[5] See Kunovac (2014) for more details on employment protection regulation in Croatia.

[6] It has to be emphasized that the original sample captured only a segment of the overall economy and the response rate was relatively low, only seven percent. So, although the results are informative, it remains uncertain whether they could be used to assume the adjustment in all segments of the Croatian economy.

unclear whether all types of workers were proportionally affected, i.e. public sector workers were affected, and whether patterns for youth are different.

Analysis relies on individual data without an identifier from the Croatian Labour Force Survey in the period 2008–2014. The sample covers employed individuals aged 15–65. When the effects for the young workers were analysed, the sample included individuals age 15–29. Although the formal definition of youths in the EU is between 15 and 24 years of age, due to certain specific features of the Croatian education system, as well as labour market experience for youths, the upper boundary was shifted. Namely, in Croatia, as in some other EU member states, the extension of higher education goes above 24 years, so the upper age limit is often extended to 29 years of age.[7]

Empirical studies, in particular for (post) transition economies, do not provide a clear guidance for the public sector definition. Existing wage gap empirical studies in Croatia use ownership (Rubil, 2013) or NACE activities identification (Nestić, Rubil and Tomić, 2015) of the public sector. In the present paper, ownership variable was used to determine whether the employer belongs to the private or public sector. Although it could be argued that employees might not be fully aware of the current status of their employer (due to the ongoing privatizations), relying on NACE activities identification does not enable a distinction between important economic restructuring processes, for example in education or health services.

The main research question is focused on skills, which could be relatively hard to define, or even observe. Thus, a pragmatic approach previously utilized in many empirical studies was adopted. Following Autor, Dorn and Hanson (2015), three levels of skills are identified:

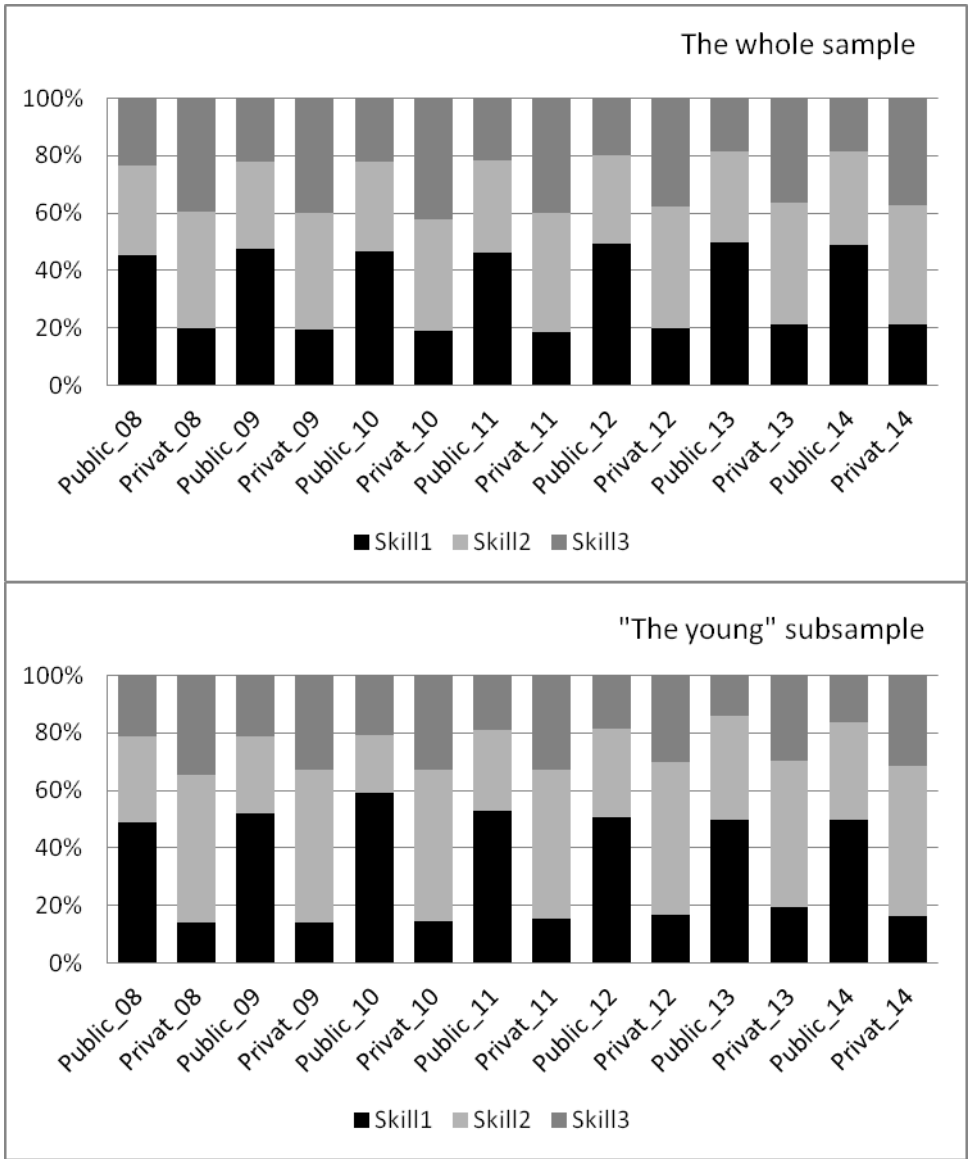
- Skill 1 – is related to abstract problem solving and organizational tasks; in terms of LFS questionnaire, this translates to those with a managerial, professional or technician occupation (ISCO level 2, 3 or 4);
- Skill 2 – is relatively more routine-task intensive, or those with occupations in sales and services, clerks, or plant and machine operators (ISCO level 5, 6 or 9);
- Skill 3 – is primarily intensive in manual job tasks, those with a military occupation, those in farming, craftsmanship or elementary occupation (ISCO level 1, 7, 8 or 10).

The classification reflects potentially different restructuring challenges when respective firms are faced with increased competition (or, during adverse economic conditions, decrease in demand). In that context, routine tasks could be substituted with technological solutions. In general, private sector is assumed to be the leader in this process, due to the profit orientation of the sector. Public sector is expected to retain workers. There are two possible basic ways to adjust – wage adjustment or jobs adjustment. In this paper, the emphasis is on the first, while the second can only be illustrated by the structure of the sample in the analysed years.

[7] Likewise, for both the *Youth Employment Initiative* and the *Youth Guarantee,* the age limit is lifted up to 30 years in cases where the member state considers it to be relevant. This was also included in the national ALMP measures (HZZ and IPSOS, 2016). For example, when Workplace Training was introduced in 2010, the target group was limited to individuals below 25 (in cases of upper secondary educated) and below 29 (in case of tertiary education).

To begin with, a sample structure according to the skills is analysed in order to examine whether the crisis contributed to the polarisation of jobs. Naturally, the data in Figure 2 should be taken with caution since the period of analysis has been rather short and it could be more appropriate to interpret the structure as evidence of sample quality than job polarisation. Nevertheless, sample structure can also influence the interpretation of the dynamics drawn from the survey data on an aggregate level.

Figure 2: Structure of employed according to workers' skills and enterprises' ownership



Source: Author's calculations based on the Labour Force Survey data.

The data shows that there is a strong preference for the skill level 1 in the public sector and skill level 2 in the private sector. This is even more emphasized in the subsample covering young population. This means that professionals and probably highly-educated individuals are more likely to be

employed by the public sector, while private sector is more likely to employ workers for performing routine tasks which could be easily replaced in case of a technology leap. Prior evidence of such preferences already exists in the literature. EIZ (2014) study revealed that firms generally prefer their new employees to have upper secondary education, and simultaneously believe that skills of new entrants on the market (regardless of their achieved level of formal education) are constantly declining from one period to another.

Next, we turn to the average wage per hour comparison according to the same stratification. The data presented are nominal[8] and not real wages, while the wage reported is monthly wage divided by the reported hours worked during a reference week. Possible response errors in survey data (Cohen and Lipstein, 1954), which might not be equally distributed in relation to different skill levels, remain in the dataset. For example, Zweimuller (1992) emphasized that there is a selection bias when persons' probability to participate in a survey is concerned. Mellow and Sider (1983) have established that there are important differences in the reported occupation of a worker, depending on whether the person reports it herself or the information comes from her employer. Gotschalk and Huynh (2010) emphasize the reporting bias in the income variable (when compared to the official tax records). The latter might be particularly important for explaining public/private sector differences, since public sector wage is usually available as information to a wider set of individuals (being pre-set by a specific set of rules and not a result of an individual bargaining process). Nevertheless, LFS remains a widely used resource in empirical studies.

Table 1: Wage per hours worked (in kuna) according to workers' skills and sector

Year	Public			Private		
	Skill1	Skill2	Skill3	Skill1	Skill2	Skill3
2008	136.66	99.35	89.18	130.10	78.82	58.79
2009	144.28	101.91	93.42	130.14	80.11	60.00
2010	148.78	107.65	98.92	136.58	80.04	58.39
2011	147.71	106.64	97.67	139.79	82.73	59.16
2012	149.29	106.25	97.36	143.66	84.21	59.01
2013	145.47	106.55	96.52	143.45	85.49	62.13
2014	148.80	108.60	103.80	141.85	89.37	69.41
Young						
2008	111.90	93.59	83.62	110.89	74.00	66.36
2009	120.71	91.34	95.10	115.03	75.48	68.21
2010	121.43	109.94	87.83	120.03	75.96	68.71
2011	112.55	98.74	85.34	124.61	77.53	65.47
2012	111.93	98.89	91.18	115.52	78.52	64.86
2013	102.02	91.08	89.82	122.84	77.29	73.84
2014	114.27	93.54	96.84	108.63	81.86	67.91

Source: Author's calculations based on the Labour Force Survey data.

[8] Since the analysed period is marked by low inflation rates, and deflation exercise would call for finding appropriate price indices at least for the private and public sector separately, the benefits of this additional step would be outweighed by the cost.

The data clearly reveals that skill level 1 workers obtain the highest wages, while the skill level 3 workers, on average, obtain the lowest wage. For each skill group the average wage in public sector is higher than the average wage in the private sector. A similar scenario is observed for the young population. For most of the data, youths receive lower wages than the comparable overall sample. However, there are exceptions. Private sector seems to—in general—pay higher wages for young workers with skill level 3 than is the average wage for that skill level in the country.

There are noticeable differences between the average wage received by skill level 1 relative to skill level 2 workers in the public sector when compared to the private sector, both for the overall sample and for the young. A similar case also appears if we look at the differences between skill level 2 and skill level 3. An interesting research question is the identification of predictors of these differences. The next section is devoted to the explanation of empirical strategy.

3 Empirical strategy

Analysis in both samples follows the same methodological approach. The analysis is performed separately for the private and for the public sector workers. For each sector the wage skill premia of workers mostly engaged in performing abstract problem solving and organizational tasks (skill level 1), as well as wage skill premia of workers primarily performing intensive manual job tasks (skill level 3) is compared to more routine tasks of the workers (skill level 2). In addition to identifying the gap in wage per hour for each analysed year, contributions to the gap were estimated by the standard Blinder-Oaxaca methodology. This decomposition technique is frequently used in the analysis of wage differentials, because it enables the identification of wage differences between the two groups into a part which is "explained" by group differences in characteristics, and a residual part that cannot be accounted for by such differences in wage determinants.

Since there is no specific reason to assume that the coefficients of one or the other group in each performed decomposition are (non)discriminating, pooled estimates were applied. Also, standard threefold decomposition was used, enabling distinction between endowments, coefficients and interactions. The endowments part reflects the mean increase in skill level "A" workers' wages if they had the same characteristics as skill level "B" workers. The coefficient term quantifies the change in skill level "A" workers' wages when applying the skill level "B" workers coefficients to the skill level "A" workers' characteristics. The third part is the interaction term that measures the simultaneous effect of differences in endowments and coefficients.

The standard Blinder-Oaxaca threefold decomposition assumes that the average outcome is influenced by the differences in outcome for specific groups ("A" and "B").

$$Outcome = E(Y_A) - E(Y_B)$$

The linear model then assumes that if we have a vector of X predictors and estimate the slope beta, the result for each specific group can be obtained by the usual regression equation (shown only for "A" group):

$$Y_A = X'_A \beta_A + \varepsilon_A$$

The outcome can be subsequently represented by the following equation:

$$Outcome = \left\{E(X_A) - E(X_B)\right\}' \beta_B + E(X_B)'(\beta_A - \beta_B) + \left\{E(X_A) - E(X_B)\right\}'(\beta_A - \beta_B)$$

The first component refers to endowments (it is due to group differences in predictors), the second to coefficients, and the last to interactions.

The list of potential contributions to the gap includes following Mincer-type equation candidates[9], although the rational for their inclusion comes with a twist:

- Age. In our case, age is related to the possibility of acquiring technology-related skills. Specifically, older generations of workers were not exposed to specific technology advances in their early carriers and the employers might not provide specific training required for performing specific tasks to older workers. This creates technology-supported bias in labour demand that favours younger workers. This was operationalised by the inclusion of dummy variables for each age cohort 15–24, 25–34, 35–44 (reference variable), 45–54 and 55–65. The only distinction in case of young workers is that the age cohorts are defined as 15–19, 20–24 and 25–29 (being the reference).
- Urbanisation of the living area. The skill demand might be different according to the degree of urbanisation. For example, public administration units are usually concentrated in urban areas; in case of Croatia, even the high centralisation of the public administration in capital is frequently stated. Although public administration exists in areas with lower degree of urbanisation, the demand for skills in these areas is lower in case of a centralised system. Similarly, in the private sector the agglomeration effect might influence the increased skill demand in areas of higher urbanisation. For the private sector, agglomeration effects might be important. A dummy variable which equals one if a person lives in an urban or semi-urban area was included to capture this effect.
- Marital status by itself is not related to skills. However, couple formation might influence the decision to devote time to acquiring skills within the couple disproportionally. This might not be the same during the course of a life, and might not always be on the expense of a female. However, couples also may make decisions to raise children, which also frequently leads to increased demand for one of the parents for a specific type of work (for example, less risk of losing the job, more flexibility with work hours). Dummy variables if a person is single, married (reference), or divorced were added to the list of contributors.
- Sex. Juhn, Murphy and Topel (1991) suggested that the evolution of earnings and employment by gender as a result of skill-biased demand shifts. It could be argued that the acquiring of skills is also gender-biased, which might be emphasized by local culture. Although former socialist economies were renowned for proclaimed gender equality, occupational and wage gender biases have been documented in the literature nevertheless (Bretheron, 2001; Pollert, 2005). A dummy variable which equals one if a person is male was included.

[9] Definition of variables provided in Appendix Table A1.

- Education in our case refers to formal education. The higher level of formal education by itself is not a guarantee that the tasks the person will perform will be more creative, although we could assume that there is a certain degree of correlation. The question remains whether employers will reward formal education additionally or not and whether they will reward it differently across different skill groups. Three dummy variables for lower secondary education, upper secondary education (reference variable), and higher education were subsequently included in the estimates.
- Tenure. Wage can vary with experience accumulated by the worker. Thus, a variable measuring the years in employment was included, rather than years with the same employer. The reason is that according to the collective bargaining scheme in Croatia, public sector in some cases recognizes additional increases in wages based on the years in employment, while employment by the same employer is rewarded through a one-off additional payment. Furthermore, the sample is more likely to include information on the wages than one-off rewards.
- Economic activity. The reason for inclusion of this variable can be traced back to Baumol (1967), who suggested that the demand for labour from the slow-technology increasing sector might be greater if their products are complementary to the products of the fast-growing sectors. Thus, it is important to determine in which sector the workers are employed in, in order to assess the relative skill premium. Even in the centralised wage-bargaining system, the average wage (growth) depends on the market demand and supply, but also on the structure of specific skills required to produce certain products/services. Thus, specific conditions of economic activity influence the wage bargaining/hiring and the firing process. According to the standard NACE Rev2 classification, a dummy variable has been included for each section.

The results are presented in the following section.

4 Results and discussions

Estimation results are presented in two subsections – first in the public sector and then in the private sector. At the beginning of each section space is devoted to the analysis of the overall sample, followed by an additional focus on the results for young workers.

4.1 Public sector results

Table 2: Public sector wage skill premium gap decomposition, overall sample

Year	Skill1/Skill2			
	Gap	Endowments	Coefficients	Interactions
2008	-37.31 *** (1.73)	-21.77*** (3.48)	-34.39*** (3.27)	18.86*** (4.44)
2009	-42.37*** (1.88)	-18.99*** (4.19)	-41.86*** (3.65)	18.49*** (5.20)
2010	-41.13*** (1.84)	-8.34*** (2.52)	-33.70*** (4.94)	0.92 (5.24)
2011	-41.08*** (2.05)	-19.53*** (3.94)	-46.26*** (5.39)	24.71*** (6.35)
2012	-43.04*** (2.14)	-20.33*** (3.44)	-36.81*** (4.42)	14.10*** (5.19)
2013	-38.92*** (2.08)	-15.18*** (3.50)	-42.58*** (3.62)	18.84*** (4.59)
2014	-40.20*** (2.15)	-12.61*** (3.14)	-46.81*** (3.60)	19.22 (4.33)
	Skill3/Skill2			
2008	10.17*** (1.57)	6.81*** (1.57)	2.98 (1.79)	0.38 (1.76)
2009	8.49*** (2.07)	2.46 (2.28)	2.28 (2.27)	3.75 (2.46)
2010	8.73*** (1.80)	2.21 (2.05)	4.08** (1.88)	2.43 (2.13)
2011	8.97*** (2.08)	1.88 (1.99)	3.20 (2.10)	3.89* (2.03)
2012	8.88*** (2.11)	-0.35 (2.03)	4.97** (2.08)	4.26** (1.99)
2013	10.03*** (2.21)	2.27 (2.29)	4.01* (2.32)	3.76 (2.41)
2014	4.80* (2.59)	5.02** (2.49)	2.15 (2.50)	-2.37 (2.41)

Source: Author's estimates based on the Labour Force Survey data.

The data in Table 2 clearly show that the wage premium in the public sector is relatively higher if we compare workers with skill level 1 than if we compare workers with skill level 3. The estimated gap is also found to be significant for all of the analysed years. However, no systematic widening or narrowing of the gap has been identified in the public sector during the analysed period. Thus, no clear adjustment of the wage structure has been detected during this period within the public sector.

If we look at the decomposition of the gap, we can see that the suggested predictors were found jointly significant only for the decomposition of skill 1 – skill 2 wage gap. Thus, only this segment of the empirical results is discussed (the detailed estimates can be found in the Appendix Table A2). It could be argued that the wage determination for the skill level 3 (manual jobs) in the public sector does not seem to follow the same rules as the other skill levels. However, more detailed analysis, preferably on the specific task level is required, to provide specific reasons for such findings.

Related to the statistically significant estimates, it can be noticed that both endowments and coefficients have the same sign as the estimated gap in most of the analysed years, while the interactions have contributions of the opposite sign. The contribution of coefficients (between 81.9 and 116.4 percent) is higher than the contribution of the endowments (between 20.2 and 58.3 percent) to the gap formation. So, the characteristics of the workers themselves are more likely to explain the differences in the wages of workers in the public sector. Among the endowments, the highest contributor to the gap formation is higher education. Also significant is the gender variable, with the fact that a person is male would have an effect to reduce the gap.

When coefficients are considered, it can be noticed that the constant has the highest contribution implying that other non-included factors play an important role in determining specific skill-related rewards for workers. This is probably related to the non-inclusion of an individual worker's productivity (either real or perceived by an employer). Only higher education seems to be a positive predictor of increased wage skill premia for skill type 1 in comparison to skill type 2 in the public sector. This is probably highly expected, since certain professions in public sector demand certificates and diplomas and consequently higher education provides a ticket for higher paid jobs.

Table 3: Public sector wage skill premium gap decomposition, young population sample

Year	Skill1/Skill2			
	Gap	Endowments	Coefficients	Interactions
2008	-18.31***(6.77)	-9.48 (8.19)	-15.57 (15.91)	6.74 (16.93)
2009	-29.37*** (5.14)	-13.36 (9.70)	-16.68* (9.12)	0.67 (12.54)
2010	-11.49** (5.19)	24.22*** (8.38)	-5.61 (11.69)	18.34 (13.79)
2011	-13.81**(5.54)	-18.76** (9.45)	-32.06*** (11.70)	37.01*** (14.20)
2012	-13.04** (6.62)	-10.21 (10.49)	-9.56 (16.17)	6.73 (18.23)
2013	-10.94* (6.32)	-4.02 (11.58)	-19.75* (11.95)	12.83 (15.57)
2014	-20.73*** (7.42)	-9.19 (13.07)	-28.95*** (9.02)	17.41 (14.71)
	Skill3/Skill2			
2008	9.97 (6.50)	-0.76 (4.27)	0.17 (9.53)	10.56 (8.84)
2009	-3.76 (14.82)	-7.95 (23.48)	-5.10 (15.89)	9.29 (24.41)
2010	22.11*** (5.24)	-1.04 (6.41)	25.68*** (7.78)	-2.52 (9.10)
2011	13.40** (6.40)	2.41 (6.22)	12.46 (9.35)	-1.46 (9.95)
2012	7.71 (7.04)	-8.51 (6.78)	0.49 (10.61)	15.73 (10.80)
2013	1.26 (7.02)	-6.76 (7.82)	25.77** (12.11)	-17.75 (13.00)
2014	-3.30 (6.94)	-13.96** (6.71)	15.11 (10.45)	-4.45 (12.01)

Source: Author's estimates based on the Labour Force Survey data.

The analysis of the public sector wage skill gap for the youth subsample reveals that there is slightly less premium for skill level 1, and the results for the skill level 3 are not conclusive due to the fact that for most of the analysed years they are not significant. The lack of clear wage premia for the young population in the segment of skill level 3/skill level 2 within the public sector points to absence of clear wage determination process for specific skills. So, public sector wage schemes determined by coefficients at the present time do not reflect these differences in skill-levels. The question remains whether this is a consequence of specific demand for specific tasks in the public sector. Judging from public discussions, this is not very likely. Public debates frequently advocate redesign of current wage schemes, although without any specific suggestions.

Decomposition of the wage skill gap does not provide firm support for the assumption that the analysed predictors give enough evidence to discuss the contributions to the gap. The results are probably also related to the fact that the subsample of the young population is relatively small and also highly heterogeneous. However, it could be also argued that such results correctly reflect the true wage policy of the public sector, which frequently remains elusive and confusing to young entrants to the labour market in Croatia.

4.2 Private sector results

Table 4: Private sector wage skill premium gap decomposition, overall sample

Year	Skill1/Skill2			
	Gap	Endowments	Coefficients	Interactions
2008	-51.28*** (2.15)	-33.36*** (3.36)	-37.12*** (2.64)	19.20*** (3.68)
2009	-50.03*** (2.22)	-28.08*** (3.24)	-35.78*** (2.68)	13.83*** (3.57)
2010	-56.54*** (2.31)	-31.09*** (3.36)	-39.78*** (2.79)	14.34*** (3.69)
2011	-57.06*** (2.99)	-29.32*** (4.16)	-41.77*** (3.39)	14.03*** (4.24)
2012	-59.45*** (4.24)	-21.39*** (5.66)	-46.99*** (4.73)	8.93 (6.02)
2013	-57.96*** (3.77)	-18.31*** (5.59)	-50.76*** (4.11)	11.10* (5.81)
2014	-52.48*** (3.34)	-34.99*** (4.66)	-39.48*** (4.52)	21.98*** (5.56)
	Skill3/Skill2			
2008	20.03*** (1.13)	15.45*** (1.66)	14.72*** (2.54)	-10.13*** (2.83)
2009	20.11*** (1.22)	14.65*** (1.80)	16.92*** (2.80)	-11.47*** (3.11)
2010	21.65*** (1.12)	19.42*** (1.63)	20.10*** (2.50)	-17.87*** (2.78)
2011	23.56*** (1.35)	19.78*** (2.07)	22.02*** (2.59)	-18.23*** (3.03)
2012	25.19*** (1.59)	20.21*** (2.18)	24.46*** (2.43)	-19.49*** (3.76)
2013	23.36*** (1.58)	19.13*** (2.29)	22.32*** (2.90)	-18.10*** (3.36)
2014	19.96*** (2.04)	11.16*** (2.20)	17.87*** (4.74)	-9.08* (4.83)

Source: Author's estimates based on the Labour Force Survey data.

The results for the private sector reveal a much higher skill premium than in the public sector, both when it comes to skill level 1 and skill level 3 (in relation to skill level 2). Thus, wage dispersion seems to be higher in the private sector, than in the public sector. Although it seems that there has been a trend in increasing both wage skill gaps in the period 2008–2012, the latest two analysed years seem to indicate the reversal of this trend. However, in order to reach conclusion on the potential cyclical behaviour of the wage skill premium gap in the private sector in Croatia, a longer set of data has to be analysed. This is left for future research endeavours.

In case of the private sector, we can see that the decomposition of the gap yielded consistently significant estimates (presented in details in Appendix Table A3 for skill level 1 versus skill level 2). It is evident from the results that both endowments and coefficients have the same sign as the estimated gap in most of the analysed years, while the interactions have contributions of opposite sign. Thus, it seems that the private sector has more skill-rewarding mechanisms included in the wage determination process than the public sector. The contribution of coefficients (between 70.3 and 87.6 percent) is higher than the contribution of the endowments (between 31.6 and 66.7 percent) to the gap formation. Among the endowments, the highest contributor to the gap formation is higher education followed by a dummy variable for males. It is interesting to note that the contribution of a male variable in the case of private sector is opposite to that of the same variable in the analysis of the public sector.

When different rewards for workers' characteristics are considered, higher education also plays a significant role in explaining the gap formation (although constant representing the omitted variables

has the largest influence). However, in case of the private sector, we can also notice that the economic activity H (transportation and storage) is an important contributor to the gap. This indicates that the demand for a specific type of workers' skills in that sector is additionally important for wage formation.

Details of the analysis of wage premia in case of skill level 3 versus skill level 2 for private sector are presented in the Appendix Table A4. It can be noticed that both the endowments (from 55.9 to 89.7 percent) and the coefficients (from 73.5 to 92.8 percent) have a significant positive impact on gap formations, while interactions work towards reducing the gap. Within endowments, the highest positive impact towards gap creation comes from the economic activity A (agriculture, forestry and fishing), followed by a dummy variable related to individuals living in urban areas and less educated persons. The largest identified factors working towards the reduction of the gap are if person is male and single.

Within coefficients, the largest positive contribution towards gap formation comes from the NACE activity A (agriculture, forestry and fishing), followed by a variable measuring tenure and the NACE activity F (construction). These results are highly expected, since these sectors create additional demand for skill 3 level workers.

Similar is the case if we look at interactions, although the interactions themselves work towards the reduction of the overall gap, so the contribution of the same variables works in the opposite direction through interactions.

Table 5: Private sector wage skill premium gap decomposition, young population sample

Year	Skill1/Skill2			
	Gap	Endowments	Coefficients	Interactions
2008	-36.90*** (4.37)	-31.35*** (7.28)	-25.34*** (4.75)	19.80*** (7.51)
2009	-39.55*** (4.54)	-18.92*** (7.10)	-27.82*** (4.84)	7.19 (7.30)
2010	-44.07*** (4.45)	-22.36** (9.69)	-39.77*** (5.98)	18.06* (10.48)
2011	-47.08*** (7.84)	-20.41 (12.90)	-37.23*** (8.41)	10.56 (13.21)
2012	-37.00*** (6.56)	-20.75** (9.68)	-30.98*** (7.21)	14.43 (10.14)
2013	-45.54*** (6.57)	-9.90 (14.29)	-44.48*** (7.35)	8.83 (14.68)
2014	-26.77*** (4.88)	-20.26** (9.78)	-16.20*** (5.85)	9.68 (10.31)
	Skill3/Skill2			
2008	7.64*** (1.77)	1.77 (2.57)	5.42** (2.75)	0.45 (3.38)
2009	7.27*** (2.03)	2.42 (3.60)	9.00*** (2.67)	-4.15 (4.02)
2010	7.25*** (2.21)	8.52** (3.47)	9.73** (4.08)	-11.00** (4.89)
2011	12.06*** (2.57)	7.20* (3.90)	10.00** (4.56)	-5.15 (5.46)
2012	13.65*** (2.85)	9.03** (3.51)	9.99** (4.31)	-5.36 (4.82)
2013	3.46 (3.43)	9.36* (5.20)	6.32 (4.78)	-12.23** (6.18)
2014	13.94*** (3.22)	3.81 (4.85)	12.86*** (4.89)	-2.73 (6.15)

Source: Author's estimates based on the Labour Force Survey data.

The size of the wage skill premium gap in the private sector in case of skill level 1 (vs. skill level 2) is almost the size of that in the overall sample for the public sector. This shows that skilled young individuals in the private sector can expect to achieve higher reward for their work on average. Focusing only on the private sector, the wage skill gap for the young is relatively smaller, but in almost all the analysed years significant for both analysed skill levels. Thus, even for the young population, the wage skill premium seems to be important in the private sector, although it has not been found significant in the public sector. This finding supports anecdotal evidence, when within the private sector the employers are more likely to reward specific skills, while in the public sector the wage is related to the specific workplace.

Decomposition exercise has also revealed that for most years the proposed predictors are jointly significant (details are presented in the Appendix Table A5 for skill level 1 vs. skill level 2 and the Appendix Table A6 for skill level 3 vs. skill level 2).

When analysing skill level 1 vs. skill level 2, the coefficients (60.5 percent to 97.7 percent) and endowments, which are not significant in all the years (47.7 percent to 84.9 percent) contribute towards wage skill premia, while interactions act in the opposite direction (but significantly only in two analysed years). If a person has higher education it contributes to the gap formation both in terms of endowments and in terms of differing rewards.

When analysing decomposition of skill level 3 vs. skill level 2 for young workers, the specific segments have been found significant only in specific years – endowments in three, coefficients in five and interactions in two analysed years. Based on the results presented in the Table A6, we can notice that the variable consistently contributing to gap is the one in case of a person is working in a NACE activity A (agriculture, forestry and fishing).

The private sector wage determination mechanism seems to be more developed for young individuals than the public sector. Thus, even though the public sector might be considered as a desirable employer due to a relatively secure job, the wage schemes need to be designed in such a way that they ensure that it is able to attract young individuals with adequate skills. In order to address these issues in more detail, an analysis on the level of specific tasks is required.

5 Conclusions

The main focus of the paper was the analysis of wage skill premia in the public and private sector during the recent economic crisis in Croatia. The motivation for the research has been found in the frequent public discussions claiming that the burden of the crisis has been carried by the workers in the private sector, in particular due to the increase pressures from the international market. The analysis focuses on the differences in wage skill premia development in each of the sector, with additional focus on the young population.

For the purpose of the empirical analysis, the workers have been classified into three skills groups: skill level 1 is related to abstract problem solving and organizational tasks, skill level 2 is relatively more routine-task intensive, while skill level 3 is primarily intensive in manual job tasks. The structure of the employment shows that there is a strong preference for skill level 1 in the public sector and skill level 2 in the private sector. This is even more emphasized in the subsample covering young population. This means that professionals and probably highly educated persons are more likely to be employed by the public sector, while the private sector is more likely to employ workers to perform routine tasks which could be easily replaced in case of a technology leap.

The data clearly reveals that the skill level 1 workers obtain the highest wages, while the skill level 3 workers, on average, obtain the lowest wage. For all skill groups, the average wage in the public sector is higher than the average wage in the private sector. A similar case is observed for the young population. For most of the data, youths receive lower wages than the comparable overall sample. However, there are exceptions. Private sector seems to, in general, pay higher wages for young workers with skill level 3 than is the average wage for that skill level in the country.

No systematic widening or narrowing of the gap has been identified in the public sector during the analysed period. Thus, no clear adjustment of the wage structure has been detected during this period within the public sector.

The results for the private sector reveal a much higher skill premium than in the public sector, both when it comes to skill level 1 and skill level 3 (in relation to skill level 2). Thus, wage dispersion seems to be higher in the private sector than in the public sector. Although it seems that there has been a trend in increasing both wage skill gaps in the period 2008–2012, the latest two analysed years seem to indicate the reversal of this trend. However, in order to reach a conclusion on the potential cyclical behaviour of the wage skill premium gap in the private sector in Croatia, a longer set of data has to be analysed.

The analysis in the paper has revealed different skill rewards between public and private sector workers. In most cases, education of the worker explains a significant part of the gap. Thus, it seems that formal education is used both by the private and public sector as a signal of worker's skill and/or productivity, regardless of the frequently publicly phrased dissatisfaction with the outcome of the education system in Croatia.

Although this study has documented the existence of the wage skill premia, the mechanisms for its formation have not been discussed. There are obviously different mechanisms at work in the private and public sector, however, since the analysis covers only the crisis period, it cannot be argued

whether this is a consequence of structural change or idiosyncratic feature of the Croatian economy. Thus, further research is needed in order to answer these questions.

Another important mechanism, not included in the analysis presented in the paper is the increased inactivity of previously active labour market participants. The structural shift due to a different demand for labour skills might lead to increased withdrawal from the participation in labour market. This could be particularly important for certain segments of the workforce, who perceive their skills to be obsolete. It could be argued that these changes affect the private (tradable) sector with higher speed. However, whether this is the case, remains an open question.

Certainly, skill level analysis is important from the aspect of the public sector wage scheme design, where market mechanisms frequently fail to define the appropriate remuneration for workers' performance. Many reforms have been recently called for in that segment, yet little has been implemented. Empirical analysis of the adequacy of a wage scheme change requires task-level dataset, and is beyond the scope of the present paper. However, should the announced reforms be implemented, this will provide a fruitful area for future research endeavours.

References

Acemoglu, D. (2002). Technical change, inequality and the labour market. *Journal of Economic Literature,* 40(1): 7–72.

Acemoglu, D. (2003). Patterns of skill premia, *Review of Economic Studies*, 70 (2): 199-230.

Autor, D. H. and Dorn, D. (2013). The growth of low-skill service jobs and the polarization of the US labor market, *American Economic Review*, 103(5): 1553-1597.

Autor, D H., Dorn, D. and Hanson, G.H. (2015). Untangling trade and technology: Evidence from local labor markets,*The Economic Journal,* 125(584): 621-646.

Autor, D. H., Katz, L.F. and Kearney, M.S. (2006). The polarization of the U.S. labor market*, American Economic Review: Papers and Proceedings*, 96(2): 189-194.

Baumol, W.J. (1967). Macroeconomics of Unbalanced Growth: Anatomy of an Urban Crisis. *American Economic Review*, 57(3): 415-426.

Bender, K. A. (2003). Examining equality between public- and private-sector wage distributions, *Economic Inquiry*, 41(1): 62-79.

Borjas, G.J. (1984). Electoral cycles and the earnings of federal bureaucrats. *Economic Inquiry,* 22(4): 447–459.

Borjas, G. (2002). The Wage Structure and the Sorting of Workers into the Public Sector, NBER Working Paper No. 9313.

Bretheron, C. (2001). Gender mainstreaming and EU enlargement: swimming against the tide? *Journal of European Public Policy*, 8(1): 60-81.

Burstein, A., Cravino, J. and Vogel, J. (2013). Importing skill-biased technology, *American Economic Journal: Macroeconomics*, 5 (2): 32-71.

Campos, M. and Centeno, C. (2012). Public-Private Wage Gaps in the period prior to the adoption of the Euro: an application based on longitudinal data, Banco de Portugal WP 1.

Card, D. and Lemieux, T. (2001). Can Falling Supply Explain the Rising Return to College for Younger Men? A Cohort-Based Analysis. *Quarterly Journal of Economics*, 116(2): 705 –746.

Caselli, F. (1999). Technological revolutions, *American Economic Review*, 89(1): 78-102.

Cohen, S. and Lipstein, B. (1954). Response Errors in the Collection of Wage Statistics by Mail Questionnaire, *Journal of the American Statistical Association*, 49(266): 240-250.

De Castro, F., Salto, M. and Steiner, H. (2013). The gap between public and private wages: new evidence for the EU, European Economy. Economic Papers 508.

Dustmann, C. and Van Soest, A. (1997). Wage Structures in the Private and Public Sectors in West Germany, *Fiscal Studies*, 18(3): 225-247.

EIZ (2014). Kako pobudity rast hrvatskog gospodarstva?, Zagreb: Ekonomski institut, Zagreb. http://www.eizg.hr/Download.ashx?FileID=d3b8ecab-23cb-4837-a167-96f4d680834f

Franičević, V. and Matković, T. (2013). Croatia: public sector adaptation and its impact on working conditions, in Vaughan-Whitehead, D. (ed.) Public sector shock: the impact of policy retrenchment in Europe, pp: 134-173. Chelthenham: ILO and Edward Elgar.

Goldberg, P. K. and Pavnick, N. (2007). Distributional effects of globalization in developing countries, *Journal of Economic Literature*, 45 (1): 39-82.

Gottschalk, P. and Huynh, M. (2010). Are Earnings Inequality and Mobility Overstated? The Impact of Nonclassical Measurement Error, *The Review of Economics and Statistics*, 92(2): 302-315.

Helpman, E., Itskhoki, O. and Redding, S. (2010). Inequality and unemployment in a global economy, *Econometrica*, 78 (4): 1239-1283.

Hoekman, B. and Winters, A. (2005). Trade and Employment: Stylized Facts and Research Findings, *UN/DESA Working Paper, No. 7*.

HZZ and IPSOS (2016). Vanjska evaluacija mjera aktivne politike tržišta rada 2010.-2013., Sumarno evaluacijsko izvješće. Online: http://www.hzz.hr/UserDocsImages/HZZ_i_Ipsos_Vanjska-evaluacija-mjera-aktivne-politike-trzista-rada_2010.pdf.

Jovanovic, B. (1998). Vintage capital and inequality. Review of Economic Dynamics, 1(2): 497-530.

Juhn, C., Murphy, K. and Topel, R. H. (1991). Why Has the Natural Rate of Unemployment Increased over Time? *Brookings Papers on Economic Activity*, 0(2): 75- 126.

Katz, L. and Murphy, K. (1992). Changes in Relative Wages: Supply and Demand Factors, *Quarterly Journal of Economics*, 107(1): 35-78.

Krusell, P., Ohanian, L.E., Rios-Rull, J.-V. and Violante, G. L.. (2000). Capital-skill complementarity and inequality: a macroeconomic analysis, *Econometrica* 68(5): 1029-1053.

Kunovac, M. (2014). Employment Protection Legislation in Croatia, *Financial Theory and Practice*, 38(2): 139-172.

Kunovac, M. and Pufnik A. (2015) Features of the Labour Market and Wage Setting in Croatia: Firms Survey Results, Croatian National Bank, Surveys S-19, https://www.hnb.hr/documents/20182/265578/s-019/698287a8-c55f-406d-a110-a7d1ce0cf947

Machin, S. and Van Reenen, J. (2007). Changes in wage inequality, Center for Economic Performance Special Paper No. 18.

Mellow, W. and Sider, H. (1983). Accuracy of Response in Labor Market Surveys: Evidence and Implications, *Journal of Labor Economics*, 1(4): 331-344.

Nestić, D., Rubil, I. and Tomić, I. (2015). Analiza razlika u plaćama između javnog sektora, poduzeća u državnom vlasništvu I privatnog sektora u Hrvatskoj 2000.-2012., *Privredna kretanja I ekonomska politika*, 24(1): 7-50.

Nikolić, J., Rubil, I. and Tomić, I. (forthcoming) Pre-Crisis Reforms, Austerity Measures and Public- Private Wage Gap in Two Emerging Economies, *Economic systems*.

Orsini, K. and V. Ostojić (2015). Wage Dynamics in Croatia: Leaders and Followers, European Economy Economic Brief 3. http://ec.europa.eu/economy_finance/publications/eeeb/pdf/eb003_en.pdf

Pollert, A. (2005). Gender, Transformation and Employment in Central Eastern Europe, *European Journal of Industrial Relations*, 11(2): 213-230.

Rubil, I.(2013). The Great Recession and the Public-Private Wage Gap: Distributional Decomposition Evidence from Croatia 2008-2011. Munich Personal RePEc Archive (MPRA) Paper, No. 46798. Available: http://mpra.ub.uni-muenchen.de/46798/ (accessed September 8, 2016).

Sattinger, M. (1975). Comparative advantage and the distributions of earnings and abilities, *Econometrica* 43(3): 455-468.

Smith, S.P. (1976). Pay di¤erentials between federal government and private sectors workers, *Industrial and Labour Relations Review*, 29(2): 179-197.

Stojčić, N., Bečić, M. and Vojinić, P. (2012). The Competitiveness of Exports from Manufacturing Industries in Croatia and Slovenia to the EU-15 Market: A Dynamic Panel Analysis, *Privredna kretanja i ekonomska politika*, 14(1): 69-105.

Thoenig, M. and Verdier, T. (2003). A theory of defensive skill-biased innovation and globalization, *American Economic Review*, 93 (3): 709-728.

Tinbergen, J. (1974). Substitution of Graduate by Other Labor, *Kyklos*, 27(2): 217-226.

Tomić, I. (2014). Structural unemployment in Croatia – how important is the occupational mismatch?, *Ekonomska istraživanja*, 27(1): 346-365.

Valdec, M. and Zrnc, J. (2015). The direction of causality between exports and firm performance: microeconomic evidence from Croatia using the matching approach, , *Financial Theory and Practice*, 39(1): 1-30.

Verhoogen, E. (2008). Trade, Quality Upgrading and Wage Inequality in the Mexican Manufacturing Sector, *Quarterly Journal of Economics*, 123(2): 489-530.

Violante, G. L. (2002). Technological acceleration, skill transferability, and the rise in residual inequality, *Quarterly Journal of Economics*, 117(1): 297-338.

Vukšić, G., (2014). Employment and employment conditions in the current economic crisis in Croatian, *Financial Theory and Practice*, 38 (2): 103-138.

Yeaple, S. R. (2005). A simple model of firm heterogeneity, international trade and wages, *Journal of International Economics*, 65 (1): 1-20.

Welch, F. (1973). Black-White Differences in Returns to Schooling, *American Economic Review* 63(5): 893-907.

Zweimuller, J. (1992). Survey non-response and biases in wage regressions, Economics Letters, 39(1): 105-109.

Appendix

Table A1: Variables definition

Variable	Definition
Hourly wage	= wage in the main job/ hours worked in the main job (LFS)
Age_year	= 1, if a person's age is within the interval at the time of the interview (LFS)
Single	=1, if a person is neither married nor divorced
Married	=1, if a person is legally married or cohabitating
Divorced	=1, if a person is either divorced, widowed or separated
Urban	=1, if a person lives in urban or semi-urban settlement (as defined by LFS)
Male	=1, if a person is male
Skill_1	=1, if occupation is managerial, professional or technician (ISCO 2, 3 or 4)
Skill_2	=1, if occupation is (ISCO 5,6 or 9)
Skill_3	=1, if occupation is (ISCO 1, 7, 8 or 10)
Edu_1	=1, for primary level of education (see Notes below the table)
Edu_2	=1, for secondary level of education (see Notes below the table)
Edu_3	=1, for tertiary level of education (see Notes below the table)
NACE_act	=1, if person is employed in specific NACE activity
Public	=1, if employed person works in public-owned enterprise

Note: The education categories have changed in year 2010. The period up to that year has following classification based on 11 categories. As primary education, categories "No school", "1–3 basic school grades", "4–7 basic school grades" and "Basic school" are considered. As secondary education, categories "School for skilled and highly-skilled workers", "Vocational secondary schools" and "Grammar school" are included. As tertiary education, categories from "Non-university college" to "Doctorate" are considered. From year 2010 (including), primary includes three categories up to basic school. Secondary includes all the varieties of high school education in Croatia, including short, specialised after-high school courses that enable students for certain activities (like craftsmanship certificates). Tertiary starts with short university programmes (2 or 2.5 years) and up to a doctorate.

Table A2: Public sector wage skill premium skill 1/skill 2 gap decomposition, overall sample

	2008	2009	2010	2011	2012	2013	2014
Gap	-37.31***	-42.37***	-41.13***	-41.08***	-43.04***	-38.92***	-40.20***
	(1.73)	(1.88)	(1.84)	(2.05)	(2.14)	(2.08)	(2.15)
Endowments	-21.77***	-18.99***	-8.34***	-19.53***	-20.33***	-15.18***	-12.61***
	(3.48)	(4.19)	(2.52)	(3.94)	(3.44)	(3.50)	(3.14)
Age 15-24	-0.56*	0.01	0.09	-0.35	-0.60	-1.00	-0.46
	(0.31)	(0.17)	(0.23)	(0.37)	(0.40)	(0.63)	(0.34)
Age 25-34	0.75**	0.73*	1.23**	0.42	0.45	0.22	0.32
	(0.36)	(0.38)	(0.59)	(0.38)	(0.37)	(0.33)	(0.54)
Age 45-54	0.21	0.00	0.13	-0.12	-0.21	-0.22	0.09
	(0.21)	(0.14)	(0.30)	(0.21)	(0.26)	(0.28)	(0.20)
Age 55+	-1.10*	-0.31	-0.77	0.09	0.21	-0.03	0.03
	(0.59)	(0.55)	(0.68)	(0.47)	(0.29)	(0.10)	(0.10)
Urban	-0.75	-1.29**	-1.56*	-1.09*	-0.52	-0.76*	-0.53
	(0.49)	(0.62)	(0.85)	(0.59)	(0.41)	(0.43)	(0.53)
Single	0.15	0.04	0.53*	0.37	0.23	0.35	0.43
	(0.25)	(0.26)	(0.31)	(0.26)	(0.23)	(0.32)	(0.29)
Divorced	0.05	0.17	0.06	0.01	0.09	-0.04	-0.02
	(0.10)	(0.16)	(0.10)	(0.05)	(0.14)	(0.18)	(0.06)
Male	2.01***	2.04***	1.03**	2.20***	1.63***	1.88***	2.36***
	(0.54)	(0.58)	(0.46)	(0.63)	(0.59)	(0.60)	(0.66)
Edu_1	-3.31	-5.23**		-3.57	-2.98	-3.80*	1.35
	(2.37)	(2.52)		(2.99)	(1.94)	(2.28)	(1.91)
Edu_3	-22,86***	-26.38***	-20.51**	-20.46***	-20.76***	-15.24***	-19.29***
	(2.05)	(2.38)	(1.60)	(1.64)	(1.71)	(1.60)	(2.22)
Tenure	-0.17	0.04	0.25	0.74	0.74	0.97	-0.03
	(0.24)	(0.21)	(0.58)	(0.56)	(0.64)	(0.64)	(0.61)
NaceA	0.00	0.04	0.01	-0.05	0.05	-0.01	0.06
	(0.01)	(0.08)	(0.08)	(0.10)	(0.13)	(0.09)	(0.12)
NaceB	-0.24	-0.20	0.08	0.25	0.18	-0.01	-0.12
	(0.16)	(0.18)	(0.13)	(0.25)	(0.23)	(0.04)	(0.13)
NaceD	0.01	-0.01	0.26	-0.01	0.01	-0.13	-0.29
	(0.03)	(0.03)	(0.24)	(0.16)	(0.07)	(0.21)	(0.24)
NaceE	-0.03	-0.05	0.03	0.15	0.08	0.19	-0.49
	(0.11)	(0.19)	(0.07)	(0.27)	(0.45)	(0.39)	(0.36)
NaceF	-0.08	-0.02	0.06	-0.10	-0.10	0.08	0.16
	(0.22)	(0.18)	(0.19)	(0.43)	(0.33)	(0.29)	(0.19)
NaceG	0.07	-0.22	0.01	0.16	0.39	0.55	-0.24
	(0.23)	(0.40)	(0.23)	(0.47)	(0.49)	(0.37)	(0.43)
NaceH	0.01	6.25***	8.65***	2.30	-1.88	1.24	1.82
	(1.60)	(1.81)	(1.84)	(1.52)	(1.57)	(1.74)	(1.78)
NaceI	-0.57	0.73	-0.03	-1.00	0.34	2.17*	0.21
	(0.81)	(1.86)	(0.65)	(1.21)	(1.73)	(1.18)	(0.58)
NaceJ	-0.18	-0.03	-0.04	-0.07	0.05	0.07	-0.09
	(0.22)	(0.11)	(0.08)	(0.10)	(0.11)	(0.12)	(0.11)
NaceK	0.47	0.23	0.01	-0.12	-0.05	-0.46	0.56
	(0.29)	(0.23)	(0.14)	(0.14)	(0.13)	(0.25)	(0.37)
NaceL		0.01	-0.01		-0.02	0.02	
		(0.04)	(0.05)		(0.12)	(0.06)	
NaceM	-0.03	-0.01	-0.21	-0.25	0.11	0.16	0.14
	(0.15)	(0.14)	(0.17)	(0.20)	(0.14)	(0.17)	(0.15)
NaceN	-0.11	-0.21	-0.08	-0.07	-0.25	-0.15	-0.15
	(0.16)	(0.26)	(0.48)	(0.29)	(0.27)	(0.19)	(0.22)
NaceO	0.90	0.72	1.61	0.08	-0.58	0.09	0.31

	2008	2009	2010	2011	2012	2013	2014
	(0.73)	(0.88)	(1.05)	(0.50)	(0.46)	(0.58)	(1.17)
NaceP	4.65***	5.20***	2.56	1.94	3.52*	-0.44	1.94
	(1.74)	(1.92)	(2.00)	(1.94)	(1.88)	(1.81)	(2.47)
NaceQ	-1.02	-1.23	-1.73*	-0.97	-0.49	-1.31*	-0.70
	(0.77)	(0.84)	(0.90)	(0.61)	(0.64)	(0.69)	(0.80)
NaceR	0.05	-0.00	-0.01	0.02	0.05	-0.07	-0.00
	(0.10)	(0.14)	(0.19)	(0.07)	(0.11)	(0.12)	(0.06)
NaceS	-0.10	-0.01	-0.01	-0.02	-0.02	0.59	0.05
	(0.14)	(0.11)	(0.05)	(0.10)	(0.23)	(0.40)	(0.10)
NaceT							
NaceU							
Coefficients	-34.39***	-41.86***	-33.70***	-46.26***	-36.81***	-42.58***	-46.81***
	(3.27)	(3.65)	(4.94)	(5.39)	(4.42)	(3.62)	(3.60)
Constant	-44.35***	-38.57***	-30.12***	-25.78**	-24.83**	-17.91	-52,12***
	(10.18)	(10.84)	(11.20)	(11.79)	(12.59)	(12.79)	(13.66)
Age 15-24	0.59**	0.10	1.14***	0.96**	0.79**	1.24***	0.21
	(0.28)	(0.27)	(0.39)	(0.38)	(0.35)	(0.41)	(0.31)
Age 25-34	3.21***	2.57**	1.79	1.20	2.33**	1.76	4.68***
	(1.17)	(1.20)	(1.29)	(1.19)	(1.15)	(1.28)	(1.31)
Age 45-54	-4.12**	-1.62	-2.27	-1.22	-2.10	-4.51*	-1.82
	(1.63)	(1.74)	(1.94)	(2.17)	(2.36)	(2.33)	(1.90)
Age 55+	-5.08***	-3.82*	-3.35	-2.58	-2.40	-7.22***	-4.29**
	(1.70)	(1.98)	(2.13)	(2.24)	(2.33)	(2.22)	(2.02)
Urban	1.73	-1.88	-2.33	-1.30	-1.78	-3.28	-0.31
	(2.52)	(2.76)	(2.72)	(2.68)	(2.89)	(3.00)	(2.73)
Single	1.82*	1.35	1.76	0.25	0.29	1.41	0.59
	(0.95)	(0.98)	(1.08)	(1.12)	(1.18)	(1.26)	(1.22)
Divorced	0.75	0.89	0.22	-0.74	-0.89	-0.03	-0.33
	(0.48)	(0.58)	(0.52)	(0.54)	(0.58)	(0.72)	(0.51)
Male	-0.41	-1.52	1.88	0.13	-1.81	-0.35	1.45
	(1.46)	(1.54)	(1.42)	(1.59)	(1.82)	(1.65)	(1.56)
Edu_1	0.04	0.11		0.04	0.11	0.09	-0.10
	(0.06)	(0.10)		(0.08)	(0.13)	(0.11)	(0.10)
Edu_3	-17.13***	-23.62***	-8.27*	-22.05***	-10.17**	-15.55***	-20.66***
	(3.56)	(3.90)	(4.73)	(5.24)	(4.21)	(3.48)	(3.93)
Tenure	17.71**	13.54*	4.94	-0.34	0.08	8.23	14.55*
	(7.32)	(7.72)	(7.96)	(8.55)	(8.88)	(8.50)	(8.14)
NaceA	0.54	0.48	0.17	0.70*	0.40	0.35	0.95*
	(0.25)	(0.33)	(0.23)	(0.37)	(0.44)	(0.37)	(0.54)
NaceB	0.05	-0.24	0.07	0.03	-0.07	0.25	-0.01
	(0.25)	(0.25)	(0.20)	(0.16)	(0.12)	(0.20)	(0.22)
NaceD	0.50*	0.57*	0.06	0.21	0.52	-0.40	0.72
	(0.30)	(0.34)	(0.30)	(0.43)	(0.47)	(0.39)	(0.56)
NaceE	0.34	0.22	-0.16	-0.15	-0.22	-0.14	0.98**
	(0.30)	(0.22)	(0.24)	(0.27)	(0.31)	(0.31)	(0.42)
NaceF	0.33	0.17	0.13	0.13	0.01	-0.03	0.49*
	(0.21)	(0.21)	(0.18)	(0.14)	(0.18)	(0.18)	(0.29)
NaceG	0.15	0.21	0.02	-0.03	-0.13	-0.21	0.19
	(0.17)	(0.17)	(0.17)	(0.11)	(0.14)	(0.16)	(0.17)
NaceH	0.66**	-0.50	-1.28***	0.12	0.81	0.16	0.54
	(0.31)	(0.37)	(0.48)	(0.43)	(0.49)	(0.43)	(0.52)
NaceI	0.05	-0.01	0.04	0.04	-0.02	-0.18	0.02
	(0.07)	(0.05)	(0.11)	(0.06)	(0.06)	(0.14)	(0.13)
NaceJ	-0.49*	-0.13	-0.02	0.02	0.17	0.38	-0.18
	(0.29)	(0.27)	(0.27)	(0.24)	(0.20)	(0.30)	(0.24)

	2008	2009	2010	2011	2012	2013	2014
NaceK	0.00	0.13	0.27	0.42	0.08	-0.38	0.01
	(0.14)	(0.16)	(0.19)	(0.33)	(0.32)	(0.40)	(0.17)
NaceL		0.02	0.19		-0.02	-0.06	
		(0.05)	(0.13)		(0.06)	(0.09)	
NaceM	0.35	0.26	-0.04	0.10	0.48	0.05	0.43
	(0.35)	(0.31)	(0.30)	(0.39)	(0.31)	(0.36)	(0.37)
NaceN	0.09	0.09	0.00	0.02	0.26	0.16	0.33
	(0.11)	(0.12)	(0.06)	(0.08)	(0.18)	(0.14)	(0.22)
NaceO	0.94	1.52	-0.01	1.94	3.25*	0.42	2.68
	(1.08)	(1.30)	(1.45)	(1.60)	(1.78)	(1.81)	(1.76)
NaceP	6.80**	8.26***	4.30	3.29	0.53	-2.59	4.07
	(2.75)	(2.96)	(2.88)	(3.11)	(2.99)	(3.12)	(4.13)
NaceQ	-0.03	-1.14	-3.12	-2.23	-2.85	-4.11**	-0.44
	(1.63)	(1.80)	(1.96)	(1.98)	(2.11)	(2.11)	(2.45)
NaceR	0.38	0.40	0.06	0.44	0.42	0.15	0.49
	(0.34)	(0.47)	(0.48)	(0.37)	(0.46)	(0.44)	(0.43)
NaceS	0.16	0.31	0.22	0.13	-0.03	-0.19	0.06
	(0.15)	(0.20)	(0.16)	(0.17)	(0.15)	(0.15)	(0.23)
NaceT							
NaceU							
Interactions	18.86***	18.49***	0.92	24.71***	14.10***	18.84***	19.22***
	(4.44)	(5.20)	(5.24)	(6.35)	(5.19)	(4.59)	(4.33)
Age 15-24	0.58*	0.07	-0.13	0.37	0.71	0.96	0.14
	(0.34)	(0.19)	(0.32)	(0.40)	(0.47)	(0.62)	(0.22)
Age 25-34	-0.77*	-0.67*	-0.88	-0.46	-0.42	-0.15	-0.32
	(0.40)	(0.41)	(0.65)	(0.47)	(0.37)	(0.24)	(0.56)
Age 45-54	-0.53	-0.15	-0.39	-0.13	-0.23	-0.63	-0.24
	(0.36)	(0.20)	(0.36)	(0.24)	(0.30)	(0.46)	(0.29)
Age 55+	2.04**	1.24*	1.15	0.64	0.30	0.19	-0.16
	(0.79)	(0.72)	(0.77)	(0.60)	(0.36)	(0.68)	(0.46)
Urban	-0.40	0.48	0.82	0.34	0.29	0.53	0.08
	(0.58)	(0.70)	(0.95)	(0.69)	(0.47)	(0.49)	(0.69)
Single	-0.10	-0.02	-0.49	-0.05	-0.04	-0.17	-0.11
	(0.18)	(1.43)	(0.33)	(0.23)	(0.15)	(0.21)	(0.23)
Divorced	-0.06	-0.16	-0.02	-0.03	-0.12	0.01	-0.04
	(0.12)	(0.17)	(0.07)	(0.14)	(0.18)	(0.24)	(0.09)
Male	-0.15	-0.51	0.65	0.05	-0.39	-0.12	0.61
	(0.55)	(0.53)	(0.50)	(0.57)	(0.40)	(0.57)	(0.67)
Edu_1	1.85	3.62	-1.91***	1.81	1.74	2.10	-2.23
	(2.37)	(2.50)	(0.36)	(2.99)	(1.94)	(2.27)	(1.97)
Edu_3	15.65***	21.84***	8.15*	21.60***	9.82**	14.57***	17.40***
	(3.26)	(3.63)	(4.66)	(5.14)	(4.07)	(3.27)	(3.34)
Tenure	0.63	0.42	0.39	-0.02	0.00	0.55	1.40
	(0.49)	(0.43)	(0.64)	(0.38)	(0.33)	(0.62)	(0.90)
NaceA	-0.01	-0.12	0.01	0.17	-0.06	-0.11	-0.29
	(0.15)	(0.17)	(0.07)	(0.27)	(0.13)	(0.16)	(0.30)
NaceB	-0.03	0.11	0.02	0.04	-0.12	-0.02	0.00
	(0.16)	(0.14)	(0.07)	(0.24)	(0.23)	(0.15)	(0.15)
NaceD	0.05	-0.06	0.02	-0.00	-0.09	0.08	-0.38
	(0.15)	(0.17)	(0.12)	(0.06)	(0.16)	(0.14)	(0.33)
NaceE	0.15	0.22	-0.03	-0.17	-0.37	-0.20	0.97*
	(0.17)	(0.24)	(0.08)	(0.31)	(0.52)	(0.45)	(0.55)
NaceF	0.43	0.17	0.15	0.46	0.02	-0.06	0.36
	(0.30)	(0.22)	(0.21)	(0.49)	(0.36)	(0.33)	(0.32)
NaceG	0.24	0.58	0.03	-0.15	-0.49	-0.39	0.62

	2008	2009	2010	2011	2012	2013	2014
	(0.27)	(0.46)	(0.24)	(0.50)	(0.53)	(0.32)	(0.52)
NaceH	3.96**	-2.64	-5.12***	0.45	2.98*	0.76	2.21
	(1.76)	(1.89)	(1.87)	(1.69)	(1.79)	(2.00)	(2.14)
NaceI	0.65	-0.46	0.22	0.97	-0.68	-2.31*	0.09
	(0.84)	(1.87)	(0.67)	(1.23)	(1.76)	(1.23)	(0.64)
NaceJ	0.12	0.01	0.00	-0.01	-0.05	-0.26	0.10
	(0.16)	(0.05)	(0.08)	(0.10)	(0.11)	(0.24)	(0.16)
NaceK	0.00	0.18	0.24	-0.15	-0.01	0.28	0.01
	(0.26)	(0.24)	(0.22)	(0.18)	(0.06)	(0.30)	(0.33)
NaceL	0.02	0.01	0.03	0.14	-0.04	-0.04	
	(0.04)	(0.05)	(0.15)	(0.12)	(0.13)	(0.10)	
NaceM	-0.25	-0.18	0.03	-0.07	-0.18	-0.04	-0.25
	(0.25)	(0.23)	(0.24)	(0.26)	(0.21)	(0.28)	(0.25)
NaceN	0.15	0.21	0.03	0.10	0.24	0.16	0.16
	(0.19)	(0.28)	(0.49)	(0.31)	(0.27)	(0.20)	(0.24)
NaceO	0.73	1.19	-0.01	0.73	0.81	0.17	2.26
	(0.84)	(1.03)	(1.15)	(0.65)	(0.59)	(0.73)	(1.52)
NaceP	-5.96**	-7.38**	-3.70	-2.71	-0.43	2.00	-3.30
	(2.42)	(2.66)	(2.48)	(2.56)	(2.43)	(2.41)	(3.36)
NaceQ	0.02	0.64	1.60	0.74	1.04	1.49*	0.18
	(0.94)	(1.01)	(1.03)	(0.70)	(0.81)	(0.85)	(1.02)
NaceR	-0.15	-0.15	-0.03	-0.04	-0.06	-0.04	-0.09
	(0.16)	(0.20)	(0.23)	(0.15)	(0.14)	(0.12)	(0.17)
NaceS	0.07	0.01	0.07	0.08	-0.06	-0.58	0.03
	(0.11)	(0.16)	(0.14)	(0.14)	(0.25)	(0.42)	(0.12)
NaceT							
NaceU	-0.05						
	(0.06)						
N (observ.)	1931	1631	1810	1340	1334	1430	1392

Source: Author's estimate based on the Labour Force Survey.

Table A3: Private sector wage skill premium skill 1/skill 2 gap decomposition, overall sample

	2008	2009	2010	2011	2012	2013	2014
Gap	-51.28***	-50.03***	-56.54***	-57.06***	-59.45***	-57.97***	-52.48***
	(2.15)	(2.22)	(2.31)	(3.00)	(4.24)	(3.77)	(3.34)
Endowments	-33.36***	-28.08***	-31.10***	-29.32***	-21.39***	-18.32***	-34.99***
	(3.36)	(3.24)	(3.36)	(4.16)	(5.66)	(5.59)	(4.66)
Age 15-24	-2.37**	-1.32	-2.95**	-1.28	-2.18	-0.66	-1.12
	(1.15)	(1.35)	(1.38)	(0.95)	(1.46)	(1.85)	(1.01)
Age 25-34	-0.67*	-0.45	0.03	0.06	-0.21	0.24	-0.05
	(0.38)	(0.33)	(0.26)	(0.23)	(0.35)	(0.47)	(0.32)
Age 45-54	0.98*	0.24	0.48	0.32	-0.01	-0.42	-0.13
	(0.53)	(0.51)	(0.36)	(0.38)	(0.10)	(0.47)	(0.32)
Age 55+	2.79***	0.59	0.00	0.43	-0.72	0.91	0.08
	(0.91)	(0.75)	(0.88)	(0.99)	(1.77)	(1.00)	(1.02)
Urban	-2.43***	-2.21**	-1.59*	-1.41	-0.43	-0.96	-1.76
	(0.74)	(0.88)	(0.93)	(0.99)	(1.24)	(1.05)	(1.40)
Single	0.03	-0.02	-0.43	-0.43	-0.56	-0.27	-0.44
	(0.47)	(0.46)	(0.51)	(0.41)	(0.68)	(0.36)	(0.41)
Divorced	-0.06	0.03	0.02	-0.09	-0.04	0.01	-0.05
	(0.19)	(0.07)	(0.08)	(0.22)	(0.23)	(0.14)	(0.41)
Male	-2.61***	-2.66***	-4.18***	-3.88***	-2.34*	-0.91	-4.03***
	(0.78)	(0.82)	(0.99)	(1.15)	(1.33)	(1.07)	(1.22)
Edu_1	-6.10**	-3.25	-2.00	-3.57*	-4.36	-3.90	-0.69
	(2.43)	(2.08)	(1.93)	(2.15)	(3.05)	(3.60)	(2.86)
Edu_3	-15.84***	-14.86***	-14.76***	-16.13***	-16.72***	-16.56***	-20.90***
	(1.77)	(1.85)	(1.59)	(2.09)	(2.97)	(2.52)	(2.73)
Tenure	-3.93**	-1.43	-1.75	-2.92**	0.18	-1.60	-1.17
	(1.74)	(1.65)	(1.33)	(1.46)	(2.25)	(1.15)	(1.06)
NaceA	0.08	-0.01	-0.00	0.12	0.13	0.08	0.00
	(0.10)	(0.07)	(0.01)	(0.17)	(0.35)	(0.26)	(0.09)
NaceB	-0.03	-0.05	-0.01	-0.05	0.01	-0.12	-0.05
	(0.07)	(0.09)	(0.19)	(0.26)	(0.11)	(0.59)	(0.13)
NaceD				0.04	0.06	-0.00	-0.04
				(0.09)	(0.15)	(0.06)	(0.10)
NaceE	0.02	-0.04		0.03	0.02	0.02	-0.01
	(0.07)	(0.15)		(0.09)	(0.26)	(0.20)	(0.05)
NaceF	0.04	0.47	0.10	0.15	0.40	-0.31	0.26
	(0.26)	(0.34)	(0.26)	(0.38)	(0.63)	(0.53)	(0.50)
NaceG	-0.43	-0.82	-0.23	0.76	0.78	0.71	-0.36
	(0.36)	(0.61)	(0.54)	(1.41)	(2.22)	(1.38)	(1.40)
NaceH	0.54	0.71*	1.47***	3.41***	7.17***	5.53***	1.29
	(0.36)	(0.41)	(0.55)	(1.07)	(2.00)	(1.96)	(0.81)
NaceI	-0.48	-1.30*	-3.16***	-1.00	-0.48	-0.07	-1.18
	(0.68)	(0.69)	(1.11)	(0.77)	(0.94)	(1.36)	(1.15)
NaceJ	-0.82*	-0.67	-0.96**	-1.43*	-2.13*	-1.79	-1.23*
	(0.46)	(0.48)	(0.49)	(0.80)	(1.24)	(1.11)	(0.73)
NaceK	-0.50*	-0.67**	-0.40	-0.82*	-0.57	-0.19	-1.65**
	(0.26)	(0.32)	(0.26)	(0.44)	(0.48)	(0.70)	(0.78)
NaceL	0.10	0.32	0.32	0.22	0.10	0.01	-0.24
	(0.11)	(0.20)	(0.22)	(0.22)	(0.19)	(0.06)	(0.31)
NaceM	-0.49	0.19	0.16	-0.35	0.52	1.28	-0.20
	(0.38)	(0.49)	(0.70)	(0.88)	(1.18)	(0.96)	(0.93)
NaceN	-0.06	0.01	-0.18	-0.18	-0.18	0.08	-0.50
	(0.09)	(0.07)	(0.18)	(0.51)	(1.05)	(0.74)	(0.77)
NaceO		0.03					

	2008	2009	2010	2011	2012	2013	2014
		(0.07)					
NaceP	0.47*	-0.22	-0.14	-0.25	0.15	0.12	0.51
	(0.29)	(0.28)	(0.28)	(0.32)	(0.39)	(0.29)	(0.38)
NaceQ	-0.57	-0.22	-0.27	-1.02	-0.21	0.52	-1.00
	(0.45)	(0.51)	(0.60)	(0.73)	(1.02)	(0.73)	(0.68)
NaceR	-0.13	0.00	-0.06	0.00	-0.01	-0.07	-0.01
	(0.13)	(0.04)	(0.10)	(0.07)	(0.20)	(0.16)	(0.16)
NaceS	-0.92**	-0.46	-0.63	-0.06	0.27	0.01	-0.35
	(0.39)	(0.29)	(0.40)	(1.16)	(0.57)	(0.43)	(0.47)
NaceT							
NaceU							
Coefficients	-37.12***	-35.78***	-39.78***	-41.77***	-46.99***	-50.76***	-39.48***
	(2.64)	(2.68)	(2.79)	(3.39)	(4.73)	(4.11)	(4.52)
Constant	-25.94**	-33.55***	-39.93***	-19.80	-50.27**	-36.89**	-26.02*
	(10.33)	(10.93)	(10.59)	(13.19)	(20.09)	(17.79)	(15.50)
Age 15-24	1.35*	0.58	1.40**	1.15	1.55	0.15	0.37
	(0.69)	(0.62)	(0.63)	(0.84)	(1.10)	(0.58)	(0.67)
Age 25-34	3.09*	3.05*	3.88*	-0.57	2.40	1.47	4.15
	(1.58)	(1.72)	(2.00)	(2.33)	(3.50)	(3.40)	(2.67)
Age 45-54	4.40*	-0.28	2.14	2.82	-0.20	4.61	0.34
	(2.28)	(2.35)	(2.32)	(3.20)	(4.43)	(3.44)	(2.24)
Age 55+	4.13***	-0.21	-0.60	0.46	-2.23	1.90	2.34
	(1.49)	(1.48)	(1.63)	(2.33)	(3.95)	(3.14)	(2.73)
Urban	-3.89	-2.88	-0.16	-1.21	1.43	-1.69	0.91
	(2.82)	(3.02)	(3.13)	(4.06)	(5.89)	(5.18)	(4.72)
Single	-0.64	-0.34	0.93	2.16	2.43	5.30*	2.83
	(1.40)	(1.44)	(1.59)	(2.23)	(3.12)	(2.80)	(2.02)
Divorced	-0.52	0.04	-0.14	0.19	1.42	0.98	0.68
	(0.56)	(0.52)	(0.50)	(0.61)	(1.05)	(0.92)	(0.63)
Male	-2.99	-2.84	-6.78**	-5.75	-2.29	1.02	-6.61
	(2.75)	(2.83)	(2.91)	(3.75)	(5.27)	(4.61)	(4.18)
Edu_1	0.38*	0.23	0.12	0.38	0.49	0.29	0.07
	(0.22)	(0.25)	(0.24)	(0.32)	(0.49)	(0.36)	(0.23)
Edu_3	-12.08***	-11.14***	-7.42***	-11.95***	-16.93***	-16.46***	-18.61***
	(2.43)	(2.50)	(2.17)	(2.65)	(3.70)	(3.11)	(4.38)
Tenure	-10.71	3.04	-0.26	-13.36	10.12	-8.72	-4.65
	(8.51)	(8.58)	(8.02)	(10.80)	(17.11)	(13.96)	(12.10)
NaceA	0.17	-0.06	-0.01	0.48	0.54	0.15	-0.04
	(0.31)	(0.30)	(0.28)	(0.51)	(0.80)	(0.67)	(0.44)
NaceB	0.21	-0.12	-0.27	-0.32	0.09	0.08	-0.04
	(0.16)	(0.20)	(0.21)	(0.28)	(0.29)	(0.18)	(0.31)
NaceD				0.08	0.06	-0.01	-0.04
				(0.13)	(0.15)	(0.12)	(0.10)
NaceE	-0.02	0.02		0.09	0.06	0.21	-0.00
	(0.11)	(0.07)		(0.18)	(0.36)	(0.35)	(0.26)
NaceF	1.32*	2.33***	1.55**	1.67*	2.29*	0.50	1.10
	(0.73)	(0.81)	(0.67)	(0.88)	(1.25)	(1.13)	(1.08)
NaceG	1.81	1.80	0.80	-0.30	-0.22	-0.90	1.91
	(1.43)	(1.33)	(1.26)	(1.27)	(1.86)	(1.89)	(1.60)
NaceH	-1.02**	-1.09**	-1.61***	-2.77***	-5.91***	-7.57***	-3.23***
	(0.47)	(0.49)	(0.50)	(0.76)	(1.40)	(1.49)	(0.93)
NaceI	0.61	1.36**	1.78***	1.45*	1.36	0.56	1.78**
	(0.50)	(0.59)	(0.57)	(0.83)	(1.17)	(0.92)	(0.83)
NaceJ	1.32**	1.30*	0.23	0.12	-1.03	-1.04	-0.00
	(0.67)	(0.72)	(0.67)	(1.05)	(1.63)	(1.43)	(1.36)

	2008	2009	2010	2011	2012	2013	2014
NaceK	-0.03	0.01	0.49	0.33	0.79	2.35**	1.30
	(0.46)	(0.51)	(0.51)	(0.69)	(0.97)	(1.15)	(1.37)
NaceL	0.16	0.45	0.36	0.39	0.25	0.02	0.37
	(0.16)	(0.30)	(0.30)	(0.31)	(0.30)	(0.12)	(0.69)
NaceM	0.24	1.64**	1.89*	1.63	2.54	2.10	1.17
	(0.70)	(0.81)	(0.10)	(1.28)	(1.69)	(1.36)	(1.70)
NaceN	0.39	0.06	0.38	0.14	0.10	-0.07	0.21
	(0.30)	(0.31)	(0.33)	(0.33)	(0.41)	(0.39)	(0.34)
NaceO		0.03					
		(0.07)					
NaceP	0.81	0.07	0.11	0.05	0.34	0.20	0.95
	(0.56)	(0.48)	(0.40)	(0.44)	(0.60)	(0.43)	(0.70)
NaceQ	-0.01	0.04	0.68	0.51	4.33***	0.98	-1.47
	(0.70)	(0.78)	(0.89)	(1.02)	(1.46)	(0.99)	(1.24)
NaceR	-0.33	0.21	0.36	0.14	-0.33	-0.19	0.46
	(0.30)	(0.28)	(0.23)	(0.25)	(0.45)	(0.40)	(0.34)
NaceS	0.66**	0.48*	0.33	0.02	-0.17	-0.10	0.30
	(0.28)	(0.27)	(0.22)	(0.17)	(0.42)	(0.41)	(0.37)
NaceT							
NaceU							0.01
							(0.10)
Interactions	19.20***	13.83***	14.34***	14.03***	8.93	11.10*	21.98***
	(3.68)	(3.57)	(3.69)	(4.42)	(6.02)	(5.81)	(5.56)
Age 15-24	2.32**	1.30	3.24**	1.30	2.08	0.49	0.61
	(1.18)	(1.39)	(1.42)	(0.97)	(1.48)	(1.87)	(1.08)
Age 25-34	0.65*	0.41	-0.03	-0.06	0.20	-0.20	0.05
	(0.39)	(0.32)	(0.25)	(0.24)	(0.35)	(0.47)	(0.31)
Age 45-54	-0.97*	0.06	-0.29	-0.29	0.00	0.35	0.05
	(0.55)	(0.53)	(0.34)	(0.38)	(0.05)	(0.42)	(0.35)
Age 55+	-2.50***	0.11	0.34	-0.20	1.02	-0.60	-1.01
	(0.94)	(0.79)	(0.92)	(1.01)	(1.82)	(1.00)	(1.19)
Urban	1.02	0.86	0.05	0.30	-0.31	0.35	-0.30
	(0.74)	(0.90)	(0.95)	(1.00)	(1.27)	(1.07)	(1.57)
Single	-0.23	-0.11	0.30	0.37	0.51	0.30	0.61
	(0.50)	(0.49)	(0.52)	(0.41)	(0.68)	(0.41)	(0.49)
Divorced	0.19	-0.00	-0.02	0.07	0.04	-0.01	0.49
	(0.21)	(0.06)	(0.08)	(0.22)	(0.25)	(0.16)	(0.47)
Male	0.85	0.82	2.21**	1.67	0.57	-0.24	2.06
	(0.79)	(0.82)	(0.97)	(1.11)	(1.32)	(1.09)	(1.33)
Edu_1	4.91**	1.96	0.99	2.79	3.22	3.10	0.95
	(2.43)	(2.08)	(1.93)	(2.15)	(3.05)	(3.60)	(2.90)
Edu_3	11.07***	10.20***	7.10***	11.23***	15.64***	15.33***	15.98***
	(2.23)	(2.30)	(2.08)	(2.50)	(3.44)	(2.92)	(3.79)
Tenure	2.22***	-0.61	0.04	1.64	-1.36	0.61	0.43
	(1.78)	(1.71)	(1.35)	(1.38)	(2.31)	(1.01)	(1.13)
NaceA	-0.04	0.02	0.00	-0.13	-0.25	-0.06	-0.01
	(0.09)	(0.08)	(0.01)	(0.18)	(0.38)	(0.27)	(0.10)
NaceB	0.08	0.03	0.01	0.03	0.04	0.28	0.01
	(0.14)	(0.07)	(0.12)	(0.16)	(0.13)	(0.60)	(0.06)
NaceD	0.04	0.00	0.01	-0.04	-0.06	0.01	0.04
	(0.03)	(0.02)	(0.01)	(0.11)	(0.15)	(0.06)	(0.10)
NaceE	-0.01	0.05	0.03	-0.04	-0.05	-0.13	0.00
	(0.07)	(0.16)	(0.04)	(0.09)	(0.29)	(0.23)	(0.02)
NaceF	-0.52	-1.03**	-0.65*	-0.78*	-1.22*	-0.24	-0.65
	(0.32)	(0.43)	(0.34)	(0.47)	(0.73)	(0.55)	(0.65)

	2008	2009	2010	2011	2012	2013	2014
NaceG	0.46	0.85	0.35	-0.34	-0.26	-0.67	1.86
	(0.38)	(0.64)	(0.56)	(1.44)	(2.26)	(1.40)	(1.57)
NaceH	-0.28	-0.39	-1.03**	-2.87***	-6.48***	-5.08***	-1.04
	(0.22)	(0.27)	(0.43)	(0.95)	(1.84)	(1.81)	(0.68)
NaceI	0.88	1.64**	3.72***	1.38*	1.12	0.84	2.77**
	(0.71)	(0.73)	(1.14)	(0.80)	(0.99)	(1.38)	(1.29)
NaceJ	-1.06*	-1.04*	-0.18	-0.10	0.96	0.96	0.00
	(0.55)	(0.58)	(0.54)	(0.92)	(1.52)	(1.33)	(1.15)
NaceK	0.01	0.00	-0.23	-0.17	-0.37	-1.58*	-1.01
	(0.19)	(0.27)	(0.25)	(0.36)	(0.47)	(0.81)	(1.08)
NaceL	-0.12	-0.40	-0.31	-0.30	-0.17	-0.01	-0.34
	(0.13)	(0.27)	(0.27)	(0.27)	(0.24)	(0.07)	(0.63)
NaceM	-0.14	-1.14**	-1.53*	-1.24	-1.91	-1.59	-0.93
	(0.41)	(0.58)	(0.82)	(0.98)	(1.29)	(1.04)	(1.36)
NaceN	0.09	0.02	0.18	0.21	0.27	-0.13	0.51
	(0.12)	(0.08)	(0.19)	(0.52)	(1.06)	(0.75)	(0.81)
NaceO	0.11	-0.03	0.03				
	(0.11)	(0.07)	(0.03)				
NaceP	-0.78	-0.07	-0.10	-0.04	-0.24	-0.15	-0.72
	(0.54)	(0.45)	(0.36)	(0.37)	(0.43)	(0.32)	(0.56)
NaceQ	0.01	-0.04	-0.64	-0.47	-3.87***	-0.80	1.15
	(0.63)	(0.71)	(0.84)	(0.95)	(1.34)	(0.81)	(0.98)
NaceR	0.10	-0.03	0.13	0.04	0.01	0.04	0.01
	(0.12)	(0.07)	(0.17)	(0.10)	(0.13)	(0.10)	(0.23)
NaceS	0.91**	0.46	0.62	0.14	-0.23	-0.11	0.41
	(0.39)	(0.29)	(0.40)	(1.16)	(0.58)	(0.44)	(0.51)
NaceT	-0.06	-0.07	0.01	-0.04	0.03	0.03	0.01
	(0.05)	(0.05)	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)
NaceU	-0.00						-0.01
	(0.01)						(0.10)
N (observ.)	3534	2982	3072	2330	2269	2319	2243

Source: Author's estimate based on the Labour Force Survey.

Table A4: Private sector wage skill premium skill 3/skill 2 gap decomposition, overall sample

	2008	2009	2010	2011	2012	2013	2014
Gap	20.03***	20.11***	21.65***	23.56***	25.19***	23.36***	19.96***
	(1.13)	(1.22)	(1.12)	(1.35)	(1.59)	(1.58)	(2.04)
Endowments	15.45***	14.65***	19.42***	19.78***	20.21***	19.13***	11.16***
	(1.66)	(1.80)	(1.63)	(2.07)	(2.18)	(2.29)	(2.20)
Age 15-24	-0.55***	-0.80***	-0.76***	-0.65**	-0.61**	-0.22	-0.14
	(0.21)	(0.28)	(0.27)	(0.26)	(0.28)	(0.16)	(0.13)
Age 25-34	-0.70***	-1.04***	-0.61*	-0.81**	-0.90**	0.12	-0.21
	(0.26)	(0.33)	(0.32)	(0.34)	(0.43)	(0.39)	(0.33)
Age 45-54	-0.01	0.06	-0.10	-0.05	-0.02	-0.13	0.16
	(0.10)	(0.14)	(0.15)	(0.08)	(0.05)	(0.18)	(0.22)
Age 55+	0.23	1.13**	0.66	0.15	-0.58	-0.56	1.63***
	(0.40)	(0.49)	(0.44)	(0.49)	(0.69)	(0.69)	(0.58)
Urban	3.24***	1.25**	1.75***	2.54***	1.53**	-0.00	2.04***
	(0.47)	(0.49)	(0.49)	(0.59)	(0.71)	(0.71)	(0.52)
Single	-0.55***	-0.67***	-0.81***	-0.17	-0.72**	-0.76**	-0.69**
	(0.20)	(0.25)	(0.29)	(0.22)	(0.32)	(0.30)	(0.29)
Divorced	-0.01	-0.03	0.04	-0.05	-0.01	0.02	-0.12
	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)	(0.04)	(0.10)
Male	-4.84***	-5.53***	-5.06***	-3.39***	-3.26***	-3.86***	-6.65***
	(0.49)	(0.57)	(0.52)	(0.50)	(0.54)	(0.63)	(0.85)
Edu_1	2.43***	1.89***	2.26***	3.50***	2.20***	1.40**	1.14*
	(0.49)	(0.52)	(0.52)	(0.61)	(0.67)	(0.62)	(0.59)
Edu_3	0.15	0.09	-0.26*	0.04	0.47	-0.04	0.16
	(0.20)	(0.18)	(0.15)	(0.25)	(0.40)	(0.22)	(0.29)
Tenure	1.23**	1.14	1.59**	1.40**	2.66***	2.68***	-0.20
	(0.61)	(0.70)	(0.64)	(0.60)	(0.91)	(0.84)	(0.73)
NaceA	14.57***	17.33***	21.27***	20.35***	20.44***	19.44***	15.05***
	(0.91)	(1.12)	(1.15)	(1.26)	(1.49)	(1.58)	(1.31)
NaceB	-0.04	0.08	0.35**	0.36*	0.24	-0.15	-0.01
	(0.05)	(0.07)	(0.16)	(0.19)	(0.19)	(0.30)	(0.09)
NaceD	0.00	0.01	0.01	-0.02	-0.01	-0.00	
	(0.02)	(0.03)	(0.02)	(0.04)	(0.04)	(0.03)	
NaceE	-0.01	-0.05	-0.01	-0.10	-0.18*	-0.04	-0.08
	(0.02)	(0.05)	(0.02)	(0.07)	(0.10)	(0.06)	(0.12)
NaceF	0.52*	0.81**	0.68**	0.46	-0.22	0.05	-0.32
	(0.29)	(0.37)	(0.31)	(0.30)	(0.32)	(0.41)	(0.42)
NaceG	-0.17	-0.31	-0.40	-1.98*	-0.37	1.06	-0.57
	(0.88)	(0.97)	(0.81)	(1.07)	(1.42)	(1.46)	(1.33)
NaceH	0.18	-0.94**	-0.65*	-0.16	-0.17	0.12	0.16
	(0.45)	(0.45)	(0.35)	(0.38)	(0.53)	(0.61)	(0.63)
NaceI	0.64	0.40	-0.27	0.32	1.05	1.07	0.18
	(0.55)	(0.85)	(0.91)	(0.92)	(0.79)	(0.90)	(0.83)
NaceJ	-0.05	-0.04	-0.07	0.07	0.02	-0.02	-0.24
	(0.15)	(0.20)	(0.12)	(0.08)	(0.06)	(0.05)	(0.16)
NaceK	-0.61	-0.10		-0.26	-0.29	-0.20	
	(0.79)	(0.50)		(0.55)	(0.39)	(0.43)	
NaceL	-0.00	-0.00				-0.00	0.00
	(0.01)	(0.01)				(0.02)	(0.02)
NaceM	-0.04	-0.06	-0.15	-1.18*	-0.39	-0.02	0.50
	(0.28)	(0.24)	(0.25)	(0.70)	(0.42)	(0.41)	(0.49)
NaceN	0.04	0.03	-0.07	-0.27	-0.26	-0.09	-0.11
	(0.11)	(0.09)	(0.11)	(0.18)	(0.16)	(0.09)	(0.13)
NaceO							

	2008	2009	2010	2011	2012	2013	2014
NaceP	-0.01	-0.02				-0.00	0.02
	(0.02)	(0.04)				(0.05)	(0.21)
NaceQ		-0.02	-0.01	-0.07	-0.08	-0.12	-0.05
		(0.11)	(0.03)	(0.08)	(0.16)	(0.26)	(0.20)
NaceR	-0.08	-0.04	0.16	0.16		-0.28	-0.12
	(0.11)	(0.25)	(0.14)	(0.15)		(0.22)	(0.19)
NaceS	-0.22	0.07	-0.09	-0.39	-0.34	-0.32	-0.43
	(0.16)	(0.21)	(0.18)	(0.37)	(0.21)	(0.29)	(0.31)
NaceT	0.10*	0.01	-0.03	-0.01	0.03	0.00	0.02
	(0.06)	(0.03)	(0.04)	(0.03)	(0.06)	(0.03)	(0.05)
NaceU				0.00	-0.02	-0.03	0.01
				(0.02)	(0.04)	(0.04)	(0.03)
Coefficients	14.72***	16.92***	20.10***	22.02***	24.46***	22.32***	17.87***
	(2.54)	(2.80)	(2.50)	(2.59)	(3.43)	(2.90)	(4.74)
Constant	-7.32*	-10.67**	-16.16***	-20.93***	-22.02***	-18.70***	-12.46
	(4.09)	(4.38)	(3.92)	(4.58)	(5.70)	(5.86)	(7.91)
Age 15-24	1.03**	1.23**	1.26***	1.84***	1.54***	0.77	0.13
	(0.48)	(0.50)	(0.41)	(0.48)	(0.52)	(0.52)	(0.73)
Age 25-34	1.21**	1.32**	0.67	1.30**	1.31*	-0.36	0.36
	(0.58)	(0.58)	(0.50)	(0.64)	(0.77)	(0.74)	(1.10)
Age 45-54	-0.07	-0.95	-2.02*	-0.88	0.46	-4.14***	0.02
	(0.93)	(1.04)	(1.02)	(1.12)	(1.62)	(1.41)	(1.82)
Age 55+	-0.35	-0.44	0.10	-0.50	-1.85	-2.54	5.69***
	(0.89)	(1.04)	(0.93)	(1.14)	(1.62)	(1.63)	(2.00)
Urban	-1.23**	0.36	0.14	-0.77	-0.17	1.26	-0.66
	(0.54)	(0.58)	(0.48)	(0.64)	(0.83)	(0.95)	(1.15)
Single	1.01	1.35*	1.19*	0.19	1.62*	2.96***	4.26***
	(0.68)	(0.74)	(0.63)	(0.77)	(0.92)	(0.94)	(1.24)
Divorced	-0.36	-0.41	-0.33	0.10	0.47	0.35	1.28***
	(0.28)	(0.30)	(0.22)	(0.24)	(0.35)	(0.39)	(0.46)
Male	-8.78***	-9.80***	-8.26***	-3.55**	-4.89**	-8.32***	-9.86***
	(1.49)	(1.61)	(1.41)	(1.64)	(1.95)	(2.07)	(3.02)
Edu_1	-0.58	-1.90*	-1.01	1.28	-1.65	-0.44	2.57
	(1.11)	(1.15)	(1.06)	(1.22)	(1.43)	(1.25)	(1.93)
Edu_3	0.06	0.10	0.16**	0.04	-0.06	0.04	0.21
	(0.08)	(0.10)	(0.07)	(0.05)	(0.07)	(0.09)	(0.26)
Tenure	13.51***	15.43***	17.31***	17.82***	21.45***	29.13***	8.31
	(3.42)	(3.68)	(3.27)	(3.87)	(5.14)	(4.93)	(6.98)
NaceA	12.53***	16.98***	22.05***	21.86***	24.74***	19.43***	15.23***
	(2.52)	(2.84)	(2.58)	(2.69)	(3.55)	(3.04)	(4.55)
NaceB	0.18**	-0.03	-0.09*	-0.08	-0.02	0.05	0.08
	(0.08)	(0.05)	(0.05)	(0.06)	(0.05)	(0.06)	(0.09)
NaceD	0.06	0.03	0.03	-0.03	-0.01	-0.02	
	(0.05)	(0.07)	(0.05)	(0.05)	(0.04)	(0.06)	
NaceE	0.00	-0.04	0.07	-0.14	-0.18	0.01	-0.19
	(0.10)	(0.12)	(0.06)	(0.13)	(0.20)	(0.11)	(0.20)
NaceF	3.26***	3.78***	4.04***	3.21***	2.24***	2.21***	0.96
	(0.72)	(0.82)	(0.68)	(0.70)	(0.76)	(0.83)	(1.49)
NaceG	0.06	0.08	0.17	0.54**	0.21	-0.18	0.64*
	(0.20)	(0.23)	(0.21)	(0.25)	(0.27)	(0.29)	(0.37)
NaceH	0.11*	0.33***	0.37***	0.26**	0.28*	0.17	0.14
	(0.06)	(0.11)	(0.11)	(0.12)	(0.15)	(0.14)	(0.14)
NaceI	-0.01	0.02	0.10	0.04	0.03	-0.01	0.44*
	(0.11)	(0.10)	(0.09)	(0.11)	(0.17)	(0.21)	(0.25)
NaceJ	0.09*	0.07	0.10*	0.04	-0.03	0.06	0.20

	2008	2009	2010	2011	2012	2013	2014
	(0.05)	(0.05)	(0.06)	(0.07)	(0.09)	(0.08)	(0.13)
NaceK	0.02	0.03		0.06	0.20*	0.14	
	(0.03)	(0.03)		(0.05)	(0.11)	(0.09)	
NaceL	-0.00	-0.00				0.00	0.03
	(0.03)	(0.03)				(0.06)	(0.05)
NaceM	0.08	0.09	0.07	0.07	0.12	0.02	-0.03
	(0.06)	(0.07)	(0.05)	(0.06)	(0.08)	(0.06)	(0.06)
NaceN	0.05	0.04	0.07	0.18	0.39*	0.26	0.18
	(0.09)	(0.11)	(0.11)	(0.13)	(0.20)	(0.25)	(0.29)
NaceO							
NaceP	0.02	0.02				0.00	0.01
	(0.02)	(0.02)				(0.05)	(0.03)
NaceQ		0.01	0.06	0.06	0.12	0.03	0.00
		(0.03)	(0.05)	(0.05)	(0.09)	(0.05)	(0.08)
NaceR	0.05	0.02	0.01	-0.01		0.11	0.05
	(0.05)	(0.03)	(0.04)	(0.05)		(0.09)	(0.06)
NaceS	0.09	-0.02	0.02	0.07	0.21	0.06	0.18
	(0.08)	(0.07)	(0.06)	(0.07)	(0.13)	(0.11)	(0.14)
NaceT	0.03	-0.08	-0.01	-0.09	-0.02	-0.00	0.08
	(0.12)	(0.10)	(0.08)	(0.08)	(0.04)	(0.06)	(0.19)
NaceU				0.00	-0.02	-0.03	0.01
				(0.02)	(0.04)	(0.04)	(0.03)
Interactions	-10.13***	-11.47***	-17.87***	-18.23***	-19.49***	-18.09***	-9.08*
	(2.83)	(3.11)	(2.78)	(3.03)	(3.76)	(3.36)	(4.83)
Age 15-24	0.52**	0.79**	0.94***	0.66**	0.56**	0.18	0.02
	(0.26)	(0.34)	(0.33)	(0.28)	(0.28)	(0.16)	(0.12)
Age 25-34	0.67**	0.89**	0.51	0.80*	0.86*	-0.22	0.18
	(0.33)	(0.40)	(0.38)	(0.41)	(0.52)	(0.46)	(0.54)
Age 45-54	0.01	0.17	0.40*	0.08	-0.01	0.17	-0.00
	(0.15)	(0.19)	(0.22)	(0.11)	(0.04)	(0.23)	(0.38)
Age 55+	0.25	0.31	-0.07	0.30	1.13	1.39	-3.16***
	(0.64)	(0.73)	(0.64)	(0.68)	(0.99)	(0.90)	(1.15)
Urban	-1.24**	0.36	0.16	-0.81	-0.17	1.08	-0.42
	(0.55)	(0.59)	(0.56)	(0.67)	(0.85)	(0.82)	(0.74)
Single	0.36	0.52*	0.63*	0.07	0.64*	0.91**	0.84**
	(0.24)	(0.30)	(0.34)	(0.27)	(0.38)	(0.36)	(0.39)
Divorced	0.12	0.11	-0.04	0.03	0.01	-0.04	0.35
	(0.10)	(0.09)	(0.05)	(0.07)	(0.07)	(0.06)	(0.24)
Male	2.79***	3.27***	2.88***	1.07**	1.32**	2.38***	3.86***
	(0.51)	(0.58)	(0.52)	(0.50)	(0.54)	(0.64)	(1.21)
Edu_1	0.40	1.31*	0.73	-0.95	1.18	0.29	-1.83
	(0.76)	(0.79)	(0.77)	(0.90)	(1.03)	(0.82)	(1.37)
Edu_3	0.18	0.19	0.52***	0.22	-0.39	0.11	0.33
	(0.23)	(0.20)	(0.20)	(0.27)	(0.42)	(0.24)	(0.40)
Tenure	-3.66***	-4.36***	-4.92***	-4.20***	-5.20***	-6.29***	-1.76
	(0.95)	(1.08)	(0.97)	(0.98)	(1.32)	(1.22)	(1.49)
NaceA	-12.09***	-16.45***	-21.34***	-20.90***	-23.80***	-18.60***	-14.36***
	(2.43)	(2.76)	(2.50)	(2.58)	(3.43)	(2.92)	(4.30)
NaceB	0.10	-0.05	-0.22*	-0.22	-0.11	0.33	0.12
	(0.11)	(0.07)	(0.13)	(0.15)	(0.19)	(0.31)	(0.14)
NaceD	-0.00	-0.02	-0.02	0.02	0.01	0.01	
	(0.06)	(0.05)	(0.03)	(0.04)	(0.04)	(0.04)	
NaceE	-0.00	0.02	0.02	0.09	0.15	-0.00	0.05
	(0.03)	(0.07)	(0.04)	(0.10)	(0.17)	(0.04)	(0.09)
NaceF	-2.31***	-2.77***	-3.05***	-2.30***	-1.61***	-1.59***	-0.78

	2008	2009	2010	2011	2012	2013	2014
	(0.52)	(0.62)	(0.54)	(0.53)	(0.57)	(0.61)	(1.20)
NaceG	0.30	0.38	0.72	2.64**	1.18	-0.98	3.08*
	(1.00)	(1.08)	(0.89)	(1.18)	(1.56)	(1.56)	(1.75)
NaceH	0.88*	1.98***	1.57***	0.99**	1.24**	0.82	0.73
	(0.48)	(0.52)	(0.41)	(0.43)	(0.59)	(0.65)	(0.75)
NaceI	-0.08	0.15	1.03	0.36	0.13	-0.02	1.95*
	(0.60)	(0.89)	(0.95)	(0.96)	(0.85)	(0.94)	(1.06)
NaceJ	0.42**	0.41*	0.27*	0.04	-0.01	0.04	0.38
	(0.19)	(0.23)	(0.15)	(0.08)	(0.02)	(0.07)	(0.24)
NaceK	1.26	0.67	0.69***	1.11*	1.21**	0.95**	0.74***
	(0.81)	(0.52)	(0.13)	(0.59)	(0.47)	(0.48)	(0.26)
NaceL	0.00	0.00	-0.00	0.02	0.03	-0.00	0.02
	(0.00)	(0.00)	(0.02)	(0.03)	(0.04)	(0.04)	(0.06)
NaceM	0.41	0.39	0.42	1.66**	0.79*	0.11	-0.24
	(0.30)	(0.27)	(0.27)	(0.73)	(0.46)	(0.43)	(0.53)
NaceN	0.08	0.04	0.08	0.30	0.32*	0.07	0.12
	(0.13)	(0.11)	(0.12)	(0.21)	(0.19)	(0.09)	(0.19)
NaceO	0.11		0.03				
	(0.11)		(0.03)				
NaceP	0.02	0.03	0.03	0.06	0.04	0.00	0.03
	(0.03)	(0.05)	(0.03)	(0.05)	(0.07)	(0.06)	(0.23)
NaceQ	0.05	0.04	0.03	0.15	0.46*	0.17	0.01
	(0.05)	(0.12)	(0.05)	(0.12)	(0.25)	(0.27)	(0.24)
NaceR	0.12	0.18	0.04	-0.02	0.16	0.41	0.23
	(0.13)	(0.26)	(0.14)	(0.14)	(0.10)	(0.25)	(0.23)
NaceS	0.21	-0.07	0.08	0.47	0.38	0.18	0.50
	(0.18)	(0.22)	(0.19)	(0.39)	(0.23)	(0.30)	(0.38)
NaceT	-0.02	0.03	0.01	0.03	-0.01	-0.00	-0.06
	(0.07)	(0.05)	(0.06)	(0.07)	(0.04)	(0.01)	(0.15)
NaceU	-0.00			-0.00	0.02	0.03	-0.01
	(0.01)			(0.02)	(0.04)	(0.04)	(0.03)
N (observ.)	4693	4002	4302	3158	2929	2862	2805

Source: Author's estimate based on the Labour Force Survey.

Table A5: Private sector wage skill premium skill 1/skill 2 gap decomposition, young sub-sample

	2008	2009	2010	2011	2012	2013	2014
Gap	-36.90***	-39.55***	-44.07***	-47.08***	-37.00***	-45.54***	-26.77***
	(4.37)	(4.54)	(4.45)	(7.84)	(6.56)	(6.57)	(4.88)
Endowments	-31.35***	-18.92***	-22.36**	-20.41	-20.75**	-9.90	-20.26**
	(7.28)	(7.10)	(9.69)	(12.90)	(9.68)	(14.29)	(9.78)
Age 15-19	-0.29	3.20*	-1.15		-1.17		
	(1.42)	(1.77)	(1.60)		(2.49)		
Age 20-24	-0.86	4.80**	-2.68	-2.17	-2.68	-2.48	-0.20
	(1.40)	(2.43)	(2.04)	(1.85)	(2.17)	(5.08)	(0.79)
Urban	-0.11	-2.37	0.91	0.42	-0.16	-0.33	-2.46
	(1.21)	(2.31)	(1.29)	(0.88)	(1.52)	(1.68)	(1.94)
Single	-0.62	0.05	-0.33	2.12	0.64	1.16	0.19
	(0.74)	(0.43)	(0.61)	(1.88)	(1.04)	(1.52)	(0.67)
Divorced	-0.17	-0.00	0.14		-0.03	-0.08	
	(0.59)	(0.25)	(0.46)		(0.34)	(0.27)	
Male	-1.44	-1.77	-3.34**	-1.15	-0.37	0.36	-0.42
	(1.00)	(1.27)	(1.67)	(1.35)	(0.78)	(1.34)	(1.13)
Edu_1	-3.49**	-1.34			-0.57		
	(1.68)	(1.10)			(1.41)		
Edu_3	-13.54***	-18.18***	-13.50***	-14.41**	-8.38*	-9.55	-9.19*
	(4.30)	(4.79)	(4.03)	(6.35)	(4.87)	(6.66)	(5.55)
Tenure	1.54	2.61	0.29	3.11	-0.25	-0.11	0.79
	(1.31)	(1.65)	(1.21)	(3.34)	(1.34)	(1.28)	(1.10)
NaceA	-0.12	0.01	0.47	0.14	0.38	0.73	0.00
	(0.31)	(0.11)	(0.61)	(0.86)	(1.04)	(1.30)	(0.04)
NaceB		0.05	0.07		-0.01		-0.01
		(0.28)	(0.22)		(0.21)		(0.17)
NaceD							-0.14
							(0.47)
NaceE							-0.10
							(0.66)
NaceF	-0.99	0.67	-0.98	-0.29	0.06	-0.88	0.51
	(0.82)	(0.75)	(0.83)	(0.69)	(0.44)	(1.23)	(0.80)
NaceG	1.18	1.74	2.21	3.59	2.29	2.04	0.51
	(1.64)	(1.98)	(2.34)	(4.10)	(4.31)	(2.69)	(2.09)
NaceH	0.00	-0.11	-0.17	-1.07	0.40	1.54	-0.03
	(1.26)	(0.38)	(1.62)	(4.44)	(1.52)	(2.12)	(0.49)
NaceI	2.01	-2.16	0.68	-2.24	-5.80	-1.36	-9.92
	(3.49)	(3.33)	(7.28)	(8.10)	(6.42)	(11.97)	(7.86)
NaceJ	-3.38**	-2.62	-0.80	-1.66	-7.62**	-6.33*	-0.55
	(1.69)	(1.65)	(1.04)	(2.79)	(3.39)	(3.57)	(1.66)
NaceK	-0.51	-0.54	1.12	-2.11	-0.42	0.30	0.32
	(0.61)	(0.75)	(0.89)	(2.05)	(0.88)	(1.48)	(0.60)
NaceL	0.25	0.12	0.46	0.68	0.03		0.28
	(0.39)	(0.28)	(0.62)	(1.06)	(0.57)		(0.53)
NaceM	-1.60	-0.91	-1.78	-1.38	2.86	3.99	-0.31
	(1.34)	(1.32)	(1.65)	(2.70)	(3.21)	(3.07)	(1.47)
NaceN	-0.30	-0.69	-0.05	-1.08			0.31
	(0.60)	(0.74)	(0.29)	(2.52)			(0.65)
NaceO							
NaceP	-0.13	-1.95	-1.26	-2.42	0.61	0.66	-0.10
	(0.91)	(1.24)	(1.20)	(1.77)	(1.17)	(0.93)	(0.34)
NaceQ	-0.96	0.11	-0.26	-1.4	-0.44	0.39	0.46
	(1.47)	(1.41)	(1.26)	(2.15)	(1.80)	(1.98)	(2.02)

	2008	2009	2010	2011	2012	2013	2014
NaceR	-1.39	-0.20	-0.11	0.91	-0.11	0.02	-0.10
	(1.42)	(0.41)	(0.30)	(1.25)	(1.00)	(0.20)	(0.45)
NaceS	-6.46**	0.55	-0.04				-0.11
	(3.26)	(2.49)	(1.66)				(1.19)
NaceT							
NaceU							
Coefficients	-25.34***	-27.82***	-39.77***	-37.23***	-30.98***	-44.48***	-16.20***
	(4.75)	(4.84)	(5.98)	(8.41)	(7.21)	(7.35)	(5.84)
Constant	12.30	21.98	-35.93*	-37.70	-58.19*	-57.83*	-16.86
	(19.44)	(21.70)	(20.02)	(34.20)	(30.53)	(34.23)	(22.12)
Age 15-19	0.23	-1.69	0.49		0.26		
	(0.92)	(1.12)	(0.64)		(0.62)		
Age 20-24	2.23	-6.37**	4.56*	8.26	6.17	1.69	-0.08
	(3.41)	(3.21)	(2.72)	(5.33)	(4.26)	(2.64)	(3.47)
Urban	2.63	-1.91	9.74	9.73	5.92	3.06	-6.86
	(5.05)	(6.24)	(4.99)	(8.05)	(8.72)	(8.44)	(6.69)
Single	-7.00	-5.65	12.07	24.17	13.14	16.88	3.66
	(8.49)	(8.02)	(8.60)	(18.98)	(15.39)	(19.90)	(10.33)
Divorced	0.83	-0.24	-0.51		0.02	-0.31	
	(0.70)	(0.61)	(0.58)		(0.58)	(1.08)	
Male	-5.24	-2.95	-10.19*	-7.13	-0.42	1.38	0.31
	(4.91)	(5.67)	(5.85)	(8.68)	(7.97)	(8.78)	(5.69)
Edu_1	1.00	0.75			0.09		
	(0.81)	(0.72)			(0.57)		
Edu_3	-9.54*	-17.16***	-16.01***	-13.27*	-10.97*	-8.09	0.51
	(5.13)	(5.52)	(5.56)	(7.49)	(6.14)	(7.81)	(7.36)
Tenure	-16.11***	-17.29**	1.39	-8.19	7.55	7.04	-5.25
	(5.94)	(6.90)	(6.01)	(9.70)	(9.27)	(10.36)	(7.91)
NaceA	-0.54	-0.27	0.77	0.25	0.70	1.40	0.33
	(0.57)	(0.49)	(0.85)	(1.29)	(1.49)	(1.69)	(0.72)
NaceB		0.29	0.24		0.05		0.10
		(0.43)	(0.39)		(0.59)		(0.50)
NaceD							-0.14
							(0.47)
NaceE							-0.41
							(1.04)
NaceF	-1.22	2.95*	-1.60	-0.82	0.21	-2.15	1.47
	(1.39)	(1.66)	(1.31)	(1.33)	(1.22)	(1.68)	(1.49)
NaceG	-1.64	-2.39	-1.63	-2.30	-0.73	-3.26	0.08
	(2.74)	(2.87)	(2.11)	(3.06)	(2.71)	(3.25)	(2.68)
NaceH	0.08	0.28	-3.03**	-8.53**	0.20	-2.97	1.83
	(0.40)	(0.60)	(1.43)	(3.77)	(1.01)	(1.86)	(1.38)
NaceI	-0.41	0.57	-0.05	0.30	1.00	0.17	1.02
	(0.74)	(0.90)	(0.42)	(1.04)	(1.15)	(0.79)	(0.97)
NaceJ	0.74	1.61	0.36	-0.36	-5.69	-7.15*	-0.46
	(1.93)	(1.94)	(1.48)	(3.42)	(3.84)	(4.23)	(2.50)
NaceK	0.68	0.05	-1.07	-0.76	0.56	2.28	2.21
	(1.10)	(1.13)	(1.22)	(2.47)	(1.42)	(2.03)	(1.56)
NaceL	0.25	0.25	0.49	0.68	0.03		0.28
	(0.49)	(0.42)	(0.79)	(1.29)	(0.57)		(0.53)
NaceM	-1.21	0.09	-1.31	0.73	7.93*	2.68	1.46
	(1.79)	(1.71)	(2.10)	(3.52)	(4.24)	(3.66)	(2.31)
NaceN	0.30	0.64	0.06	0.16			0.03
	(0.44)	(0.64)	(0.43)	(0.60)			(0.65)
NaceO							

	2008	2009	2010	2011	2012	2013	2014
NaceP	-0.13	-1.47	-0.67	-0.60	0.58	0.66	0.22
	(0.91)	(1.45)	(1.47)	(1.76)	(1.49)	(0.93)	(0.57)
NaceQ	-0.68	0.13	1.19	-1.40	0.42	-0.33	0.03
	(1.85)	(1.75)	(1.72)	(2.15)	(2.31)	(2.66)	(2.98)
NaceR	-3.50**	0.07	0.94	-0.44	0.18	0.38	0.33
	(1.61)	(0.96)	(0.78)	(0.75)	(0.58)	(1.05)	(0.57)
NaceS	0.59	-0.08	-0.06				-0.01
	(0.65)	(0.32)	(0.45)				(0.66)
NaceT							
NaceU							
Interactions	19.80***	7.19	18.06*	10.56	14.73	8.83	9.68
	(7.51)	(7.30)	(10.48)	(13.21)	(10.14)	(14.68)	(10.31)
Age 15-19	0.36	-3.12*	1.32	0.34	1.15	-0.10	-0.71
	(1.44)	(1.76)	(1.63)	(0.33)	(2.50)	(0.26)	(0.72)
Age 20-24	0.93	-4.67*	3.49	2.00	2.87	3.31	-0.02
	(1.44)	(2.46)	(2.15)	(1.78)	(2.24)	(5.14)	(0.82)
Urban	-0.65	0.71	-2.56*	-0.97	-1.05	-0.62	1.94
	(1.25)	(2.33)	(1.47)	(1.20)	(1.62)	(1.72)	(1.98)
Single	0.56	-0.03	0.32	-2.03	-0.81	-1.16	-0.24
	(0.74)	(0.28)	(0.59)	(1.87)	(1.12)	(1.54)	(0.71)
Divorced	0.16	0.00	-0.13	0.11	0.01	0.07	0.02
	(0.56)	(0.16)	(0.43)	(0.13)	(0.34)	(0.31)	(0.21)
Male	0.84	0.56	2.11	0.71	0.04	-0.21	-0.07
	(0.87)	(1.11)	(1.42)	(1.08)	(0.68)	(1.35)	(1.18)
Edu_1	3.12*	1.17	-0.54**	-0.80**	0.23	-0.06	-0.11
	(1.61)	(1.04)	(0.22)	(0.31)	(1.39)	(0.21)	(0.26)
Edu_3	8.58*	15.38***	15.60***	12.48*	9.20*	7.38	-0.42
	(4.63)	(5.01)	(5.43)	(7.06)	(5.21)	(7.13)	(6.04)
Tenure	-1.36	-2.22	0.29	-2.78	1.10	0.88	-0.65
	(1.18)	(1.48)	(1.25)	(3.37)	(1.52)	(1.42)	(1.10)
NaceA	0.17	-0.02	-0.60	-0.17	-0.52	-1.22	-0.02
	(0.44)	(0.22)	(0.70)	(0.91)	(1.14)	(1.50)	(0.27)
NaceB	0.11	-0.05	-0.11	0.03	-0.02	0.26	-0.04
	(0.09)	(0.33)	(0.29)	(0.06)	(0.22)	(0.18)	(0.21)
NaceD							0.14
							(0.47)
NaceE	-0.01					0.13	0.32
	(0.03)					(0.14)	(0.84)
NaceF	0.51	-0.90	0.75	0.21	-0.08	0.75	-0.85
	(0.65)	(0.94)	(0.75)	(0.55)	(0.46)	(1.09)	(1.01)
NaceG	-0.99	-1.64	-1.84	-3.13	-1.17	-2.71	0.07
	(1.66)	(2.01)	(2.38)	(4.14)	(4.36)	(2.78)	(2.19)
NaceH	0.28	0.17	0.13	0.93	0.31	-1.37	0.06
	(1.27)	(0.41)	(1.27)	(3.84)	(1.53)	(1.91)	(1.04)
NaceI	-1.98	2.20	-0.92	2.35	6.37	2.56	12.25
	(3.51)	(3.36)	(7.31)	(8.13)	(6.46)	(12.00)	(8.00)
NaceJ	-0.64	-1.40	-0.27	0.31	5.29	6.57*	0.40
	(1.68)	(1.69)	(1.10)	(3.01)	(3.60)	(3.93)	(2.17)
NaceK	-0.34	-0.03	0.72	0.64	-0.35	-1.94	-0.95
	(0.58)	(0.72)	(0.85)	(2.08)	(0.91)	(1.79)	(1.18)
NaceL	-0.22	-0.18	-0.42	-0.62	-0.03		-0.28
	(0.43)	(0.36)	(0.69)	(1.18)	(0.57)		(0.53)
NaceM	0.94	-0.08	1.15	-0.59	-7.13*	-2.51	-1.11
	(1.40)	(1.39)	(1.85)	(2.82)	(3.88)	(3.44)	(1.78)
NaceN	0.44	0.75	0.04	0.68	0.25	0.01	0.02

	2008	2009	2010	2011	2012	2013	2014
	(0.64)	(0.78)	(0.29)	(2.52)	(0.31)	(0.25)	(0.59)
NaceO	0.35 (0.35)						
NaceP	0.13 (0.91)	1.38 (1.37)	0.60 (1.33)	0.56 (1.66)	-0.53 (1.38)	-0.66 (0.93)	-0.15 (0.43)
NaceQ	0.63 (1.71)	-0.12 (1.58)	-1.11 (1.62)	1.40 (2.15)	-0.38 (2.13)	0.31 (2.55)	-0.02 (2.71)
NaceR	1.34 (1.38)	-0.03 (0.37)	0.24 (0.57)	-0.73 (1.18)	0.33 (1.04)	-0.03 (0.27)	0.09 (0.41)
NaceS	6.50** (3.27)	-0.65 (2.50)	-0.21 (1.67)	-0.29 (0.38)	-0.33 (0.31)	-0.81** (0.336)	-0.02 (1.22)
NaceT	0.05 (0.06)	-0.01 (0.05)		-0.08 (0.10)			0.02 (0.09)
NaceU							
N (observ.)	919	784	807	537	483	460	431

Source: Author's estimate based on the Labour Force Survey.

Table A6: Private sector wage skill premium skill 3/skill 2 gap decomposition, young sub-sample

	2008	2009	2010	2011	2012	2013	2014
Gap	7.64*** (1.77)	7.24*** (2.03)	7.25*** (2.21)	12.06*** (2.57)	13.65*** (2.85)	3.46 (3.43)	13.94*** (3.22)
Endowments	1.77 (2.57)	2.42 (3.60)	8.52** (3.47)	7.20* (3.90)	9.03** (3.51)	9.36* (5.20)	3.81 (4.85)
Age 15-19	0.02 (0.07)	0.78* (0.46)	0.40 (0.43)	0.93 (0.58)	0.17 (0.33)	1.09 (0.84)	0.66 (0.67)
Age 20-24	0.12 (0.16)	-0.12 (0.32)	-0.18 (0.40)	0.14 (0.28)	0.33 (0.47)	0.50 (0.59)	0.49 (0.56)
Urban	1.51*** (0.52)	0.02 (0.60)	0.80 (0.82)	1.71 (1.07)	0.45 (1.23)	-0.92 (1.28)	1.96* (1.05)
Single	0.01 (0.06)	0.01 (0.07)	-0.03 (0.10)	-0.08 (0.15)	0.02 (0.12)	0.15 (0.36)	0.35 (0.40)
Divorced	-0.32 (0.29)	-0.04 (0.11)	0.09 (0.14)		0.03 (0.12)	0.23 (0.39)	-0.10 (0.22)
Male	-7.34*** (1.42)	-8.10 (2.14)	-7.00*** (1.88)	-3.67** (1.72)	-2.03 (1.60)	-4.03 (2.76)	-10.03*** (3.06)
Edu_1	1.63*** (0.50)	0.62 (0.55)	0.34 (0.57)	1.13 (0.70)	-0.14 (0.64)	-0.15 (0.49)	0.71 (0.71)
Edu_3	0.07 (1.15)	-0.77 (1.32)	-0.35 (0.31)	-1.02 (0.69)		0.38 (1.33)	-1.27 (1.04)
Tenure	-0.48 (0.43)	0.55 (0.43)	1.24** (0.58)	-0.04 (0.26)	-0.12 (0.28)	0.26 (0.57)	0.15 (0.30)
NaceA	5.68*** (0.87)	8.11*** (1.26)	13.17*** (1.63)	11.23*** (1.80)	11.65*** (2.01)	10.96*** (2.29)	8.43*** (1.94)
NaceB	-0.04 (0.10)		0.08 (0.46)				-0.01 (0.05)
NaceD	0.06 (0.09)	0.08 (0.12)	0.07 (0.10)	-0.15 (0.18)	-0.19 (0.24)	-0.16 (0.25)	
NaceE	-0.12 (0.12)	-0.38 (0.24)	0.00 (0.11)	0.14 (0.17)	-0.12 (0.18)	-0.10 (0.22)	-0.05 (0.17)
NaceF	1.18 (0.73)	3.02** (1.20)	2.43** (1.06)	1.20 (1.13)	0.81 (1.09)	0.19 (1.54)	0.73 (0.90)
NaceG	-0.10 (0.87)	-0.75 (1.28)	-2.32* (1.34)	-2.16 (1.71)	-1.91 (1.85)	-1.11 (2.04)	1.62 (1.99)
NaceH	0.46 (0.46)	-0.20 (0.29)	-0.31 (0.27)	-0.16 (0.22)	-0.17 (0.31)	-0.06 (0.25)	0.03 (0.45)
NaceI	0.02 (1.02)	-0.32 (1.75)	0.15 (2.01)	-1.13 (2.10)	0.61 (1.41)	3.50 (2.88)	0.60 (2.39)
NaceJ	-0.19 (0.22)	-0.34 (0.38)	-0.02 (0.25)	0.11 (0.20)	0.02 (0.15)	0.07 (0.19)	-0.22 (0.37)
NaceK							
NaceL							
NaceM	0.02 (0.11)	-0.01 (0.07)	-0.07 (0.12)	-1.10 (0.79)	-0.05 (0.15)	0.00 (0.03)	
NaceN	0.27 (0.22)	-0.05 (0.32)	-0.11 (0.16)	-0.18 (0.51)	-0.31 (0.36)	-0.26 (0.39)	-0.12 (0.40)
NaceO							
NaceP							
NaceQ							0.02 (0.11)
NaceR	-0.06 (0.28)	0.01 (0.67)	0.25 (0.25)	0.20 (0.25)			
NaceS	-0.72	0.25	-0.31	0.21	-0.03	-1.23	-0.25

	2008	2009	2010	2011	2012	2013	2014
	(0.49)	(0.63)	(0.54)	(1.13)	(0.80)	(1.59)	(0.98)
NaceT	0.08	0.08	0.19	-0.14		0.03	0.02
	(0.10)	(0.19)	(0.21)	(0.19)		(0.29)	(0.08)
NaceU				0.03			0.08
				(0.11)			(0.18)
Coefficients	5.42**	9.00***	9.73**	10.00**	9.99**	6.32	12.86***
	(2.75)	(2.67)	(4.08)	(4.56)	(4.31)	(4.78)	(4.89)
Constant	6.98	-13.52*	-27.11***	-9.73	-22.91**	-17.25	-0.59
	(6.35)	(7.85)	(7.96)	(9.07)	(9.75)	(14.03)	(13.26)
Age 15-19	0.38	1.84	2.29***	2.79***	0.35	2.22*	1.62
	(0.60)	(1.01)	(0.78)	(1.02)	(0.91)	(1.22)	(1.67)
Age 20-24	-1.78	0.89	7.18***	1.91	4.95**	6.12*	1.04
	(1.72)	(1.79)	(2.12)	(2.23)	(2.45)	(3.48)	(3.04)
Urban	-1.06	1.67	1.53	0.80	2.37	3.79*	-2.46
	(0.93)	(1.03)	(0.95)	(1.16)	(1.45)	(2.19)	(1.84)
Single	2.46	3.88	0.50	1.29	5.24	-2.41	6.25
	(2.76)	(3.77)	(3.79)	(4.40)	(5.43)	(6.13)	(5.62)
Divorced	0.08	-0.08	-0.09		-0.12	0.34	0.20
	(0.10)	(0.27)	(0.15)		(0.27)	(0.41)	(0.30)
Male	-11.03***	-7.42	-6.39	-3.31	-0.63	-12.02	-15.96**
	(3.45)	(4.69)	(4.33)	(4.91)	(5.20)	(7.54)	(6.61)
Edu_1	0.10	-0.52	-2.02*	-2.28	-2.22*	-0.41	0.43
	(0.99)	(1.01)	(1.15)	(1.43)	(1.31)	(0.99)	(1.43)
Edu_3	0.02	0.06	0.12	0.21		-0.03	1.02*
	(0.06)	(0.10)	(0.14)	(0.24)		(0.20)	(0.60)
Tenure	0.14	8.03**	11.57***	0.88	5.62	10.40*	4.80
	(2.87)	(3.45)	(3.65)	(3.93)	(4.12)	(6.00)	(5.39)
NaceA	2.80	6.38***	15.04***	11.99***	13.27***	13.78***	13.23***
	(2.09)	(1.91)	(3.73)	(3.90)	(3.65)	(3.92)	(3.93)
NaceB	0.06		-0.31				0.09
	(0.09)		(0.32)				(0.21)
NaceD	0.06	0.08	0.07	-0.15	-0.19	-0.16	
	(0.09)	(0.12)	(0.10)	(0.18)	(0.24)	(0.25)	
NaceE	-0.18	-0.38	0.00	0.14	-0.12	0.29	-0.24
	(0.20)	(0.24)	(0.11)	(0.17)	(0.18)	(0.40)	(0.43)
NaceF	5.44***	6.85***	4.91**	2.86	1.17	2.08	2.46
	(1.59)	(2.03)	(2.00)	(2.57)	(2.22)	(2.42)	(2.01)
NaceG	0.23	0.42	1.10*	0.85	1.20	0.04	-0.23
	(0.54)	(0.64)	(0.60)	(0.62)	(0.81)	(0.94)	(0.78)
NaceH	-0.04	0.18	0.66**	0.99**	0.94*	0.48	0.37
	(0.11)	(0.18)	(0.33)	(0.49)	(0.57)	(0.56)	(0.37)
NaceI	0.00	0.04	-0.04	0.17	-0.04	-0.54	0.29
	(0.23)	(0.21)	(0.23)	(0.32)	(0.52)	(0.67)	(0.52)
NaceJ	0.24	0.19	0.14	-0.00	-0.01	-0.16	0.12
	(0.19)	(0.20)	(0.16)	(0.16)	(0.23)	(0.32)	(0.21)
NaceK							
NaceL							
NaceM	0.08	0.20	0.18	0.23	0.54	-0.10	
	(0.17)	(0.21)	(0.19)	(0.26)	(0.42)	(0.31)	
NaceN	-0.09	0.05	0.13	-0.06	0.67	0.40	0.37
	(0.14)	(0.15)	(0.18)	(0.20)	(0.49)	(0.52)	(0.38)
NaceO							
NaceP							
NaceQ							-0.14
							(0.29)

	2008	2009	2010	2011	2012	2013	2014
NaceR	0.04 (0.10)	0.04 (0.08)	0.08 (0.19)	-0.08 (0.21)			
NaceS	0.23 (0.18)	-0.08 (0.16)	0.02 (0.18)	-0.06 (0.16)	-0.07 (0.24)	0.11 (0.33)	0.02 (0.23)
NaceT	0.25 (0.22)	0.21 (0.20)	0.19 (0.21)	-0.46 (0.41)		0.03 (0.29)	0.08 (0.23)
NaceU				0.03 (0.11)			0.08 (0.18)
Interactions	0.45 (3.38)	-4.15 (4.02)	-11.00** (4.89)	-5.15 (5.46)	-5.36 (4.82)	-12.23** (6.18)	-2.73 (6.15)
Age 15-19	-0.04 (0.09)	-0.88 (0.55)	-0.46 (0.50)	-1.19 (0.75)	-0.15 (0.41)	-1.01 (0.82)	-0.42 (0.56)
Age 20-24	-0.11 (0.16)	0.18 (0.37)	024 (0.53)	-0.09 (0.21)	-0.38 (0.55)	-0.65 (0.72)	-0.21 (0.62)
Urban	-0.64 (0.57)	1.10 (0.70)	1.50 (0.94)	0.85 (1.23)	2.33 (1.45)	2.36 (1.44)	-1.47 (1.14)
Single	-0.01 (0.09)	-0.08 (0.15)	0.02 (0.12)	0.04 (0.16)	-0.04 (0.23)	-0.15 (0.39)	-0.39 (0.47)
Divorced	0.27 (0.29)	0.01 (0.05)	-0.07 (0.14)	0.11 (0.13)	-0.05 (0.16)	-0.26 (0.43)	0.10 (0.23)
Male	4.87*** (1.56)	3.51 (2.23)	2.96 (2.01)	1.26 (1.88)	0.21 (1.73)	4.51 (2.88)	8.12** (3.42)
Edu_1	-0.08 (0.75)	0.41 (0.80)	1.58* (0.92)	1.79 (1.15)	1.69 (1.05)	0.23 (0.56)	-0.33 (1.10)
Edu_3	0.46 (1.17)	1.07 (1.34)	0.31 (0.30)	1.12 (0.74)	-0.16 (0.34)	-0.20 (1.34)	2.80** (1.33)
Tenure	-0.03 (0.52)	-1.05* (0.58)	-1.90** (0.78)	-0.07 (0.33)	-0.43 (0.48)	-1.03 (0.87)	-0.20 (0.39)
NaceA	-2.69 (2.01)	-5.97*** (1.81)	-14.69*** (3.66)	-11.57*** (3.78)	-12.67*** (3.53)	-13.37*** (3.85)	-12.31*** (3.72)
NaceB	0.11 (0.14)	0.04 (0.06)	-0.08 (0.42)	0.03 (0.06)	0.05 (0.10)	0.26 (0.18)	0.02 (0.13)
NaceD	-0.06 (0.09)	-0.08 (0.12)	-0.07 (0.10)	0.15 (0.18)	0.19 (0.24)	0.16 (0.25)	
NaceE	0.14 (0.18)	0.38 (0.24)	-0.00 (0.11)	-0.14 (0.17)	0.12 (0.18)	-0.21 (0.33)	0.14 (0.29)
NaceF	-4.53*** (1.35)	-5.71*** (1.72)	-4.30** (1.76)	-3.52 (2.35)	-1.05 (1.99)	-1.82 (2.12)	-2.08 (1.72)
NaceG	0.45 (1.04)	0.92 (1.40)	2.81* (1.50)	2.77 (1.94)	3.22 (2.09)	0.08 (2.13)	-0.66 (2.26)
NaceH	-0.16 (0.48)	0.32 (0.33)	0.74 (0.45)	0.61 (0.56)	0.65 (0.56)	0.23 (0.36)	0.59 (0.60)
NaceI	0.02 (1.11)	0.36 (1.80)	-0.38 (2.09)	1.22 (2.23)	-0.12 (1.52)	-2.45 (2.94)	1.52 (2.64)
NaceJ	0.64* (0.38)	0.86 (0.53)	0.26 (0.30)	-0.00 (0.20)	-0.00 (0.03)	-0.08 (0.21)	0.24 (0.40)
NaceK	0.84*** (0.25)	0.32** (0.15)	0.20 (0.15)	0.28 (0.19)	-0.47* (0.25)	0.28 (0.19)	0.83** (0.39)
NaceL	-0.00 (0.03)	0.02 (0.04)	-0.01 (0.05)	-0.01 (0.06)			
NaceM	0.06 (0.13)	0.07 (0.14)	0.10 (0.15)	1.52* (0.90)	0.17 (0.42)	0.01 (0.09)	0.44 (0.32)
NaceN	-0.13 (0.21)	0.12 (0.34)	0.11 (0.17)	-0.18 (0.55)	0.40 (0.44)	0.26 (0.40)	0.53 (0.55)
NaceO	0.35						

	2008	2009	2010	2011	2012	2013	2014
	(0.35)						
NaceP		0.04 (0.05)	0.07 (0.09)	0.12 (0.13)	-0.01 (0.07)		0.12 (0.15)
NaceQ	0.03 (0.08)	0.00 (0.08)	0.09 (0.09)		0.07 (0.11)	-0.03 (0.07)	-0.03 (0.15)
NaceR	0.12 (0.31)	0.32 (0.69)	0.09 (0.23)	-0.07 (0.19)	0.34 (0.24)	0.11 (0.17)	-0.05 (0.18)
NaceS	0.75 (0.53)	-0.33 (0.66)	0.07 (0.57)	-0.47 (1.19)	-0.23 (0.83)	0.56 (1.58)	0.09 (1.04)
NaceT	-0.17 (0.18)	-0.08 (0.18)	-0.19 (0.21)	0.31 (0.39)		-0.03 (0.29)	-0.03 (0.12)
NaceU				-0.03 (0.11)			-0.08 (0.18)
N (observ.)	1206	1000	1022	675	574	526	524

Source: Author's estimate based on the Labour Force Survey.

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