



working paper
2019-02

The Effects of Austerity Measures on Gender Gaps in Labor Market Outcomes

Jelena Žarković Rakić
Marko Vladisavljević
Jorge Davalos

February 2019



pep
partnership for
economic
policy

PAGE
policy analysis on growth and employment

IDRC
International Development
Research Centre

CRDI
Centre de recherches pour le
développement international

pep
partnership for
economic
policy

UKaid
from the United Kingdom

The Effects of Austerity Measures on Gender Gaps in Labor Market Outcomes

Abstract

Recent empirical evidence, largely based on descriptive analyses, suggests that women's wages and employment are more likely to be affected by government austerity measures because women constitute a majority of the public-sector labor force. Employing panel data from the 2014 and 2015 Labour Force Survey as pre- and post-treatment periods, we provide an econometric assessment of the effects of a 10% public-sector wage cut in Serbia that was introduced at the beginning of 2015. Wage cuts mandated by austerity measures increased the likelihood that younger and older women workers would transition into unemployment and inactivity, while no such effect was identified for men. On the other hand, evidence of heterogeneous compliance with the wage cut across public subsectors. State-owned enterprises, a subsector dominated by men, exhibited lower compliance with wage cuts compared to the state-sector, which is dominated by women. The difference in compliance prevented wage cuts from having the positive effect they could have had on the gender wage gap.

JEL: J16, J21, J31, J45, H61.

Keywords: gender, labor market transition, wages, austerity, Serbia.

Authors

Jelena Žarković Rakić

Associate professor, Faculty of Economics,
University of Belgrade / Foundation for the
Advancement of Economics
Belgrade, Serbia
zarkovic@ekof.bg.ac.rs

Marko Vladisavljević

Researcher, Institute of Economic Sciences /
Foundation for the Advancement of Economics
Belgrade, Serbia
marko.vladisavljevic@ien.bg.ac.rs

Jorge Davalos

Assistant Professor, Universidad del Pacifico
Lima, Peru
jdavalos@quant-modeling.net

Acknowledgements

This research work was carried out with financial and scientific support from the Partnership for Economic Policy (PEP) (www.pep-net.org) and with funding from the Department for International Development (DFID) of the United Kingdom (or UK Aid) and the Government of Canada through the International Development Research Center (IDRC). The authors are grateful to Ivana Prokić and Ivana Poljak for help in preparing this working paper, to participants from the 2018 PEP Annual Conference in Bangalore (India), and to Luca Tiberti and Abdelkrim Araar from Université Laval for valuable comments and suggestions on previous versions of the paper.

Table of contents

I.	Introduction	p.1
II.	Literature Review	p.3
III.	Austerity Measures Introduced in Serbia in Late 2014	p.6
IV.	Data and Labor Market Trends in 2014 and 2015	p.8
V.	Methodology	p.11
VI.	Results and Discussion	p.18
	6.1. The Effects of the Wage Cut On Labor-Market Transitions	
	6.2. Effects of the Wage Cut On Wage Change	
VII.	Conclusions and Policy Implications	p.23
	References	p.24
	Appendix	p.27

List of Tables

Table 1: Labor Market Trends in 2014 and 2015	9
Table 2: Labor Market Transitions from the Public Sector 2014 / 2015 (%)	10
Table 3: Public-Sector Wages for Men and Women 2014/2015 (%)	11
Table 4: Effects of the Wage Cut on Wage Change in the Public Sector	21
Table 5: The Effects of the Wage Cut On Wage Change in the Public Sector – Continued	22

List of Figures

Figure 1: Men’s and Women’s Public-Sector Wages, by Category, 2014	10
Figure 2: Design of the Wage-Cut	16
Figure 3: Marginal Effects of the Wage Cut According to Age	19

I. Introduction

While the literature in labor economics provides extensive evidence regarding the effects of minimum-wage interventions on labor-market outcomes, little evidence exists regarding the effects of austerity-related wage cuts in the public sector. These effects are particularly important in transitional countries in which vulnerable segments of the labor force, such as women, exhibit lower labor-market participation rates and wages.

We studied the effects of the wage cuts implemented by the Serbian government in late 2014, which were mainly focused on efficiency (Krstić & Žarković-Rakić, 2017). Serbia is a transitional country characterized by stagnant economic growth rates (an average of less than 1% annually between 2012 and 2015) and a high unemployment rate (15.3% in 2016). Even before wage cuts were introduced, Serbia was characterized by pervasive gender inequality, a high employment gap between men and women (about 15%), and a high gender wage gap of about 14% (Žarković-Rakić & Vladislavjević, 2016).

The international financial crisis and country-specific economic downturns motivated a series of fiscal-austerity measures across Europe with important implications for labor-market gender gaps (Addabbo et al., 2018). In Italy, austerity measures were suspected as one of the major causes of the widening of the gender gap, to the detriment of women, in the labor force (Piazzalunga & Di Tommaso, 2018). In Spain, meanwhile, the economic crisis and subsequent austerity measures seem to have increased the labor participation of women as a mechanism to cope with uncertainty (Addabbo, Rodríguez-Modroño & Gálvez-Muñoz, 2013). A similar result was found by Cerutti (2000) in Argentina, where higher labor participation of women was triggered by government austerity measures. Unfortunately, the current body of research builds mostly on descriptive evidence, while quasi-experimental (econometric) evidence is rather scarce.

In the Serbian context, wage cuts may have had ambiguous effects on labor supply and wages. First, gender effects in response to austerity measures may have been heterogeneous, either by reducing labor supply through the movement of workers to an alternative labor status (e.g., migrating to the private sector, to self-employment, or to unemployment/inactivity) or by encouraging workers to remain in public-sector jobs as a risk-protection mechanism. Secondly, austerity measures may have been applied differently to working men than they were to working

women, as was the case between the state sector and state-owned enterprises, leading to ambiguous effects on the wage gap between men and women. The main objective of our research, then, was to shed light on these areas through a quasi-experimental approach in which we estimated the gender-specific effects that wage cuts had on transitions outside the public sector. We also estimated the degree of compliance in the state sector and in state-owned enterprises and examined the consequences of differential compliance on the gender pay gap because these two subsectors are characterized by a higher proportion of women and of men, respectively.

Our econometric model exploited the Serbian Labour Force Survey panel and identified 2014 and 2015 as pre-treatment and post-treatment periods, respectively. Exposure to the treatment was measured at the individual level by the normative wage cuts established through the Serbian government's austerity measures. Public workers not affected by austerity measures were included in the empirical analysis as a control group, while private-sector workers and inactive/unemployed workers were included to control for potential sample-selection bias.

Our results suggest that the wage cuts mandated by austerity measures pushed younger and older women workers into unemployment and inactivity, respectively. We found no such effects for men. On the other hand, we found evidence of heterogeneous compliance across affected public subsectors: state-owned enterprises, a subsector dominated by men, seemed to exhibit lower compliance with the wage cuts and therefore suppressed the positive effects that austerity measures could have had on the gender wage gap.

The significant contribution of this paper is to the literature on the differential effects that austerity measures have on workers of different genders. We provide evidence based on the quasi-experimental approach described above. In that context: 1) the panel structure of our data allowed us to follow the same individuals over time, and 2) the inclusion of a wage-cut threshold allowed us to identify exogenous control and treated groups. From a policy perspective, our research shows the adverse effects of austerity policies that are drafted with efficiency in mind but without concern for equity.

II. Literature Review

When the economic crisis of 2008 hit most EU economies, governments responded with austerity programs, the largest of which were implemented in Greece, Hungary, Latvia, Ireland, Spain, and Portugal (Theodoropoulou & Watt, 2011). Karamessini and Rubery (2013) argued that such austerity measures constituted an attack on gender equality in the Europe and USA: “[A]usterity measures,” they wrote, “undermine women’s progress toward equality in paid work and economic independence and may provoke an ideological backlash favouring a return to traditional gender roles and backward-looking gender contracts.” Here, we focus on the consequences of austerity measures, especially wage cuts, on gender differences in employment.

Austerity and Women's Employment

Austerity programs, among other measures, often include cuts (or freezes)¹ in public-sector wages and employment and a reduction in public services. According to Rubery (2015), public-sector wage cuts were expected to have a higher impact on women’s employment because women made up the majority of public-sector workers. These effects were projected to include a reduction in women in the work force (the result of diminishing incentives to work) and an increase in the wage gap between men and women.

On the other hand, reductions in public services, some of which had been used primarily to support programs designed to increase women’s access to the labor market, were also frequent. For instance, the government of the United Kingdom reduced childcare tax credits from 80% to 70% (Annesley, 2014) whereas, in Greece, the reduction of state transfers to municipal budgets caused cuts to social-service staff and the shuttering of childcare facilities (Karamessini, 2014).² These cuts led to further constraints on women in the labor force (Addabbo et al., 2015) and increased the demand for women’s unpaid labor, as evidenced by growing gender gaps in unpaid home work (Addabbo et al., 2018).

¹According to Rubery (2015), seventeen European countries included a public-sector wage freeze in their austerity package; thirteen countries also applied a wage cut.

² Similar cuts were applied in other European countries: Spain (Gonzales Gago & Segales Kirzner, 2014), Italy (Addabbo et al. 2015), Iceland (Thorsdottir, 2014), and Ireland (Barry & Conroy, 2014), among others.

Although childcare services were not targeted by austerity measures in Serbia, they had long been in short supply, and childcare facilities in particular (Ivić, Pešikan & Jankov, 2012). Serbia is one of the countries that rely heavily on informal care arrangements (grandparents, e.g.) (Žarkovic-Rakić & Vladisavljevic, 2016). Contemporaneously with the cut in public wages, austerity measures included a pension cut. Months before the introduction of austerity measures, however, legislators had already begun to penalize early retirement and postpone the retirement age. Measures such as these seemed likely to reduce reliance on grandparent childcare and increase the burden on young women who cared for households.

The current literature suggests that the supply of women workers is constricted by austerity measures from two sides. First, women face wage cuts (or wage freezes) more frequently than men, lowering their incentive to work. On the other hand, cuts in public childcare services (which did not occur in Serbia) and the potential of lower reliance on informal childcare support (which did) added to the demand for women's labor at home, consequently increasing their reservation wage. Lower incentives for work and an increasing demand for home work both reduced the probability that women would continue to work in the face of austerity measures and therefore increased the likelihood that they would transition to another labor-market status.

As part of austerity measures in Serbia, the downsizing of the public-sector workforce was envisaged as a 5% cut each year for the three years subsequent to the introduction of the measures. This policy was not implemented, however, and anecdotal evidence and press coverage suggested that only individuals near retirement age had been urged to leave the public sector. This was especially the case for women near retirement age (60 years), although, by law, they had the right to retire at 65, similar to men. This effect, together with lower incentive to work as the result of wage cuts, may have increased their exit from the formal labor force altogether. Research also suggests that men have greater flexibility and mobility and may be more prone to look for better-paying private-sector jobs (Felfe, 2012; Bertrand, 2011).

Evidence of the effects of post-2008 austerity measures on employment has largely been descriptive, anecdotal, or inconclusive. Addabbo et al (2015) found that the crisis and subsequent austerity narrowed gender gaps in employment and unemployment and in part-time and temporary work in Italy, Portugal, and Ireland. The authors, however, believed that this did not represent an improvement in gender equality but rather reflected the deterioration of men's

position in the labor market (e.g., more low-quality jobs, part-time work, insecure temporary contracts, low wages, and unemployment). Similar results were found for Spain where the crisis narrowed the overall gender gap in employment by 1% (Gonzales Gago & Segales Kirzner, 2014). Perivier (2016), on the other hand, showed that the employment of women in Greece was affected more severely by austerity measures than was men's employment.

The Effects of Austerity Measures on the Gender Pay Gap

Rubery argued that public-sector wage cuts "[had] been introduced without reference to the impact on gender or to the longstanding commitment to close the gender pay gap" (2015,734). As mentioned previously, the higher share of women in the public sector means that their wages are affected more heavily by austerity measures. Furthermore, increasing demand for women's labor at home, due to reduction of the social services, could bring less flexibility for women in the workforce and reduce women's wage-bargaining power vis-à-vis the employer and increase the probability of discriminatory practices. Just as in studies of employment gaps, however, much of the literature on the effects of wage cuts (or freezes) on the wage gap between men and women presents only descriptive evidence, which indicates that unadjusted gender pay gaps are on the increase in a number of European countries (see, for example, Fulton, 2011, for Latvia; and EPSU, 2016, for Portugal and Spain).

Perugini, Žarković-Rakić, and Vladislavljević (2018) used changes in the cyclically adjusted primary balance (CAPB) to estimate the effects of austerity measures on gender inequality in wages in the EU. Their results indicate that the cumulative change in countries' CAPB increased the wage gap between men and women and that the effect of cuts in expenditures tended to be larger than did the effects of tax hikes. They also showed that, as a consequence of austerity measures, women were less likely to be employed in better-paid sectors. The authors, were not, however, able to investigate the effects of wage cuts separately from those of expenditure cuts.

Piazzalunga and Di Tommaso (2018) observed that the wage freeze implemented in Italy in early 2011 caused a discontinuity in the public-sector wage premium. They used this discontinuity in an attempt to isolate the so-called policy effect (Piazzalunga and Di Tommaso, 2018, 16) of the wage freeze, suggesting that the wage freeze increased the wage gap between women and men by 2%. They also indicated that the increase was the result not only of the

greater number of women in the public sector but also of a sectorial effect: the large drop in wages in the education sector, where women were about 75% of employees.

Recent evidence for Serbia has suggested that, following the 2015 wage cut, the public-sector wage premium dropped more in the state sector than in state-owned enterprises (Vladisavljević & Nojković, 2018). The lower compliance of state-owned enterprises (vs. the state sector) may be explained by their reduced fiscal discipline and inefficient spending, together with their access to revenues that can partially finance wages (IMF, 2015). Because the state sector is dominated by women, while state-owned enterprises are dominated by men, women's wages could have been more heavily influenced by the wage cut.

Gender Gaps in Labor Market Outcomes in Serbia

One of the first papers that estimated the wage gap between men and women in Serbia (then part of the Yugoslav federation together with Montenegro) was that of Krstić & Reilly (2000), who used LFS data in the 1995-1998 period. Their results show an increase of the adjusted wage gap from 10.7% in 1995 to 16.1% in 1998. Using the same LFS data, Kecmanovic & Barrett (2011) estimated the gap in the 2000-2005 period and found that the adjusted gap had decreased from 17.2% to 10.5%. Using Survey on Income and Living Conditions data, Vladisavljević and Žarković-Rakić (2016) found a wage gap of 13% between women and men in 2013. The same paper found that, because of the 2008-2009 global financial crisis, the drop in employment was more pronounced among men and reduced the gender employment gap from 17% to 14.1% in the 2008-2011 period. The gender unemployment gap, on the other hand, is much lower and amounts to 2.9%, implying that a high gender employment gap is the result of higher inactivity rates among women and of the fact that fewer women join the labor market and, thus, compete with men for jobs.

III. Austerity Measures Introduced in Serbia in Late 2014

Serbia's fiscal deficit stood at 6.6% of GDP in 2014, the single largest in Europe. As a result, in January 2015, the government imposed a fiscal consolidation program (Republic of

Serbia, 2014). The main pillars of the program were cuts in wages in the public sector and in public pensions; at the time, pensions amounted to 13% of GDP (5% higher than the average in Central and Eastern European countries), and the cost of wages exceeded 10% of the GDP (2% higher than the CEE average). A plan was put in place to reduce the public-sector workforce by 5% each year in the three years following the fiscal-consolidation program, but that measure went largely unimplemented. Anecdotal evidence, however, suggests that the government instead urged people near retirement age to leave the public sector. In this paper we focus on the effects of the public-sector wage cut.

The public-sector wage cut, as defined by the Serbian government, implied a 10% reduction in public wages higher than 25,000 Serbian dinars (RSD).³ Exemption of wages lower than 25,000 RSD was introduced in order to protect the lowest-paid public-sector workers from further reduction of their wages. For workers earning wages between 25,000 and 27,778 RSD, the cut was the difference between their 2014 wages and 25,000 RSD, as the cut of 10% would imply wages lower than 25,000 RSD. At the same time, the “solidarity tax” which was applied for public wages higher than 60,000 RSD during 2014 (Republic of Serbia, 2013), ceased to exist. Therefore the cut for wages above 60,000 RSD amounted to the difference between 10% of 2013 wages and the amount of the “solidarity tax”. According to the fiscal consolidation program, salaries in the public sector were to be frozen until the beginning of 2018.

The same formula was applied to the entire public sector and to employees in state-owned enterprises; there was an important difference in the way the wage cut was applied, however. The law specified that the wage reduction for direct and indirect budget users and for organizations engaged in public administration, education, and health care would be direct and include a reduction in the net-wage base (Republic of Serbia, 2014). On the other hand, there was no reduction in the net-wage base for state-owned enterprises; rather, wages were reduced by increasing the effective tax rate, equivalent to the introduction of an additional tax of 10% on net earnings (Arandarenko, Krstić & Žarković Rakić, 2017). This measure meant that state-owned enterprises were obliged to pay into the central budget the amount of savings generated through cuts in wages every month. The anticipated effects on employee wages should therefore

³ The wage-cut threshold of 25,000 RSD was approximately equal to €200 and represented wages that were 25% higher than the minimum wage and about 25% lower than the median wage for 2014.

have been identical. Variable administration of the wage reduction between the state sector (budget users) and state-owned enterprises meant that wages in the former were reduced directly; conversely, they were lowered indirectly in the latter, which left more room for reduced compliance with the wage reduction.

IV. Data and Labor Market Trends in 2014 and 2015

To calculate descriptive statistics and perform econometric analyses, we used Labour Force Survey (LFS) data. The survey, conducted quarterly by the Statistical Office of the Republic of Serbia (SORS), provides nationally and regionally representative data on the labor market in Serbia (as well as in Europe generally.)⁴ We used data for 2014 as a benchmark, while we used 2015 data for the purposes of investigating the impact of the austerity measures implemented at the beginning of 2015.

Table 1 presents trends in labor-market indicators, by gender, taken from LFS data. Women's employment rate in both years was about fifteen percentage points lower than men's. At the same time, women were, on average, employed in more secure jobs, with higher shares of wage employment, lower-level informal employment, and higher-employment in the public sector. Within the public sector, women were more likely to work in the state sector than in state-owned enterprises,⁵ while men's participation in the state sector and in state-owned enterprises was approximately equal. Compared to 2014, the employment rate grew for both genders in 2015, mainly due to the increase in the number of employees in formal and informal⁶ private-sector employment.

⁴ More details on survey design and data collection can be found in SORS (2015).

⁵ The breakdown into a "state" sector and a "state-owned enterprises" sector was based on the NACE classification of workers who reported the sector of ownership of their company as public. The state sector comprises public administration (NACE sector O), education (P), and health (Q), while workers from state-owned enterprises most frequently work in transportation (NACE sector H), manufacturing (C), utilities (D and E), and mining (B). A full sector breakdown is shown in Table A6.

⁶ In accordance with the SORS (2015) definition, informal employment includes workers in registered companies without a written contract, workers in unregistered businesses, and unpaid family members.

Table 1: Labor Market Trends in 2014 and 2015

	Men		Women	
	2014	2015	2014	2015
Employment rate	49.5%	50.1%	34.9%	35.3%
Wage employment share in employment	64.8%*	65.8%	72.9%	75.3%
Informal employment	8.0%	9.5%	5.6%	6.2%
Private sector	50.5%	53.0%	48.2%	49.7%
Public sector	41.6%	37.5%	46.3%	44.1%
State sector	47.6%	49.7%	78.2%	79.2%
State-owned enterprises	52.4%	50.3%	21.8%	20.8%

Source: Full sample. Weighted data.

The sample for each LFS wave consisted of rotating groups, each of which was representative of the whole population (SORS, 2015) and an independent subsample. Each subsample rotated based on the 2-2-2 system: Each was first introduced into the sample for two waves, was then removed from the sample for two waves, and was then returned to the sample.⁷ Because the LFS is conducted quarterly, respondents included in the rotating groups were present in the same quarters of both years (for example in Q1 2014 and Q1 2015), enabling us to analyze their labor-market status and wages in consecutive years. In order to reorganize the data for econometric analysis, we created a panel data set by merging individual data from the same quarter in different years, which allowed us to monitor labor-market transitions and wage changes between 2014 and 2015. The sample for this estimate included 23,778 individuals from the working-age population (20-64) for which data were available for both 2014 and 2015.

Table 2 shows an analysis of workers' transitions from the public sector, by gender and age, between 2014 and 2015. Among public-sector workers, men were slightly less likely to remain in public-sector jobs because they moved more frequently than did women to both the formal and the informal private sector (3.8% vs. 2.7%). Transfers to inactivity were equal (5.4%). For both genders, the transition to inactivity was more pronounced for older workers.

⁷ After being interviewed four times, the household was dropped from the panel. Households interviewed in 2014 were, therefore, no longer present in 2016, making it impossible to study the effects of the wage cut over a longer period.

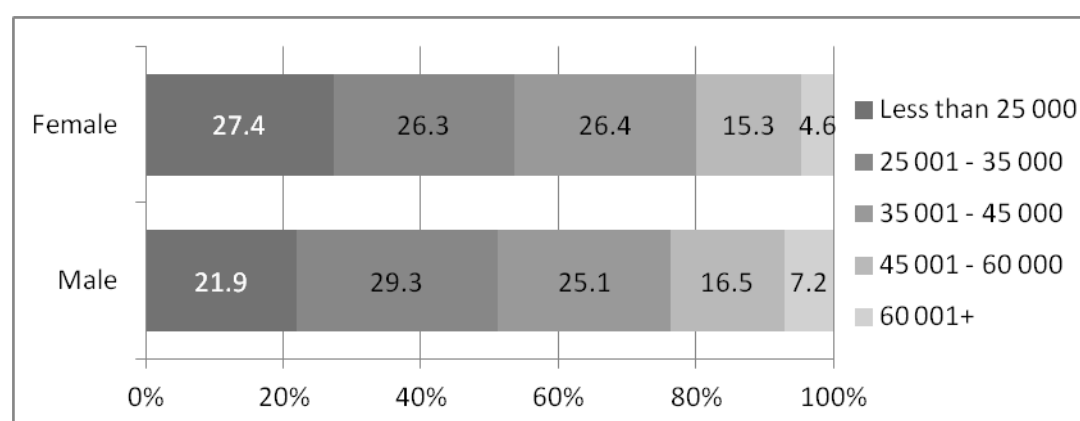
Table 2: Labor Market Transitions from the Public Sector 2014 / 2015 (%)

Status in 2015	Men			Women		
	Total	Age 20-54	Age 55-64	Total	Age 20-54	Age 55-64
Inactive or unemployed	5.4%	3.3%	13.9%	5.4%	3.2%	16.7%
Self-employed	1.0%	1.0%	1.3%	0.4%	0.3%	1.3%
Informal employment	0.6%	0.3%	1.9%	0.3%	0.3%	0.0%
Private sector	2.2%	2.1%	2.2%	2.0%	2.3%	0.4%
Public sector	90.8%	93.3%	80.7%	92.0%	94.0%	81.5%
Sample	1,576	1,260	316	1,433	1,200	233

Sample: Workers employed in the public sector in 2014.

Workers who remained in the public sector faced a 10% wage cut if their wages were higher than 25,000 RSD. Figure 1 indicates that, in the public sector, women were more likely to receive wages that were 25,000 RSD or lower, while men were more frequently found both among those who earned between 25,000 and 35,000 RSD and those who earned 45,000 RSD or more. Bearing in mind that the wage cut was not applied to wages below 25,000 RSD, this wage structure indicates that higher proportion of women should have been exempted from austerity-related wage cuts. This should have led, all other things being equal, to a lower gender wage gap in 2015.

Figure 1: Men's and Women's Public-Sector Wages, by Category, 2014



Sample: Workers employed in the public sector in both years.

However, the average wage dropped by approximately the same amount for both genders, and the unadjusted gender wage gap in the public sector did not change between 2014 and 2015: it stood at about 5.5% in both years.⁸

Table 3: Public-Sector Wages for Men and Women 2014/2015 (%)

	2014 Wage	2015 Wage	Wage decrease
Men	38,420	36,734	-4.4%
Women	36,347	34,703	-4.5%
Unadjusted wage gap	-5.4%	-5.5%	

Sample: Workers employed in the public sector in both years.

V. Methodology

The conceptual framework for our econometric specifications and interpretations was a static, multi-sector labor market model in which workers could move between self-employment and public and private sector jobs. The Serbian public sector includes more highly-skilled workers than does the private one and the public/private real wage gap is, positive, all other things being equal.⁹ We assumed that workers had the choice to stay or to migrate into the sector that provided higher expected real wages, even considering implied mobility costs. Women workers exhibited higher reservation wages than did men, controlling for other factors (age, occupation, etc.).

A wage cut intervention was applied to the middle and right tail of the wage distribution (wages above 25,000 RSD) in the public sector and was expected to reduce the number of workers who chose to transition to an alternative status (private sector, self-employment, or unemployment/inactivity). The portion of the labor force that left the public sector could have increased the supply of private and/or self-employment labor, creating downside pressures on real wages in these sectors. As a consequence, because the reservation wage was higher for women, they were more likely to move into unemployment/inactivity than were men. This may

⁸Previous studies for Serbia showed that the unadjusted gap was much lower in the public vs. the private sector, although the adjusted gaps were almost the same (Avlijaš et al, 2013; Vladislavljević, Avlijaš & Vujić, 2015).

⁹ The public-sector wage premium in Serbia stood at 17.6% in 2014, before austerity measures, and at 11.6% after the 2015 wage cut (Vladislavljević, 2017b).

also have affected retirement decisions among elderly workers. On the one hand, the wage cut reduced the spread between the reservation wage and earned wages. On the other, it also reduced expected savings during a worker's remaining working life, and that may motivate later retirement. Serbian austerity measures, moreover, were characterized by a parallel intervention on the labor market that reduced the retirement allowance. That in contrast, may have discouraged early retirement, rendering the net effect on retirement decisions ambiguous.

Although other austerity measures (public-sector workforce downsizing and early retirement reforms, for example) were introduced simultaneously with the wage cut, they were applied across the entire public sector, regardless of wages. The only salient difference between the treated (wages above 25,000 RSD) and the control group (wages below 25,000 RSD), therefore, was whether or not the wage reduction was applied.

The public sector is composed of state-owned enterprises and the state sector.¹⁰ While full compliance with the wage cut was expected in the latter, compliance in the former was uncertain because state-owned enterprises have considerable autonomy in hiring and in setting pay (World Bank, 2015). A heterogeneous compliance effect between state-owned enterprises and the central government could pose a threat to women workers if higher compliance were to be identified in the subsector with the highest share of employed women.

Our econometric approach was aimed at identifying the short-term effects of austerity measures on the affected labor force. We first sought to understand whether the wage cut increased the likelihood that women would transition into unemployment/inactivity as we simultaneously explored empirical evidence of early retirement. We then estimated heterogeneity in wage-cut compliance within the public sector with a particular focus on subsectors in which the largest share of women were employed.

¹⁰ The state sector is comprised of Public Administration (NACE sector O), Education (P) and Health (Q) sector workers, while workers from state-owned enterprises most frequently work in Transport (NACE sector H), Manufacturing (C), Utilities (D and E) and Mining (B).

The Effects of the Wage Cut on Labor-Market Transitions

After the introduction of austerity measures, workers could stay in the public sector, move into the private sector,¹¹ or transition into unemployment/inactivity. We therefore tested for transition effects to the j -th labor status in 2015 given subjects' status and wages in 2014. For the sake of simplicity, the following expressions at the individual level omit the i -th's individual index.

We defined an implied random utility that a population of public sector workers from 2014 would remain in that sector or transition to an alternative status in 2015. The implied random transition utility U_j is a function of expected wage-gain differentials, non-pecuniary gains differentials, and mobility costs:

$$U_j = \omega_j[w_j^{15} - (w^{14} - \tau D)] + x'\theta_j + \psi_j ; j \in \{pub, pri, ina\} \quad (1)$$

The first term represents the potential monetary gain between counterfactual j status (w_j^{15}) and expected income from labor at current public-sector status in 2015. In 2014, public workers were aware of austerity measures that would go into effect the following year; their expected 2015 wage therefore equaled their most recent previous wage less the potential wage cut: $(w^{14} - \tau D)$. Here the τ parameter represents the average wage cut and D is a dummy variable equal to 1 for public workers affected by the measure. The ω_j parameter measures the effect of the income differential on the random transition utility. The second term $x'\theta_j + \psi_j$ accounts for mobility and non-pecuniary differentials of transitioning to status j from the public sector. Since the counterfactual w_j^{15} is unobserved, it is endogenized as a function of observable and unobservable wage determinants: $w_j^{15} = x'\alpha_j + u_j$. The structural random transition utility is then written as $U_j = x(\alpha_j \omega_j + \theta_j) - \omega_j w^{14} + \omega_j \tau D + \omega_j u_j + \psi_j$. The proper distributional assumptions on the unobserved components $(\omega_j u_j + \psi_j)$ imply the following transition probability:

$$Pr[s_{15} = j | s_{14} = pub, X] = G(\delta_j D + X'\gamma_j) ; j \in \{pub, pri, ina\} \quad (2)$$

where δ_j determines the impact of the wage cut on the probability of transitioning to status j in 2015, given the sample of public workers in 2014 ($s_{14} = pub$) and $X = [x' w^{14}]$, which represents

¹¹ Due to low transitions from the public sector to the informal sector and to self-employment (Table 2), we merged these transitions under the heading of private sector transitions.

the vector of workers' characteristics, including age (and age squared), occupation, regional and settlement effects, sector of activity (industry vs. services), the contract type (temporary vs. permanent), 2014 wages, and time-fixed effects.¹² Vector γ_j measures the effects of these covariates on 2015 status, while $G(\cdot)$ is the cumulative distribution function leading to a particular parametric multinomial specification (logit or probit). The δ_j parameters were hypothesized to be greater than or equal than zero in the presence of wage-cut transition effects.

Heterogeneous Transition Effects

Since women were expected to have higher reservation wages, their likelihood of transition into unemployment/inactivity would be expected to be higher than men's. Similarly, the wage cut might affect early retirement decisions. In order to test these effects, δ_j is specified as a worker-specific parameter:

$$\delta_j = \delta_{j_0} + \delta_{j_1} \text{fem} + \delta_{j_2} \text{age} + \delta_{j_3} \text{age}^2 + \delta_{j_4} \text{fem} * \text{age} + \delta_{j_5} \text{fem} * \text{age}^2 \quad (3)$$

where δ_{j_1} indicates whether the wage cut had different effects on men's vs. women's choices, δ_{j_2} and δ_{j_3} whether the effects on the status were stronger for older workers, while δ_{j_4} and δ_{j_5} account for differential effects of gender at different ages.

We corrected for the effects of selection into the public sector in 2014 by estimating an auxiliary probit model for $(Pr[s_{14} = \text{pub} | Z])$ and using clustered standard errors (regional level) to account for the potential within-cluster correlation¹³. Based on the multinomial probability specified in equation (2), the likelihood function for the i -th observation is written as:

$$Pr[s_{15} = j, s_{14} = \text{pub} | X, Z] = Pr[s_{15} = j | s_{14} = \text{pub}, X] Pr[s_{14} = \text{pub} | Z] \quad (4)$$

Selection into the public sector implies a conditional correlation between the multinomial transition outcome (s_{15}) and the selection equation (s_{14}). In 2014, a working-age individual (20-64) could have been in one of four statuses: 1) inactivity/unemployment, 2) private sector

¹² The list of covariates originally also included household variables: marital status, presence of own children, status of the head of household, number of household members and elderly, and education. These variables were not significant predictors of labor-force transitions, however, and were excluded in order to avoid irrelevant regressor effects and the effects of multicollinearity.

¹³ In order to test the robustness of our results, we applied the same model but used household level cluster standard errors. The results, available upon request, do not suggest conclusions different from those presented in the results section.

(including self-employment and informal employment), 3) public sector, and 4) other (a residual group that included persons with wages that were zero, missing, or reported as intervals). Our final estimation model was therefore a multinomial sector choice with self-selection effects, estimated following a maximum-likelihood parametric approach (Roodman, 2011).

Exclusion restrictions require that some variables included in the selection equation (Z) must not be included in the main equation (Wooldridge, 2009). The choice of the selection variables is based on the literature suggesting that the public sector in Serbia offers lower working hours and higher job security than the private sector (Arandarenko, 2011; Vladislavljević, 2017a). The presence of children, a larger household size, and advancing age all increase the need for predictable working hours and secure jobs, and these characteristics should therefore shift preferences toward public-sector work. On the other hand, marriage could lower preferences for stable (public-sector) work because individuals can rely on their partners in the event of unexpected unemployment. Because the role of marital status and the presence of children may depend on gender roles, we included interactions of these variables with gender¹⁴.

The Normative Effect of the Wage Cut on Wages

Workers who remained in the public sector faced a normative wage cut of 10%. If the wage cut would have resulted in earnings lower than 25,000 RSD, wages were not cut but were simply reduced to 25,000 RSD. For wages above 60,000 RSD, the 10% wage cut replaced the so-called "solidarity tax," which amounted to 20% of the difference between the worker's 2013 wages and 60,000 RSD.¹⁵ The different regimes of the wage cut are presented in the Figure 2:

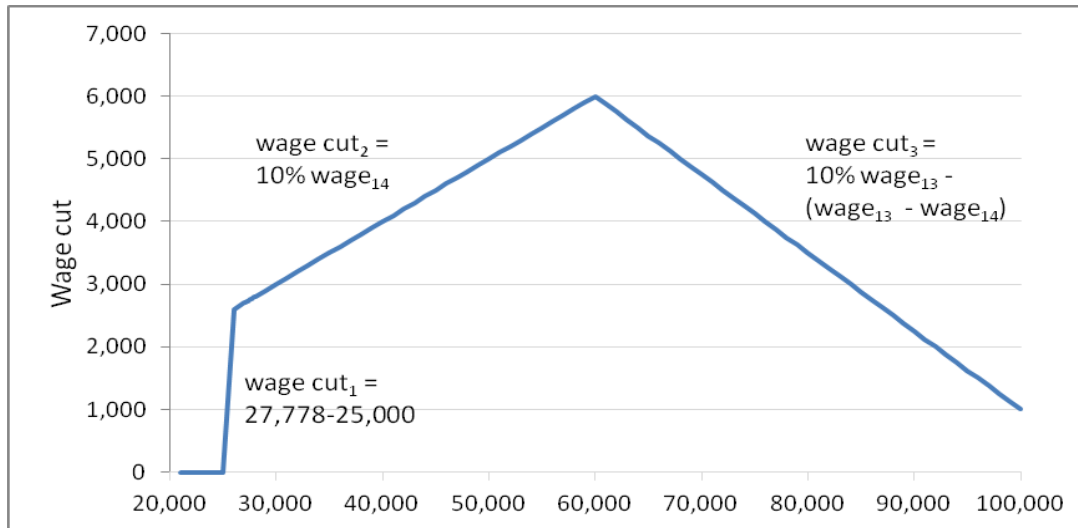
- For wages below 25,000 RSD, there was no wage cut;
- For wages between 25,000 and 27,778 RSD, the wage cut was equal to the difference between the 2014 wage and 25,000;
- For wages between 27,778 and 60,000 RSD, the wage cut was set to 10% of 2014 wages; and

¹⁴ The selection equation also includes education, age (and its square), and regional and settlement effects.

¹⁵ This rule applies to the workers who earned wages up to 100,000 RSD. For workers who earned more than 100,000 RSD, the solidarity tax amounted to 20% of the difference between 100,000 RSD and 60,000 RSD (i.e., 4,000 RSD) and 25% of the difference between the worker's wage and 100,000 RSD. Because the number of subjects in our sample who both worked in the public sector and whose wages were higher than 100,000 RSD was two, and a new cut would need to be formulated for them, we decided to exclude them from the analysis.

- For wages above 60,000 RSD, the wage cut was equal to 10% of 2013 wages (introduction of the wage cut) minus the difference between 2013 and 2014 wages (abolishment of the “solidarity tax”).

Figure 2: Design of the Wage-Cut



We therefore defined three wage-cut variables, each describing the austerity rule for a segment of the wage distribution

$$\text{wage cut}_1 = \text{wage}_{2014} - 25,000, \quad \text{if } 25,000 < \text{wage}_{2014} < 27,788$$

$$= 0, \text{ otherwise}$$

$$\text{wage cut}_2 = \text{wage}_{2014} * 0.1, \quad \text{if } 25,788 \leq \text{wage}_{2014} \leq 60,000$$

$$= 0, \text{ otherwise}$$

$$\text{wage cut}_3 = \text{wage}_{2013} * 0.1 - (\text{wage}_{2013} - \text{wage}_{2014}), \quad \text{if } \text{wage}_{2014} > 60,000$$

$$= 0, \text{ otherwise,}$$

where the wage_{2013} is calculated as $(\text{wage}_{2014} - 60000) / 0.8 + 60000$.

We first verified whether the proposed wage cut had the expected normative effect on the observed wage change¹⁶ of workers who stayed in the public sector and whether gender-heterogeneous effects existed. Here, our econometric specification followed Dubin and McFadden (1984) model (whose properties were studied by Bourguignon et al (2007)). This allowed us to control for multinomial selection effects to estimate the following model.

¹⁶ Both the wage cut and the wage change in the model (5) are presented in real values. We correct the wages from 2015 (which are used for the calculation of the wage change) and the wage cut with the average value of consumer price index (CPI) from 2015. CPI in Serbia is calculated for the territory of the whole country, and no regional inflation rates are available.

$$\Delta wages = \alpha + \sum_{j=1}^3 \tau_j wcut_j + \Delta X' \phi + \lambda' m + q' t + \varepsilon \quad (5)$$

$$\tau_j = \tau_0 + \sum_k \tau_k' Z_k$$

where **wcut** represents the vector of the different wage cut regimes described above, and τ_j represents the effect of different wage cuts. The effects of the wage cut (represented by τ_j coefficients) could be heterogeneous effects depending on variables such as gender (if the wage cut was administered differently to men and women) or sector of activity (as the result of differential compliance between the state sector and state-owned enterprises).

The vector of coefficients ϕ represents the effects of the change in covariates ΔX : working experience squared, occupation, sector of activity (industry vs. services), and contract type (temporary vs. permanent). $q't$ represents time-fixed effects, $\lambda'm$ represents the effects of selection into the public sector in 2014 (similar to previous model), and ε is the error term.

Because the parameters of interest of this equation (τ_j) were identified from the sample of public-sector workers in both 2014 and 2015, we controlled for sample selection bias by estimating a multinomial switching regression model (Dubin & McFadden, 1984; Bourguignon et al, 2007). In this procedure, we first estimated a multinomial probit model that predicted the status of each worker in 2014 and 2015. This probability depended upon a set of household and personal characteristics. In each year, a person from the working-age population (20-64) could occupy one of four statuses: 1) inactivity/unemployment, 2) private sector (including self-employment and informal employment) 3) public sector and 4) other (a residual group that includes persons with zero, missing, and wages reported as intervals). There were sixteen potential statuses for every worker across these two years but, because cross tabulation of labor market statuses for the two-year period indicated low transitions, we simplified the structure and retained only five categories. The first four categories consist of persons whose status did not change between 2014 and 2015, while the fifth category includes all those who transitioned from one status to another between the years.

VI. Results and Discussion

6.1. The Effects of the Wage Cut On Labor-Market Transitions

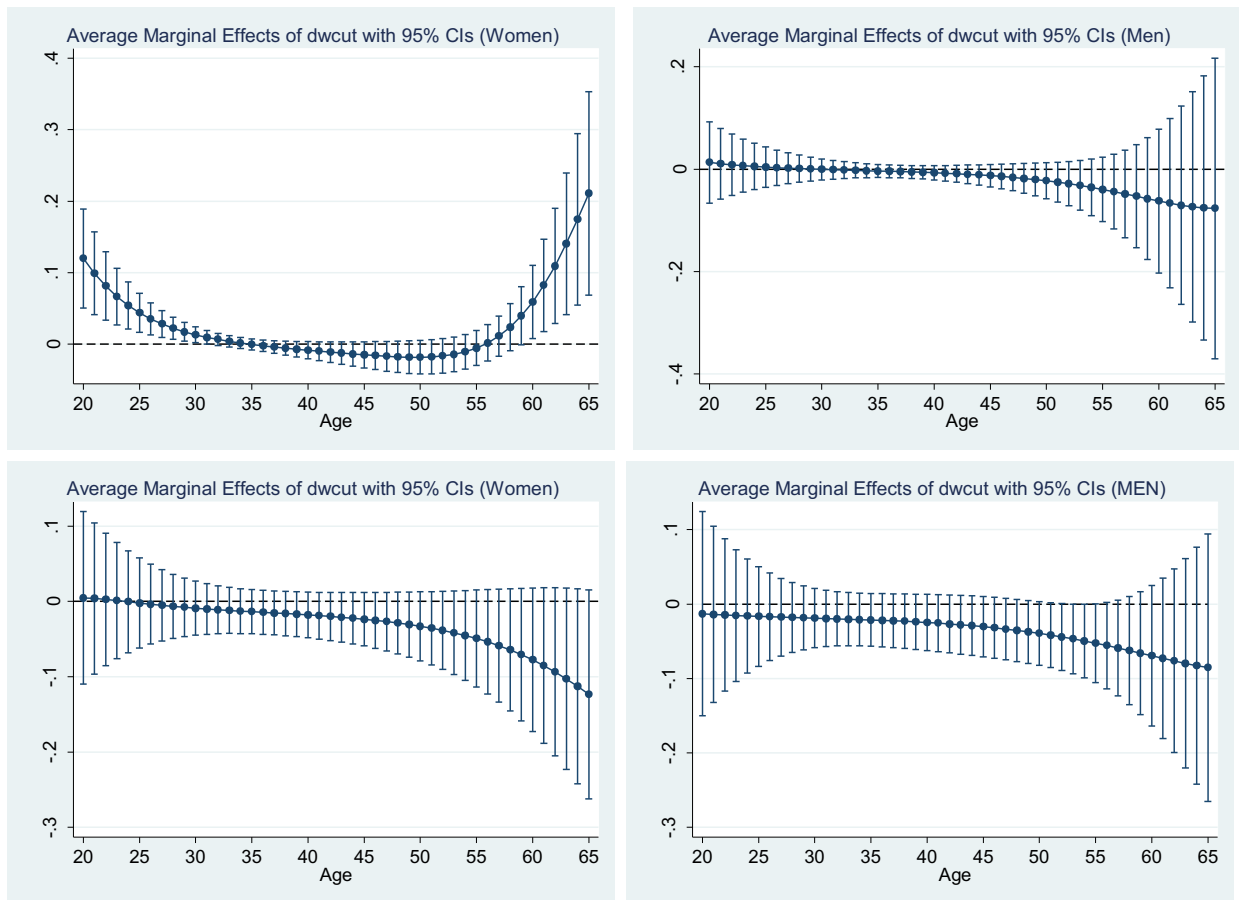
Table A2 in the Appendix presents the estimates of the multinomial probit transition model (Equations 2 and 3) in which we investigated the effect of the wage cut on the probability of transition from the public sector to 1) private sector or 2) unemployment/inactivity.¹⁷ The model that corrects for selection into the public sector presented in Equation 4 is also presented. Although the signs of coefficients of exclusion restrictions of the selection equation were as expected, we found no conditional correlation between the multinomial transition outcome and the selection equation. Selection into the public sector thus plays no role in transition probabilities,¹⁸ implying that the multinomial probit model was preferable and that the sample of public workers was random.

Our estimates suggest that the effects of the wage cut in its interaction with gender were significant for women's transition into unemployment/inactivity, but not for their transition into the private sector. The probit estimates presented in the table are nonlinear, however, and include several interaction terms with the main variable of interest—the wage cut—and the coefficients cannot therefore be directly interpreted. To present these results more clearly, we separately calculated marginal transition effects of the wage cut as a function of age for men and women. These results are presented in Figure 3.

¹⁷ The omitted status that served as a baseline in the multinomial probit was no transition (i.e., remaining in the public sector).

¹⁸ In Table A2 we present the simplest version of the selection model in which we used two statuses in 2014: public sector and other statuses (private sector, unemployment/inactivity, and other). The robustness check, available upon request, in which we model multinomial selection choice for all four groups yields the same results.

Figure 3: Marginal Effects of the Wage Cut According to Age



Notes: The top panels represent the marginal effects of the wage cut on the probability of transition to inactivity for women (left) and men (right), while the bottom panels represent the marginal probability of transition from public to private sector for women (left) and men (right). Sample: Workers employed in the public sector in 2014.

The results suggest that women workers affected by the wage cut were pushed toward unemployment/inactivity. Figure 3 indicates that this effect applied only to younger women (up to the age of 30) and women close to retirement age (60 and above). The likelihood that the wage cut would lead to a transition into unemployment/inactivity increased up to 10% for younger women and as much as 20% for older women.

A detailed analysis of the transition into unemployment/inactivity for younger women indicates that they largely transitioned to unemployment (two-thirds of the cases) and were mostly childless (three-quarters of the cases). This indicates that young women were more likely to be dissatisfied with their positions after the wage reduction and opted out of the public-sector in search of better-paid positions.

A detailed analysis of the situation of older women indicates that their transition was most frequently (in three quarters of the cases) to inactivity (i.e., retirement). As previously noted, austerity measures pushed older women toward retirement (unofficially, as a way of managing the downsizing of the workforce), and the wage cut apparently served as an additional incentive in older women's decisions to retire. The wage cut decreased the spread between the wages of older women workers and their reservation wage and pushed them further toward inactivity. We found no significant transition effects on the men in our sample.

Similarly, we found no statistical evidence of transition effects from the public to private sector for either gender. This lack of significant effects may be explained by the high mobility costs between private and public jobs and the short time span of our analysis (2014-2015) which allowed us to identify only immediate transition effects. Furthermore, the public-sector wage premium, even after austerity measures were introduced, remained high and was about 11.6% in 2015 (Vladislavljević, 2017b).

The Effects of Anticipation of the Wage Cut

The wage cut may also have been anticipated before it actually happened. Consequently, we investigated whether similar effects could be observed in transitions that took place between consecutive quartiles during 2014. We estimated the model described in the Equations 2 and 3, on the new panel data, created by merging individual data from the consecutive quarters of 2014, which allowed us to monitor labor-market transitions within this year. The results, presented in the Table A3 and Figure A1 in the Appendix, suggest that anticipation of the wage cut had no effect on transitions from the public sector to inactivity or the private sector within 2014.

6.2. Effects of the Wage Cut On Wage Change

Workers who remained in the public sector faced a normative wage cut that was articulated in three different regimes according to their 2014 wages (see Figure 2). The main

parameters of interest from the compliance analysis proposed in Equation 5 are presented in Tables 4 and 5; the full equations are reported in Appendix A5.

The results (Table 4, Column 1) indicate that the wage cut had a strong and definite impact on the reduction of public-sector wages. The size of this effect was in line with expectations because confidence intervals for the coefficients suggest they were not significantly different from the expected value of 1.¹⁹ We extended our basic model by putting wage cut variables in interaction with gender. The results show there were no differences in administration of the wage cut for men and women, suggesting that there was no direct gender discrimination in compliance with the wage cut (Table 4, Column 2).

Table 4: Effects of the Wage Cut on Wage Change in the Public Sector

Wage change (in 000 RSD)	1		2	
Wage cut 1 - from 25,000 to 27,777 RSD (in 000)	-0.227	(0.486)	-0.424	(0.882)
Wage cut 2- from 27,778 to 60,000 RSD (in 000)	0.755***	(0.139)	0.762***	(0.187)
Wage cut 3 - from 60,001 RSD (in 000)	1.390***	(0.241)	1.418***	(0.293)
Women * Wage cut 1			0.406	(1.107)
Women * Wage cut 2			-0.017	(0.209)
Women * Wage cut 3			-0.076	(0.536)

Sample: Workers employed in the public sector in both 2014 and 2015.

As more fully explored above, the literature suggests a heterogeneous level of compliance with the wage cut in the state sector vs. in state-owned enterprises. We tested this hypothesis by interacting the wage cut variable with a dummy variable representing state-sector work in 2014.²⁰ The results suggest that compliance in the case of state-sector workers was significantly higher than it was in state-owned enterprises (for wages between 27,778 and 60,000 RSD; Table 5, Column 3). The size of the coefficient indicates full compliance in the state sector because the sum of the coefficients for the level and interaction term is approximately equal to 1. On the other hand, state-owned enterprises did not fully comply with the reform (their coefficient was 0.504—significantly lower than 1). Heterogeneous compliance in the state sector vs. state-owned enterprises is probably explained by the greater autonomy of the latter in determining wages and employment levels.

¹⁹ The coefficient next to the wage cut for wages between 25,000 and 27,777 RSD is not statistically significant, probably because the number of workers in the sample with these wages was small (32). The sample for the third wage cut variable was also small (58).

²⁰The full breakdown of state-owned enterprises and the state sector is presented in the Table A7 in the Appendix.

Although women did not directly experience discrimination in the application of the wage cut, the effects fell more heavily on them because they represent the majority of state-sector workers. To test this idea, we investigated the effects of the wage cut separately on sectors dominated by men and on those in which women were the majority,²¹ and our results confirm that compliance with the wage cut was higher in women-dominated sectors (the sum of the coefficients is approximately equal to 1).

Table 5: The Effects of the Wage Cut On Wage Change in the Public Sector – Continued

Wage change (in 000 RSD)	3		4	
Wage cut 1 - from 25,000 to 27,777 RSD (in 000)	-0.888	(0.892)	-0.579	(0.697)
Wage cut 2- from 27,778 to 60,000 RSD (in 000)	0.504***	(0.178)	0.636***	(0.144)
Wage cut 3 - from 60,001 RSD (in 000)	1.290***	(0.440)	1.506***	(0.375)
State sector * Wage cut 1	1.246	(0.978)		
State sector * Wage cut 2	0.433***	(0.167)		
State sector * Wage cut 3	0.283	(0.531)		
Women-dominated sectors * Wage cut 1			0.893	(0.971)
Women-dominated sectors * Wage cut 2			0.323**	(0.127)
Women-dominated sectors * Wage cut 3			-0.278	(0.513)

Sample: Workers employed in the public sector in both 2014 and 2015.

These results can be better understood through descriptive statistics, which suggest that a higher percentage of women worked for under 25,000 RSD, a salary level that was exempted from the reform (Figure 4). Therefore, the aftermath of the reform should have been a reduction of the gender wage gap in the public sector because a smaller share of women's wages should have been affected by the cut. Instead, we observed no changes in the gap (Table 3).

The five selection terms ($\lambda'm$) of the Dubin and McFadden (1984) model correspond to five regimes as follows: 1) inactivity/unemployment, 2) private sector 3) public sector, 4) other, and 5) persons who moved from one status to another between the years. As expected, most of the selection terms were significant, which implies that the many (five) subsamples of workers were not random with respect to the error of the main equation. On the contrary, the underlying unobserved ability (unobserved heterogeneity) appeared to determine wage levels across the regimes and translated into statistically significant selection terms.

²¹ Women-dominated sectors include education, human health and social work, and wholesale and retail trade.

VII. Conclusions and Policy Implications

Our results indicate that the wage cut pushed younger women and women close to retirement age from the public sector and into unemployment or inactivity while no such effects were observed for men. Neither men nor women seemed to transition into the private sector as a consequence of the wage cut. A more detailed analysis suggests that most young women (up to 30 years of age) transitioned to unemployment. Because the majority of these women were childless, we surmised that women with children might have chosen to stay in the public sector rather than transfer to unemployment or search for better work because their readiness to cope with uncertainty in the labor market was low. In contrast, the wage cut increased the transition of older women workers (close to retirement age) to inactivity. Our finding that the wage cut had an effect on older women workers, while having none on prime-age workers, could be the consequence of the interaction of the wage-cut effect with the effect of early-retirement incentives that accompanied austerity measures.

We found greater compliance with wage cuts in the state sector as compared to state-owned enterprises, and we identified no heterogeneous compliance with respect to gender. Nevertheless, the concentration of women in the state sector implies that women workers were, indirectly, more affected by higher compliance in this sector. From a normative perspective and under full compliance in both state and state-owned enterprises, the reform should have reduced the wage gap between men and women in the public sector because a lower share of women's wages should have been affected by the wage cut. Instead, we observed that there were no changes in the gap as a result of lower compliance in state-owned enterprises as compared to the state sector.

Despite political rhetoric about gender rights in Serbia and the many initiatives, policies, and programs aimed at improving the position of women in the workforce, there is still no practice of conducting a gender-sensitive analysis before new policy measures are implemented. Because little or no monitoring of the implementation of public policies takes place, we also observed a slight increase in the gender pay gap in the public sector after the implementation of austerity measures rather than a reduction. To keep this from becoming standard practice, it is essential to develop and apply formal procedures for evaluating and monitoring the impact of future policy reforms on wage and income distribution.

References

- Addabbo, T., Bastos, A., Casaca, S.F., Duvvury, N. and Ni Leime, A. (2015). Gender and Labor in Times of Austerity: Ireland, Italy and Portugal in Comparative Perspective. *International Labor Review* 154(4): 449-473.
- Addabbo, T., Klatzer, E., Schlager, C., Villa, P. and De Villota, P. (2018). Challenges of Austerity and Retrenchment of Gender Equality. In *Gender Budgeting in Europe. Developments and Challenges*, In: A. O'Hagan and Klatzer E., Eds., Basingstoke: Palgrave Macmillan, 57-85.
- Addabbo, T., Rodriguez-Modroño, P., and Gálvez-Muñoz, L. (2013). Gender and the Great Recession: Changes in Labour Supply in Spain. *Demb Working Paper Series No. 10*. Università Di Modena e Reggio Emilia.
- Annesley, C. (2014). *UK Austerity Policy: A Feminist Perspective*. Berlin: Friedrich-Ebert-Stiftung.
- Arandarenko, M. (2011). *Tržište Rada U Srbiji: Trendovi, Institucije, Politike*. Beograd: Ekonomski Fakultet Univerzitet U Beogradu.
- Arandarenko, M., Krstić, G. and Žarković Rakić, J. (2017). *Dohodna Nejednakost U Srbiji: Od Podataka Do Politike*. Beograd: Friedrich-Ebert-Stiftung.
- Avlijaš, S., Ivanović, N., Vladislavljević, M. and Vujić, S. (2013). Gender Pay Gap in the Western Balkan Countries: Evidence from Serbia, Montenegro and Macedonia. Belgrade: Fren (Foundation for the Advancement of Economics).
- Barry, U. and Conroy, P. (2014). Ireland in Crisis: Women, Austerity and Inequality. In: M. Karamessini and J. Rubery, Eds., *Women and Austerity: the Economic Crisis and the Future For Gender Equality*. London: Routledge, 168-207.
- Bertrand, M. (2011). New Perspectives on Gender. In O. Ashenfelter and D. Card, Eds., *Handbook of Labor Economics*, Vol. 4b. Amsterdam: Elsevier B.V., 1543-1590.
- Bourguignon, F., Fournier, M. and Gurgand, M. (2007). Selection Bias Corrections Based on the Multinomial Logit Model: Monte Carlo Comparisons. *Journal of Economic Surveys* 21(1): 174-205.
- Cerrutti, M. (2000). Economic Reform, Structural Adjustment and Female Participation in the Labour Force in Buenos Aires, Argentina. *World Development* 28(5): 880-98.
- Dubin, J. A. & McFadden, D. L. (1984). An Econometric Analysis of Residential Electric Appliance Holdings and Consumption. *Econometrica: Journal of the Econometric Society* VOL 52: 345-362.
- EPSU (2016). *Cuts in Public Sector Pay and Employment: The Ongoing Impact on Women in the Public Sector*. Brussels: European Public Service Union.
- Felfe, C. (2012). The Willingness to Pay for Job Amenities: Evidence from Mothers' Return to Work. *ILR Review* 65(2): 427-454.
- Fulton, L. (2011). *Widening the Gender Gap: The Impact of Public Sector Pay and Job Cuts on the Employment and Working Conditions of Women in Four Countries*. London: Labour Research Department.

- Gonzales Gago, E. and Segales Kirzner, M. (2014). Women, Gender Equality and the Economic Crisis in Spain. In: Karamessini, M. and J. Rubery, Eds., *Women and Austerity: the Economic Crisis and the Future For Gender Equality*. London: Routledge, 228-248.
- Ivić, I., Pešikan, A. and Jankov, R. (2012). Situation Analysis of Educational Institutions Network, Human Resources, and Educational Statistic in Serbia. Belgrade: Ministry of Education.
- IMF (2015). *Country Report: Republic of Serbia*. No. 13/206. Washington, DC: International Monetary Fund (IMF).
- Karamessini, M. and Rubery, J. (2013). *Women and Austerity: The Economic Crisis and the Future For Gender Equality*. London: Routledge.
- Karamessini, M. (2014). Introduction: Women's Vulnerability to Recession and Austerity: A Different Crisis, A Different Context. In M. Karamessini and J. Rubery, Eds., *Women and Austerity: the Economic Crisis and the Future for Gender Equality*. London: Routledge, 3-17.
- Krstić, G. and Žarković-Rakić, J. (2016). Dohodna nejednakost u Srbiji: uzroci i preporuke za politiku. In: Arsić, M and D. Šošlić, Eds., *Ekonomska politika srbije u 2017*. Beograd: Ekonomski fakultet, 141-157
- Perivier, H. (2018). Recession, Austerity and Gender: A Comparison of Eight European Labor Markets. *International Labor Review* 157(1):1-39.
- Perugini, C, Žarković-Rakić, J., Vladislavljević, M. 2018. Austerity and Gender Wage Inequality in EU Countries. *Cambridge Journal of Economics*, forthcoming (<https://doi.org/10.1093/cje/bey044>)
- Piazzalunga, D. and Di Tommaso, M. L. (2018). The Increase of the Gender Wage Gap in Italy During the 2008-2012 Economic Crisis. *The Journal of Economic Inequality* Online First: 1-23. Available at <https://link.springer.com/article/10.1007%2Fs10888-018-9396-8>.
- Republic of Serbia (2013). Zakon o umanjenju neto prihoda lica u javnom sektoru. Beograd: Službeni glasnik rs, br. 108/13.
- Republic of Serbia (2014). Zakon o privremenom uređivanju osnovica za obračun i isplatu plata, odnosno zarada i drugih stalnih primanja kod korisnika javnih sredstava. Beograd: Službeni Glasnik Rs, Br. 116/2014.
- Roodman, D. (2011). Fitting Fully Observed Recursive Mixed-Process Models with CMP. *The Stata Journal* 11(2): 159–206.
- Rubery, J. (2015). Austerity and the Future for Gender Equality in Europe. *ILR Review* 68(4): 715-741.
- SORS (2015). "2014 Labour Force Survey in the Republic of Serbia", Bulletin 623. Belgrade: Statistical Office of the Republic of Serbia. available at: <http://publikacije.stat.gov.rs/G2017/PdfE/G20175623.pdf>
- Theodoropoulou, S. and Watt, A. (2011). *Withdrawal Symptoms: An Assessment of the Austerity Packages in Europe*. ETUI Working Paper 2011. Brussels: European Trade Union Institute (ETUI).
- Thorsdottir, T. K. (2014). Iceland in Crisis: Gender Equality and Social Equity. In Karamessini, M. and J. Rubery, Eds., *Women and Austerity: the Economic Crisis and the Future for Gender Equality*. London: Routledge, 102-123.

- Vladisavljević, M., Avlijaš, S. and Vujić, S. (2015). Gender Inequality in Wages in the Western Balkans. In C. Perugini and F. Pompei, Eds., *Inequalities During and After Transition in Central and Eastern Europe*. Basingstoke: Palgrave Macmillan UK, 222-243.
- Vladisavljević, M. (2017a). Public Private Job Satisfaction Differential in Serbia: Evidence from SILC Data. In M. Cukanović-Karavidić, et al., Eds., *Education for Entrepreneurial Business and Employment*. Newton Abbot: Compass Publishing, 186-206.
- Vladisavljević, M. (2017b). The Public-Sector Wage Premium and Fiscal Consolidation in Serbia. *Ekonomski Anali* 62(215): 111-133.
- Vladisavljević, M. and Nojković, A. (2018). Wage Inequality Between and Within Public and Private Sector in Serbia in the Times of Austerity. Unpublished manuscript.
- Wooldridge, J. M. (2009). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.
- World Bank (2015). Republic of Serbia Public Finance Review: Toward a Sustainable and Efficient Fiscal Policy. World Bank Report No. 96451-Yf. Washington, DC: The World Bank Group.
- Zarkovic-Rakic, J. and Vladisavljevic, M. (2016). Women's Access To Economic Opportunities in Serbia. World Bank Report No. 96451-Yf. Washington, DC: The World Bank Group.

Appendix

Table A1: Descriptive Statistics for the Labor Market Transition Model

	N	Mean	Standard deviation
<i>Status change variables</i>			
Status change	2,995	0.119	0.413
Wage cut (dummy)	2,995	0.779	0.415
Women	2,995	0.478	0.500
Women * wage cut (dummy)	2,995	0.360	0.480
Age	2,995	45.11	9.72
Senior officials and managers	2,995	0.023	0.151
Professionals	2,995	0.269	0.443
Technicians and associate professionals	2,995	0.203	0.403
Clerks	2,995	0.109	0.312
Service and sales workers	2,995	0.112	0.316
Craft and trades workers	2,995	0.090	0.287
Plant and machine operators	2,995	0.078	0.268
Elementary occupations	2,995	0.115	0.319
Services	2,995	0.780	0.414
Temporary contracts	2,995	0.069	0.254
Wage 14	2,980	38,596	15,703
Beograd	2,995	0.205	0.404
Vojvodina	2,995	0.221	0.415
Zapadna Srbija	2,995	0.292	0.455
Istocna Srbija	2,995	0.281	0.450
Urban Settlement	2,995	0.647	0.478
<i>Selection equation variables</i>			
Women	23,778	0.507	0.500
Age	23,778	45.03	13.28
Has own children	23,778	0.242	0.428
Women * Has own children	23,778	0.054	0.225
Married	23,778	0.649	0.477
Women * Married	23,778	0.341	0.474
Household head	23,778	0.367	0.482
Number of household members	23,778	3.806	1.679
Number of elderly	23,778	0.393	0.889
Primary or less	23,778		
Secondary (2-3 years)	23,778	0.243	0.429
Secondary (4 years)	23,778	0.358	0.480
Tertiary (Grad school)	23,778	0.053	0.224
Tertiary (University, including MA and PhD)	23,778	0.110	0.313
Beograd	23,778		
Vojvodina	23,778	0.253	0.435
Zapadna Srbija	23,778	0.309	0.462
Istocna Srbija	23,778	0.251	0.433
Urban Settlement	23,778	0.544	0.498

Table A2: Effects of the Wage Cut on Labor Market Transitions¹

VARIABLES	Multinomial probit				Conditional Mixed Process					
	Transition to inactivity		Transition into private sector		Selection to public sector 2014		Transition to inactivity		Transition into private sector	
	coef	se	coef	se	coef	se	coef	se	coef	se
Wage cut	1.978	(2.365)	-0.412	(1.642)			2.063	(2.623)	-0.251	(1.672)
Women	-0.015	(0.291)	-0.040	(0.201)	-0.094**	(0.043)	-0.016	(0.243)	-0.051	(0.201)
Women * Wage cut	6.800***	(2.564)	3.204	(2.252)			6.495***	(2.467)	1.603	(0.000)
Age	-0.109	(0.105)	-0.167**	(0.066)	0.230***	(0.009)	-0.076	(0.118)	-0.039	(0.092)
Age square	0.002	(0.001)	0.002***	(0.001)	-0.003***	(0.000)	0.002	(0.001)	0.001	(0.001)
Age * Wage cut	-0.100	(0.098)	0.009	(0.077)			-0.100	(0.123)	0.001	(0.095)
Age square * Wage cut	0.001	(0.001)	-0.000	(0.001)			0.001	(0.001)	-0.000	(0.001)
Age * Women* Wage cut	-0.321***	(0.102)	-0.124	(0.119)			-0.310***	(0.115)	-0.054	(0.062)
Age square * Women* Wage cut	0.004***	(0.001)	0.001	(0.001)			0.004***	(0.001)	0.000	(0.001)
Managers	0.244	(0.274)	0.471	(0.718)			-0.011*	(0.006)	-0.003	(0.007)
Professionals	0.162	(0.405)	0.462	(0.475)			0.259	(0.524)	0.506	(1.360)
Technicians	0.088	(0.368)	0.583*	(0.353)			0.197	(0.303)	0.464	(1.214)
Clerks	0.540**	(0.267)	0.313	(0.356)			0.085	(0.273)	0.489	(1.231)
Service and sales workers	0.321*	(0.193)	0.699**	(0.321)			0.558**	(0.265)	0.294	(0.776)
Craft and trades workers	0.272	(0.172)	0.845**	(0.395)			0.278	(0.269)	0.503	(1.227)
Plant and machine operators Elementary occupations (omitted)	0.661*	(0.348)	0.500	(0.414)			0.187	(0.296)	0.619	(1.503)
Belgrade (omitted)										
Vojvodina	-0.214***	(0.063)	-0.682***	(0.124)			0.640**	(0.278)	0.343	(0.847)
Zapadna Srbija	-0.081	(0.052)	-0.380***	(0.091)	0.014	(0.035)	-0.156	(0.187)	-0.477	(1.116)
Istocna Srbija	-0.509***	(0.063)	-0.487***	(0.111)	0.121***	(0.033)	-0.021	(0.174)	-0.257	(0.597)
Settlement	-0.159	(0.167)	-0.173***	(0.056)	0.199***	(0.034)	-0.460**	(0.193)	-0.273	(0.617)
Services	-0.357**	(0.139)	-0.785***	(0.089)	0.076***	(0.025)	-0.141	(0.132)	-0.079	(0.208)
Temporary contract	1.226***	(0.215)	1.162***	(0.173)			-0.281*	(0.161)	-0.508	(1.170)
Wage 14	-0.012	(0.007)	-0.006	(0.012)			1.142***	(0.228)	0.699	(1.622)
Q1 (omitted)										
Q2	0.097	(0.084)	0.223	(0.250)			0.084	(0.173)	0.151	(0.386)
Q3	-0.181	(0.316)	0.155	(0.324)			-0.182	(0.182)	0.122	(0.328)
Q4	0.186	(0.231)	0.323	(0.235)			0.168	(0.170)	0.223	(0.523)

Continued on the next page. Cluster robust standard errors (region) in parentheses. *** p<0.01, ** p<0.05, * p<0.1

¹ Omitted from the dependent variable are the workers who remained in the public sector. The coefficients therefore indicate the effect of variables on a higher likelihood of transitioning to one of the two alternative statuses compared to staying in the public sector.

Table A2: Effects of the Wage Cut on Labor Market Transitions - Continued from previous page

VARIABLES	Multinomial probit				Conditional Mixed Process					
	Transition to inactivity		Transition into private sector		Selection to public sector 2014		Transition to inactivity		Transition into private sector	
	coef	se	coef	se	coef	se	coef	se	coef	se
Has own children					-0.086***	(0.033)				
Women * Has own children					-0.060	(0.057)				
Married					0.120***	(0.042)				
Women * Married					0.006	(0.055)				
Household head					0.106***	(0.032)				
Number of household members					0.016*	(0.009)				
Number of elderly (age>69)					-0.000	(0.013)				
Primary (omitted)										
Secondary (2-3 years)					0.311***	(0.040)				
Secondary (4 years)					0.642***	(0.037)				
Tertiary (Grad school)					0.932***	(0.053)				
Tertiary (University)					1.224***	(0.043)				
Insig_4					-0.051	(2.375)				
atanhrho_13					0.106	(0.224)				
atanhrho_14					0.255	(0.293)				
atanhrho_34					-0.173	(0.774)				
Constant	-0.737	(1.911)	1.192	(1.062)	-6.639***	(0.190)	-1.906	(2.828)	-1.103	(4.124)
Sample	2,980		2,980		23,772		23,772		23,772	

Cluster robust standard errors (region) in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A3: Effects of Anticipation of the Wage Cut On Labor Market Transitions¹

VARIABLES	Multinomial probit			
	Transition to inactivity		Transition into private sector	
	coef	se	coef	se
Wage cut	3.294**	(1.508)	2.524	(3.491)
Women	0.465**	(0.236)	-0.172	(0.258)
Women * Wage cut	3.209*	(1.894)	1.146	(4.596)
Age	-0.131***	(0.047)	0.103	(0.150)
Age * Wage cut	0.001***	(0.000)	-0.002	(0.002)
Age square * Wage cut	-0.216***	(0.064)	-0.193	(0.156)
Age * Women * Wage cut	0.003***	(0.001)	0.003	(0.002)
Age square * Women * Wage cut	-0.148	(0.121)	-0.048	(0.207)
Managers	0.002	(0.002)	0.001	(0.002)
Professionals	-0.000	(0.000)	-0.000	(0.000)
Technicians	0.382	(0.495)	1.096**	(0.485)
Clerks	0.462	(0.413)	0.684	(0.487)
Service and sales workers	-0.055	(0.305)	0.409	(0.399)
Craft and trades workers	-0.099	(0.541)	0.006	(0.379)
Plant and machine operators	0.028	(0.362)	0.448	(0.627)
Elementary occupations (omitted)	0.473	(0.292)	0.116	(0.417)
Belgrade (omitted)	0.116	(0.539)	0.285	(0.468)
Vojvodina				
Zapadna Srbija				
Istocna Srbija	-0.239***	(0.020)	-0.456***	(0.068)
Settlement	-0.576***	(0.116)	-0.342***	(0.110)
Services	-0.117*	(0.068)	-0.484***	(0.138)
Temporary contract	-0.043	(0.281)	-0.257	(0.162)
Wage 14	-0.768***	(0.293)	-1.034***	(0.214)
Q1 (omitted)	0.995**	(0.408)	0.516***	(0.145)
Q2	0.413***	(0.148)	-0.023	(0.235)
Q3	0.219	(0.139)	-0.189	(0.216)
Constant	0.057	(1.775)	-2.653	(2.644)
Sample	2,730		2,730	

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

¹ Omitted from the dependent variable are the workers who remained in the public sector. The coefficients therefore indicate the effect of variables on a higher likelihood of transitioning to one of the two alternative statuses compared to staying in the public sector.

Figure A1: Marginal Effects of the Wage Cut for Men and Women (anticipated wage cut)

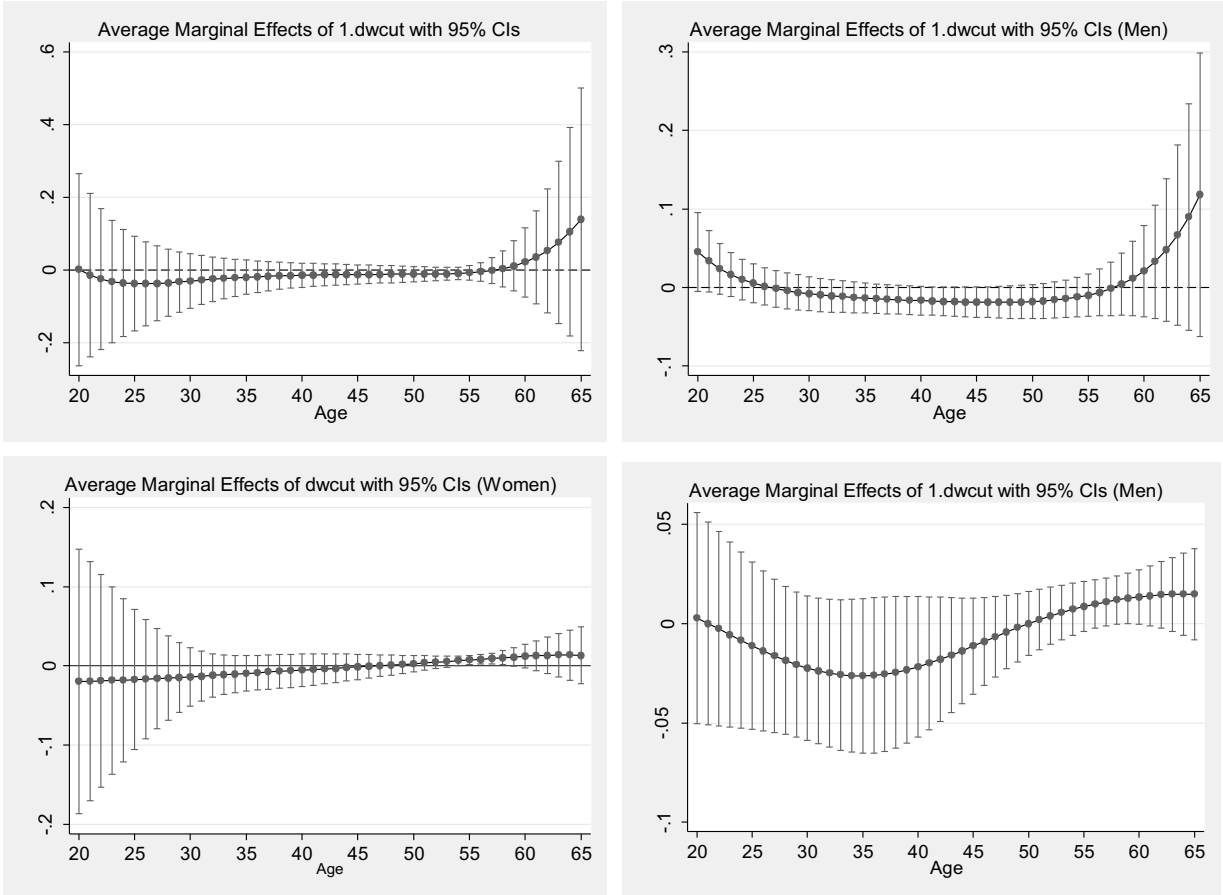


Table A4: Descriptive Statistics for the Wage-Change Model

	N	Mean	Standard deviation
Wage change equation			
Wage change	1,015	1.664	6.299
Wage cut 1 ≠ 0	32	1.458	0.535
Wage cut 2 ≠ 0	672	3.977	0.818
Wage cut 3 ≠ 0	59	3.924	1.355
Women	1,015	0.533	0.499
d_Working Experience square	1,015	41.2	19.8
d_Senior officials and managers	1,015	-0.002	0.077
d_Professionals	1,015	0.000	0.089
d_Technicians and associate professionals	1,015	-0.001	0.104
d_Clerks	1,015	-0.002	0.099
d_Service and sales workers	1,015	-0.001	0.094
d_Craft and trades workers	1,015	0.003	0.104
d_Plant and machine operators	1,015	0.001	0.094
d_Elementary occupations	1,015	0.002	0.089
d_Services	1,015	-0.006	0.089
d_Temporary contracts	1,015	0.005	0.151
Selection equation variables			
Women	23,770	0.507	0.500
Age	23,770	45.03	13.28
Has own children	23,770	0.242	0.428
Women * Has own children	23,770	0.054	0.225
Married	23,770	0.649	0.477
Women * Married	23,770	0.341	0.474
Household head	23,770	0.367	0.482
Number of household members	23,770	3.806	1.679
Number of elderly	23,770	0.393	0.889
Primary or less	23,770	0.002	0.089
Secondary (2-3 years)	23,770	0.243	0.429
Secondary (4 years)	23,770	0.358	0.480
Tertiary (Grad school)	23,770	0.053	0.224
Tertiary (University, including MA and PhD)	23,770	0.110	0.313
Beograd	23,770	0.187	0.390
Vojvodina	23,770	0.253	0.435
Zapadna Srbija	23,770	0.309	0.462
Istocna Srbija	23,770	0.251	0.433
Urban Settlement	23,770	0.544	0.498

Table A5: The effects of wage cut on the wage change (Continued on the next page)

Model	0		1		2		3		4	
VARIABLES	coef	se	coef	se	coef	se	coef	se	coef	se
Gender	-0.971*	(0.534)	-0.256	(0.516)	-0.229	(0.732)	-0.606	(0.511)	-0.523	(0.529)
Wage cut 1 - from 25,000 to 27,777 RSD			-0.227	(0.486)	-0.424	(0.882)	-0.888	(0.892)	-0.579	(0.697)
Wage cut 2 - from 27,778 to 60,000 RSD			0.755***	(0.139)	0.762***	(0.187)	0.504***	(0.178)	0.636***	(0.144)
Wage cut 3 - from 60,001 RSD			1.390***	(0.241)	1.418***	(0.293)	1.290***	(0.440)	1.506***	(0.375)
Women * Wage cut 1					0.406	(1.107)				
Women * Wage cut 2					-0.017	(0.209)				
Women * Wage cut 3					-0.076	(0.536)				
State sector * Wage cut 1							1.246	(0.978)		
State sector * Wage cut 2							0.433***	(0.167)		
State sector * Wage cut 3							0.283	(0.531)		
Women-dom. sectors * Wage cut 1									0.893	(0.971)
Women-dom. sectors * Wage cut 2									0.323**	(0.127)
Women-dom. sectors * Wage cut 3									-0.278	(0.513)
d_Working Experience square	0.016	(0.012)	-0.002	(0.011)	-0.002	(0.013)	0.000	(0.012)	-0.004	(0.012)
d_Senior officials and managers	-9.628	(8.169)	-9.915	(7.688)	-9.905	(6.914)	-9.808*	(5.536)	-9.825	(6.780)
d_Professionals	-5.403	(8.413)	-5.642	(7.717)	-5.547	(7.878)	-4.985	(6.875)	-5.087	(8.157)
d_Technicians and associate professionals	0.155	(7.555)	-0.957	(7.041)	-0.916	(7.090)	-0.706	(5.994)	-0.663	(7.199)
d_Clerks	0.123	(7.770)	-0.937	(7.768)	-0.897	(7.347)	-0.933	(6.735)	-0.846	(7.689)
d_Service and sales workers	-1.007	(7.329)	-1.287	(7.438)	-1.264	(6.978)	-1.092	(6.004)	-1.180	(7.185)
d_Craft and trades workers	-10.234	(7.449)	-10.700	(7.715)	-10.641	(6.526)	-10.349	(6.372)	-10.458	(7.148)
d_Plant and machine operators	-2.485	(7.669)	-3.587	(7.482)	-3.561	(6.829)	-3.310	(6.530)	-3.378	(7.362)
d_Elementary occupations	0.000	(7.768)	0.000	(7.629)	0.000	(7.205)	0.000	(6.206)	0.000	(7.425)
d_Services	-4.008	(2.783)	-3.775	(2.421)	-3.774	(2.349)	-4.252*	(2.385)	-3.772	(2.473)
d_Temporary contracts	2.521	(1.669)	2.296	(1.599)	2.306	(1.530)	2.288	(1.421)	2.273	(1.596)
quartal== 2.0000	-0.944	(0.735)	-0.757	(0.716)	-0.764	(0.709)	-0.694	(0.740)	-0.705	(0.655)
quartal== 3.0000	-0.315	(0.538)	-0.165	(0.584)	-0.174	(0.603)	-0.130	(0.612)	-0.209	(0.559)
quartal== 4.0000	0.062	(0.568)	0.094	(0.580)	0.087	(0.586)	0.119	(0.548)	0.111	(0.532)
_m1	30.440***	(6.549)	22.966***	(6.251)	23.009***	(6.342)	20.257***	(6.464)	21.154***	(6.262)
_m2	34.913***	(6.492)	23.576***	(6.429)	23.708***	(6.323)	20.434***	(6.626)	21.480***	(6.592)
_m3	-1.407	(1.697)	-1.077	(1.518)	-1.123	(1.636)	-1.159	(1.490)	-1.080	(1.582)
_m4	31.985***	(8.481)	28.519***	(8.047)	28.676***	(7.852)	27.681***	(7.635)	27.464***	(8.249)
_m5	11.627*	(6.698)	15.193**	(6.384)	15.110**	(6.046)	13.038**	(6.499)	15.220**	(6.497)
Constant	36.462***	(8.519)	28.274***	(8.226)	28.411***	(8.049)	25.457***	(8.582)	26.935***	(8.290)

Continued on the next page. Cluster robust standard errors (region) in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A5: The effects of wage cut on the wage change (continued from the previous page)

Model	0		1		2		3		4	
VARIABLES	coef	se	coef	se	coef	se	coef	se	coef	se
Selection diagnostics										
Sigma2	817.625***	(315.486)	534.288**	(249.089)	537.612**	(227.218)	444.707**	(221.106)	478.942**	(205.348)
rho1	1.065***	(0.076)	0.994***	(0.101)	0.992***	(0.137)	0.961***	(0.175)	0.967***	(0.158)
rho2	1.221***	(0.077)	1.020***	(0.123)	1.022***	(0.133)	0.969***	(0.188)	0.982***	(0.170)
rho3	-0.049	(0.069)	-0.047	(0.078)	-0.048	(0.087)	-0.055	(0.086)	-0.049	(0.090)
rho4	1.119***	(0.162)	1.234***	(0.218)	1.237***	(0.202)	1.313***	(0.180)	1.255***	(0.251)
rho5	0.407*	(0.228)	0.657***	(0.242)	0.652**	(0.256)	0.618**	(0.277)	0.695**	(0.308)
Sample – conditional on observing wages	1,015		1,015		1,015		1,015		1,015	
Sample – total	23,770		23,770		23,770		23,770		23,770	

Cluster robust standard errors (region) in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A6: Breakdown of workers in state-owned enterprises (SOE) and the state sector (SS) by NACE code

NACE code	Sector/subsector	SOE/SS
B	Mining and quarrying	SOE
C	Manufacturing	SOE
D	Electricity, gas, steam and air conditioning supply	SOE
E	Water supply; sewerage, waste management and remediation activities	SOE
F	Construction	SOE
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	SOE
H	Transportation and storage	SOE
I	Accommodation and food service activities	SOE
J	Information and communication	SOE
K	Financial and insurance activities	SS
L	Real estate activities	SOE
M	Professional, scientific and technical activities	
M 69.1	Legal activities	SS
M 69.2	Accounting, bookkeeping and auditing activities; tax consultancy	SS
M 70.1	Activities of head offices	SS
M 70.2	Management consultancy activities	SS
M 71.1	Architectural and engineering activities and related technical consultancy	SOE
M 71.2	Technical testing and analysis	SOE
M 72.1	Research and experimental development on natural sciences and engineering	SS
M 72.2	Research and experimental development on social sciences and humanities	SS
M 73.1	Advertising	SS
M 73.2	Market research and public opinion polling	SS
M 74.9	Other professional, scientific and technical activities n.e.c.	SS
M 75.0	Veterinary activities	SS
N	Administrative and support service activities	
N 78.1	Activities of employment placement agencies	SOE
N 78.3	Other human resources provision	SOE
N 79.1	Travel agency and tour operator activities	SOE
N 80.1	Private security activities	SOE
N 80.2	Security systems service activities	SOE
N 81.1	Combined facilities support activities	SOE
N 81.2	Cleaning activities	SOE
N 81.3	Landscape service activities	SOE
N 82.1	Office administrative and support activities	SS
N 82.3	Organization of conventions and trade shows	SS
N 82.9	Business support service activities n.e.c	SS
O	Public administration and defence; compulsory social security	SS
P	Education	SS
Q	Human health and social work activities	SS
R	Arts, entertainment and recreation	
R 90.0	Creative, arts and entertainment activities	SS
R 91.0	Libraries, archives, museums and other cultural activities	SS
R 92.0	Gambling and betting activities	SOE
R 93.1	Sports activities	SOE
R 93.2	Amusement and recreation activities	SOE

S	Other service activities	
S 94.1	Activities of business, employers and professional membership organizations	SS
S 94.2	Activities of trade unions	SS
S 94.9	Activities of other membership organizations	SS
S 95.2	Repair of personal and household goods	SOE
S 96.0	Other personal service activities	SOE
U	Activities of extraterritorial organizations and bodies	SS