

4-11-2019

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Recommended Citation

Vodopivec, M. (2019). Levelling the Playing Field: The Effects of Slovenia's 2013 Labour Market Reform. *Economic and Business Review*, 21(1). <https://doi.org/10.15458/85451.81>

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LEVELLING THE PLAYING FIELD: THE EFFECTS OF SLOVENIA'S 2013 LABOUR MARKET REFORM

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Received: July 3, 2018

Accepted: September 13, 2018

ABSTRACT: *The paper examines the effects of the 2013 labour market reform in Slovenia which made permanent contracts less restrictive and fixed-term contracts more restrictive. Using matched employer-employee data, the differences in the outcomes for workers employed under permanent vs. fixed-term contracts before and after the legislative change are compared. The results show that the reform was successful in both reducing labour market segmentation and improving access to jobs for vulnerable groups: (i) it increased the probability of accessing permanent jobs via transitions from both fixed-term jobs and unemployment, and (ii) it improved the accessibility of permanent jobs for both young and older workers.*

Keywords: *employment protection legislation, labour market dynamics, labour market segmentation*

JEL codes: J62, J63, J68

DOI: 10.15458/85451.81

1 INTRODUCTION

In the recent past, the Slovenian labour market was often regarded as rigid and segmented, thus posing a barrier to faster economic growth and hindering the employment of vulnerable groups. Before the adoption of the Employment Relationship Act in 2013, Slovenian employment protection legislation (EPL) was one of the most rigid among OECD countries and the EU, especially regarding the hiring and firing of permanent workers. The OECD index of EPL strictness in 2008 was 2.76, placing Slovenia in 20th place among the 25 EU Member States (Laporšek and Dolenc, 2012). As a consequence, the labour market was highly segmented between workers with permanent contracts, with a rich set of benefits, and those on fixed-term contracts, with meagre protections and benefits. Moreover, the weak ability of firms to adjust to labour market changes – as documented, among others, by the World Economic Forum (2016) – was increasingly viewed as a hindrance to the competitiveness of the Slovenian economy.

In Slovenia, the segmentation along the permanent vs. fixed-term divide has become increasingly pronounced and has particularly affected young workers. In 2011-12, the incidence of fixed-term contracts in Slovenia was 17.5 percent, compared with 13.5 for the non-weighted average of OECD countries; among European OECD countries Slovenia's

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share lagged only behind Poland, Portugal and Spain (OECD, 2014). Similarly, the share of fixed-term contracts among new hires has been among the highest in the EU (European Commission, 2010; OECD, 2014). Young workers have been particularly hurt by this dichotomy. In 2011, the incidence of temporary contracts (fixed-term, casual, and other temporary work contracts) among 15-29 year olds in Slovenia was 49.7 percent, compared to 29.3 percent in European OECD countries – placing Slovenia at the very top of that list (see also European Commission, 2010, for the analysis of earlier periods).² Moreover, while in the majority of European countries young workers have better chances of moving from a fixed-term to a permanent contract than older workers, Slovenia is one of the few countries where the opposite is true (European Commission, 2010).

The 2013 Employment Relationship Act (ERA) introduced significant changes aimed at reducing segmentation and increasing labour market flexibility. On the segmentation front, the law reduced the difference in costs between employing a worker under a fixed-term and a permanent contract. For fixed-term workers it introduced severance pay, increased the unemployment insurance contribution rate, and restricted the leeway for contract extensions. For permanent workers it reduced the level of severance pay and the advance notice period, as well as, above all, significantly simplified procedures for the dismissal of permanent workers. On the flexibility front – beyond reducing the firing costs for workers under permanent contracts – the law allowed for a more flexible deployment of workers and introduced the option of monetary compensation instead of reinstatement, among others. As the result of these changes, the strictness of EPL, as measured by the OECD EPL index, decreased for both permanent and temporary contracts, with the former being just below and the latter just above the average for OECD countries (see Section 2 below).

The objective of this paper is to rigorously evaluate whether the 2013 ERA levelled the playing field; whether it reduced the labour market segmentation between permanent and fixed-term workers, and whether it improved access to jobs for young and old workers. Related to labour market segmentation, the paper addresses the following questions: Has under the new law the probability of obtaining a job under the permanent – as opposed to the fixed-term contract – increased? For example, has the probability of obtaining a permanent contract increased for workers employed under the fixed-term contract? Moreover, has the probability of obtaining a permanent – as opposed to the fixed-term contract – increased for the unemployed? Related to the availability of jobs for vulnerable groups, the paper seeks to answer whether the new law increased the probability of accessing a permanent – as opposed to a fixed-term job – for both young and older workers. Theoretical predictions of Blanchard (2000) suggest that making EPL more flexible increases the availability of jobs for vulnerable groups, especially for young people, because employers prefer to employ workers with previous experience to reduce the possibility of bad choices. As for older workers, improving their employability was one of the explicit goals of the new law – the law both raised the age threshold at which workers are granted special protection against dismissal, as well as removed the dismissal protection to some groups of old workers (see below).

²Data on incidence of temporary contracts is computed from: <http://appsso.eurostat.ec.europa.eu/nui/show.do>.

To identify the effects of the legislative changes, the study uses a “double difference” approach. The specific nature of the labour market reform – the fact that employment protection has become less restrictive for permanent workers and more restrictive for fixed-term workers – allows the identification of the effects by comparing differences in labour market outcomes for these two groups before and after the legislative change.

The key findings of the paper are as follows. Confronting labour market segmentation, the new law increased the probability of accessing permanent jobs via transitions from both unemployment and fixed-term jobs (including transitions from fixed-term to permanent contracts with the same employer). The reform also helped vulnerable groups; the probability of accessing permanent jobs increased disproportionately for both young and older workers.

In what follows, we first provide a brief review of literature about the effects of EPL on labour market outcomes. Section 3 describes the goals and key changes introduced by the 2013 ERA. Section 4 proceeds with describing the methodology and the matched employer-employee database used in the empirical analysis. Section 5 motivates the empirical analysis by describing the aggregate transitions between labour market states and presents the results of individual-level transition regressions. The final section concludes.

2 REVIEW OF LITERATURE

The effects of EPL on labour market outcomes have been a subject of a large body of theoretical and empirical literature focusing on the impact on the level of employment and unemployment, job and worker flows, and the differential effects on various groups of workers as well. Most studies find insignificant and some negative effects of rigid EPL on the level of employment, and no effects on unemployment (see recent reviews by Boeri, 2011, and Betcherman, 2012). More unambiguous are the results of the effects on labour market dynamics. Recent micro econometric studies indicate that strict regulations negatively affect worker and job flows and thus labour market transitions. For example, Autor et al. (2007) show that the adoption of wrongful-discharge protections by state courts in the United States had a negative effect on job flows and firm entries. Similarly, Kugler and Saint-Paul (2004) find that reduction in dismissal costs increased accessions as well as separations of workers in Colombia. The negative impact of employment protection on turnover was confirmed also by cross-country studies performed on aggregate data (Gomez-Salvador et al., 2004; Messina and Vallanti, 2007; Boeri and Garibaldi, 2009), as well as by studies using difference-in-differences approaches on OECD countries (see Micco and Pages, 2006; Haltiwanger et al., 2014; Bassanini et al., 2010; Cingano et al., 2010; and OECD, 2010).

Particularly interesting for the present study are the results concerning the effects of partial EPL reforms in Southern European countries, which typically reduced the stringency of fixed-term contracts while keeping EPL for permanent contracts unchanged. Bentolila et al. (2008) show that the 1984 Spanish reform liberalizing fixed-term contracts led to

a strong substitution of permanent with fixed-term contracts (whose share in aggregate employment reached 35 percent in the early 1990s), an increase in worker turnover rate, and a reduction in the long-term unemployment rate. Because firms used layoffs as a normal practice, the conversion rates into permanent contracts were reduced from 18 percent in 1987 to 5 percent in 1994. Aguirregabiria and Alonso-Borrego (2014) also find that the reform mildly increased total employment and firm productivity. The findings of Blanchard and Landier (2002) in the case of France are similar. Following the introduction of fixed-term contracts in the early 1980s for workers aged 20-24, the proportion of fixed-term contracts increased significantly, whereas conversion rates from temporary to permanent work decreased. The duration of unemployment and the probability of becoming unemployed decreased as well, but only in the early period. In Italy, the reform in the early 1990s introduced higher costs for unjust dismissals of permanent workers for businesses below 15 workers. That resulted in a more intensive use of temporary contracts and had a negligible effect on net employment (Kugler and Pica, 2008). Boeri and Jimeno (2005) also find that stricter EPL reduces dismissals of permanent workers, as opposed to fixed-term workers.

3 KEY CHANGES INTRODUCED BY THE 2013 ERA

The new Employment Relationship Act (Official Gazette of the Republic of Slovenia, No. 21/2013) came into effect on April 12, 2013 as part of a comprehensive labour market reform aiming at establishing an adequate balance between employment security and flexibility. The new law pursued two main goals: (i) reducing labour market segmentation and (ii) increasing flexibility (Ministry of Labour, Family, Social Affairs and Equal Opportunities, 2013). The new law also strengthened legal protection in areas where workers in the past were subject to insufficient protection or misuse.

3.1 Reduction of labour market segmentation

One of the major goals of the ERA was to foster employment under permanent contracts while curbing employment under fixed-term contracts, as well as to stimulate the employment of older workers. Important changes introduced by the law are described below.

The 2013 law introduced a variety of changes that reduced the cost of employment under the permanent as opposed to the fixed-term contract. On the one hand, employment under permanent contracts was made more attractive from the perspective of employers. This was achieved by shortening the period of advance notice and monetary costs of layoffs (for example, in case of business reasons, the maximum advance notification period was shortened from 120 to 60 days), by reducing severance pay in cases of layoffs for business reasons or incapacity, and by limiting severance pay upon retirement, as

well as in-kind work benefits.³ Moreover, a number of provisions were delegated to the existing collective agreements, including transportation allowances and wage premium associated with work experience. Very importantly, the law also simplified procedures for termination of employment under permanent contracts. For example, before laying off a worker, the employer is no longer liable to offer him/her another suitable job within the firm; the employer can terminate the probationary period before the planned end, and the new law no longer calls for reinstatement and it allows for monetary compensation to be paid instead. Moreover, the law exempted permanent contract hires from the payment of unemployment insurance contributions for the first two years.

On the other hand, employment under fixed-term contracts was made more restrictive and less attractive. This was achieved by imposing stricter conditions on the use of fixed-term contracts, introducing severance pay for fixed-term contracts, charging a five-fold higher contribution rate for unemployment insurance for hires under fixed-term as opposed to permanent contracts (in duration of two years), and limiting the use of temporary work agency workers employed under fixed-term contracts.

With the goal of increasing employment opportunities for older workers, the ERA introduced two types of changes. First, it raised the age threshold at which workers are granted special protection against dismissal. Starting in 2017, special protection against dismissal is given to workers who fulfill the age requirement of 58 years or to workers who otherwise do not meet the age requirement but qualify for retirement within five years (in the interim period, the age threshold was synchronized with the retirement age that was also gradually raised). Second, the dismissal protection is not granted to workers who, at the time of hiring, already pass across the threshold of protection dismissal (however, protection dismissal is kept by workers who conclude a new contract by forfeiting the present employment).

3.2 Increase of labour market flexibility

Several measures aiming at reducing labour market segmentation served also to increase labour market flexibility. These are the measures for making employment protection under permanent contracts less strict, as well as the measures for reducing the special protection of older workers (see above). Several other measures of the ERA also increased labour market flexibility. First, the law reduced limits on the use of temporary agency workers, particularly in cases of workers employed by these agencies under permanent contracts. Second, the law increased internal labour flexibility of firms by both increasing the possibilities for internal redeployment and introducing temporary lay-offs, whereby a worker can be laid off for up to six months a year, with the employer being responsible for paying out 80 percent of the wage (and not 100 percent as under the old law). And

³ The relevant reductions in severance pay are as follows: under the previous law, workers with 5-10 years of tenure were entitled to an average of 1.9 months of severance pay, to be contrasted with 1.5 months under the new law; and workers with 16-20 years of tenure were previously entitled to an average of 6 months of severance pay, to be contrasted with 4.5 months under the new law.

third, during the layoff advance notification period the law granted the worker the right to participate in employment programs organized by public employment offices for one day a week.

Note, however, that the 2013 Employment Relationship Act includes also some provisions that impede labour market flexibility. These provisions, above all, relate to limitations on the use and the increase of costs of fixed-term contracts (see above).

3.3 The resulting changes of the EPL index

After the introduction of the ERA, the strictness of EPL in Slovenia, as measured by the OECD EPL index, fell considerably. Above all, the EPL index for individual and collective dismissals (permanent contracts) decreased from 2.67 to 2.39 (which is still slightly above the non-weighted average of 2.28 for OECD countries), while the EPL index for individual dismissals for permanent contracts dropped to 1.99, just below the OECD average of 2.04 (Table 1). Despite the increase in rigidity associated with fixed-term contracts, the EPL index for temporary contracts also decreased, from 2.50 to 2.13 – a change that happened due to the decrease in the restrictions on the use of temporary work agencies outweighing the increase restrictiveness on fixed-term contracts.⁴ Despite the decrease, the EPL index for temporary contracts remains slightly above the non-weighted average of 2.08 for OECD countries.

Table 1: *The OECD index of the strictness of employment protection legislation in Slovenia, before and after the enactment of the 2013 ERA*

	Individual and collective dismissals (permanent contracts)	Individual dismissals (permanent contracts)	Collective dismissals (additional restrictions)	Temporary contracts
Slovenia – 2013, old ERA	2.67	2.39	3.38	2.50
Slovenia – 2013, new ERA	2.39	1.99	3.38	2.13
OECD average – 2013 (unweighted)	2.28	2.04	2.90	2.08

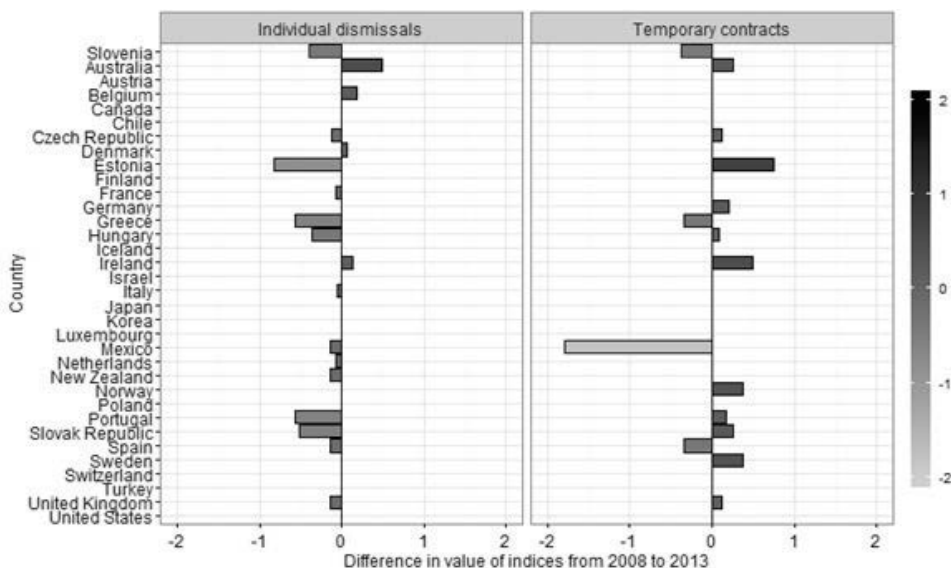
Source: OECD (2015).

It is useful to put the nature and intensity of Slovenia's 2013 reform into further perspective. Using the classifications introduced by Boeri (2011), the introduction of the 2013 Slovenian Employment Relationship Act can be labelled as “complete” (rather than “two-tier”), since the share of the population potentially affected by the reform represents

⁴ Note that the OECD index of strictness of temporary contracts fails to account for two specific features introduced by the 2013 ERA, namely for the imposition of (i) the obligation of paying severance pay to fixed-term workers, and (ii) a higher contribution rate for unemployment insurance for hires under fixed-term as opposed to permanent contracts. Therefore, the reduction of the temporary contracts index associated with the introduction of the 2013 law presented in Table 1 is overestimated.

more than 50 percent of the potentially eligible population. Moreover, the reform may also be labelled as “incremental” (rather than “discrete”), as the regulatory change lags behind the changes in many other countries – see the comparison of the intensity of changes in the indices of individual dismissals (permanent contracts) and temporary contracts in Slovenia and other OECD countries in Figure 1.⁵

Figure 1: *Intensity of EPL reforms, Slovenia and other OECD countries, 2008-13*



Source: OECD (2015).

4 METHODOLOGY AND DATA

In this section, we first outline the strategy to identify labour market effects of the legislative changes, and then a specification of models to be estimated is presented.

4.1 Identification strategy

Identification of the impact of the legislative changes takes advantage of the specific nature of the labour market reform that allows the use of a quasi-experimental approach. The 2013 labour reform made employment under permanent contracts less restrictive and employment under fixed-term contracts more restrictive, which allows the use of the difference-in-differences methodology to identify the reform effects (comparing the differences in outcomes for workers employed under permanent vs. fixed-term contracts, before and after the legislative change).

⁵ In determining whether the Slovenian reform was incremental or discrete, we follow Boeri's (2011) classification only heuristically, not computationally.

The advantage of the proposed difference-of-differences method is that it controls for different characteristics of individuals included in the treatment and control groups, including the unobserved ones. This advantage arises because by comparing the outcomes of the same group of individuals before and after the treatment, the method eliminates the effect of time invariant and group-level characteristics, including the unobserved ones. On the other hand, the method has also important potential weaknesses that stem from its assumptions. Above all, the method rests on the “equal trends assumption”, requiring that in the absence of treatment, the outcomes of the treatment and control groups have equal trends. When these trends differ, the method generates biased results (Blundell and Costa Dias, 2008, Gertler et al 2011). The difference-of-differences method is also sensitive to unobserved individual-specific shocks that influence the decision to participate in the treatment group (Blundell and Costa Dias, 2008). For example, individuals experiencing a “dip” in their earnings are more likely to enrol in a training program, resulting in difference-of-differences estimator overestimating an increase of earnings among the treated – those enrolled in training (the so-called Ashenfelter’s dip).

4.2 Estimation model of worker transitions

To analyse the impact of the changed legislation on transitions between various labour market states, a multinomial logistic regression framework is used. Under this framework, individuals can transition to multiple, competing states – in our case, to permanent or fixed-term employment contracts (either with the existing or another employer, if applicable), unemployment (with or without unemployment benefits), or inactivity. Each of these J competing states is associated with a specific monthly transition probability

$$\Pr(y_{t+1} = m | \mathbf{X}_t, y_t = b) = \frac{\exp(\mathbf{X}_t \beta_{m|b})}{\sum_{j=1}^J \exp(\mathbf{X}_t \beta_{j|b})}, \text{ with } m = 1, \dots, J, \quad (1)$$

where m denotes one of the J labour market states, b is the base category, and \mathbf{X} is a set of control variables. For example, taking fixed-term employment (*Efixed*) as the base category, the probability of receiving a permanent contract with the same employer (*Eperm*) can be expressed as

$$\Pr(y_{t+1} = Eperm | \mathbf{X}_t, y_t = Efixed) = \frac{\exp(\mathbf{X}_t \beta_{Eperm|b=Efixed})}{1 + \sum_{j=2}^J \exp(\mathbf{X}_t \beta_{j|b=Efixed})}. \quad (2)$$

The results we present are expressed as the ratio of the predicted probabilities of a given outcome compared to the baseline outcome; e.g. in the case above, the relative probability of conversion from a fixed-term contract to a permanent contract is:

$$\frac{\Pr(y_{t+1} = Eperm | \mathbf{X}_t, y_t = Efixed)}{\Pr(y_{t+1} = Efixed | \mathbf{X}_t, y_t = Efixed)} = \exp(\mathbf{X}_t \beta_{Eperm|b=Efixed}). \quad (3)$$

The example presented in (3) can identify the causal effect of the increased rigidity in fixed-term contracts and decreased rigidity in permanent contracts via double differences: (i) by comparing the two differentially-affected labour segments, and (ii) by exploiting the time-series variation. To account for the latter, the set of explanatory variables \mathbf{X} contains an indicator variable for the time period after which the reforms were enacted. Because the reforms went into effect on April 12, 2013, we exclude the month of April from the analysis by including an indicator variable for that month. Furthermore, when labour market state y_t pertains to unemployment, we include a dummy variable controlling for the receipt of unemployment benefits. In addition, the explanatory variables \mathbf{X} contain variables for demographic characteristics (gender, age, education) and monthly control variables to account for seasonality in worker separations and accessions.

4.3 Data description

The study takes advantage of an exceptionally rich database, created by merging administrative data covering the entire Slovenian workforce. The database contains information on the history of employment, unemployment, and wages for the entire work career for each individual for the 1991-2016 period. Each employment spell is linked with the financial and other information of the employer, with all firms in Slovenia being included (the so-called matched employer-employee database). The following data sets are included in the combined database:

- (a) *Work history data set*. It contains information on the starting and the ending date of an employment spell, the type of appointment, occupation, the employer identification code, and personal characteristics (gender, age, and education). Through the employer identification code, each employment spell is linked to accounting data on the current employer.
- (b) *Data set on registered unemployment*. It contains the starting and the ending date, destination of exit, as well as information on the receipt of unemployment insurance benefits. Some additional personal and family characteristics, pertaining to each spell, are also included.
- (c) *Workers' earnings data set*. It contains information on earnings associated with each post-1991 employment spell of an individual (the amount of earnings, number of hours worked, the starting and ending date of the earnings period).
- (d) *Accounting data on enterprises*. Data consist of yearly profit and loss statements, as well as balance sheets, for all incorporated businesses in Slovenia.
- (e) *Slovenian Business Registry data set* includes information on the four-digit industry, the year the firm started operating, and the firm's type and ownership structure (private and state ownership, ownership by domestic and foreign owners, and whether a firm is a publicly traded stock company or a limited liability company).

The resulting database used as the basis for this analysis contains over 18 million observations at the level of monthly individual states (Table A1), spanning the period from April 2012 to March 2014. The large majority of these observations refer to permanent

employment, mirroring the fact that permanent employment comprises the largest share of *stock* of labour market participants. Men tend to be disproportionately represented among the unemployed and in fixed-term contracts relative to their share in permanent employment; the lesser educated tend to be disproportionately unemployed, while the highest educated tend to be disproportionately employed under permanent contracts.

In an attempt to exclude spurious worker flows, we account for changes in employment that reflect worker re-registrations due to organizational and other changes of employers. For the purposes of the analysis, we therefore exclude all worker accessions and separations between pairs of accounting entities for which, in a given month, more than 10 job-to-job transfers of individuals on permanent contracts were observed.

5 RESULTS OF THE EMPIRICAL ANALYSIS

In this section, pre- and post-reform dynamics in aggregate labour market outcomes are contrasted, afterwards followed by the results of individual-level transition regressions.

5.4 Dynamics of labour market transitions

Comparing the transition matrices across labour market states before and after the legislative change provide some clues about the labour market impact of the 2013 ERA on accessing permanent employment. As shown in Table A2, the transition rate from fixed-term employment to permanent employment with the same employer in the period after the legislative change shows a marked increase of 0.46 percentage points (5.4 percentage points at the annual level – Table A2, Panel C), whereas the transition rate from fixed-term employment to permanent employment with a new employer shows an increase of 0.09 percentage points (1.1 percentage points at the annual level – Table A2, Panel C). Moreover, in the period after the legislative change, the transition rate from unemployment with unemployment benefits to permanent employment increased by 0.26 percentage points (3.1 percentage points at the annual level – Table A2, Panel C); note that the transition rate from unemployment without receiving benefits slightly declined.

The transition matrix also highlights a more stagnant nature of the Slovenian labour market compared to other EU countries. Bachmann et al (2015), for example, report annual persistency rates in permanent employment of 89.7 percent for a panel of 24 EU countries; the comparable figure calculated from the Slovenian administrative data is 91.9 percent.⁶

⁶ Note that the figures are not directly comparable due to differences in data sources and definitions – Bachmann et al. (2015) use EU-SILC survey data and directly examine annual persistency rates, while the figures for Slovenia are calculated from monthly transition rates. Also note that figures refer to comparable time periods.

5.5 Results of the estimation of multinomial logit models of labour market transitions

In this section, the results of multinomial regressions of transitions across various labour market states are presented. There are three types of transitions described: from fixed-term employment, from permanent employment, and from unemployment. In the estimated models, the following destinations are considered: fixed-term employment, permanent employment, unemployment with receiving benefits, unemployment, inactivity, and self-employment (that includes other types of exits). In transition models with employment as the origin labour-market state, a further distinction is made between employment with a new as opposed to the current employer.

The estimated models follow the multinomial logit specification from equation (1) above, with key parameters of interest being the parameters showing the difference-in-differences effect on the selected outcome (see the methodology section above). As control variables, gender, age, and education are included, all expressed as categorical variables. Because the outcomes for young and older workers are of particular interest, models are estimated separately by age categories. Relative risk ratios are reported.

5.2.1 Transition from fixed-term employment

The new law increased the relative probability of transition from a fixed-term to a permanent contract. We distinguish between two types of these transitions, one in which a fixed-term contract is converted into a permanent contract with the same employer, and another one where an individual gets a permanent position with another employer. First, as shown in Table A3, under the new law the probability of transitioning to a new permanent job with another employer increased by 18.9 percent in comparison to the pre-reform period, and the probability of transitioning to a new fixed-term job with another employer decreased by 9.9 percent (Table A3, coefficients under “New Law”). The relative probability of transitioning to a permanent contract (as opposed to transitioning to a fixed-term contract) thus increased by 32 percent. Second, under the new law, the probability of transition from a fixed-term contract to a permanent contract with the same employer increased by 28.2 percent.⁷ Note that this applies for the chosen baseline characteristics (men younger than 30 years, with elementary education). Under the new law, the probability of transitions to other destinations (inactivity, covered and uncovered unemployment, and other) also changed, but these changes cannot be attributed to the change of the law alone, as in all likelihood, they reflect also changes in other circumstances.

While not directly tied to the legislative changes, it is interesting to note that employment outcomes generally tend to be superior for men and more highly educated individuals (Table A3). Although they have a higher probability of transitioning to self-employment,

⁷ Note that in Table A3, the coefficient for “Permanent employment – same employer” under “New law” already reflects a double difference. In contrast, coefficients under “New law” for “Fixed-term employment – new employer” and “Permanent employment – new employer” reflect only the “before-after” difference and a double difference is obtained by their division (as coefficients are relative risk ratios).

women under fixed-term contracts tend to have a lower probability for continuous regular employment in any form, permanent or fixed-term, and with either their current or another employer. They also have a higher probability of exiting to unemployment (although intriguingly, not inactivity). More highly educated individuals, on the other hand, have a higher probability of transitioning to permanent contracts (either with their current or a new employer) and a lower probability of transitioning to unemployment; similarly to women, they have a higher probability of becoming self-employed and a lower probability of becoming inactive.

Relative probabilities of transitions from fixed-term employment do not vary strongly across age groups. As shown in Table A4, under the new law the probability of transitioning to a new permanent job with another employer increased for all age groups, and the probability of transitioning to a new fixed-term job with another employer decreased for all age groups, with no group showing particular advantage over the others. Interestingly, the conversion of a fixed-term to a permanent contract with the same employer recorded the highest probability among 30 to 39 year olds.

5.2.2 Transition from permanent employment

The new law increased the relative probability of transition from a permanent to another permanent contract with a new employer for both young and older workers. In the aggregate, under the new law the probability of transition from a permanent to another permanent contract with a new employer decreased by 8.9 percent, nearly precisely by as much as the probability of transition to a fixed-term contract with a new employer did, leaving the relative probability unchanged (Table A5). But both young and older workers fared better: for the younger ones (aged 16-29), the relative probability of accessing another permanent contract with a new employer increased by 7.6 percent, and for the older ones (older than 55 years) by 32 percent (Table A6). The explanation for the latter effect can be found in the new law; with the intention of an increasing access to jobs for older workers, dismissal protection stopped to be granted to job movers older than 55.

Other results show that probabilities of transition from a permanent to another permanent or to a fixed-term contract with a new employer differ across various groups (Table A5). Women are less likely to change their employers than men, particularly when exiting to a fixed-term employment. Interestingly, the more educated are less likely to transition from a permanent to a fixed-term contract or to another permanent contract with a new employer, except the ones with tertiary education, when making transition from one permanent job to another permanent job.

5.2.3 Transition from unemployment

Although the new law coincided with the increase in the outflows from unemployment to both fixed-term and permanent employment, the increase in outflows to permanent

employment was significantly greater.⁸ Transitions to permanent contracts increased by 12.1 percent, whereas transitions to fixed-term contracts increased by only 2.7 percent (a difference that is statistically significant). Interestingly, transitions to self-employment decreased, a finding that is attributable to the fact that subsidies for self-employment were offered to the unemployed to a greater extent in the year prior to the change in legislation.

Transitions from unemployment show that the new law improved accessibility of permanent jobs to both young and older workers (Table A7). For younger workers, the exit rate to both fixed-term and permanent employment increased by 15.3 percent and 29.4 percent, respectively; the increase to permanent employment was statistically significantly larger (and amounted to 12.2 percent, taking the ratio of the two coefficients) – see Table A8. For older workers, the exit rate to fixed-term employment decreased by almost 30 percent, while the exit rate to permanent employment increased, although the latter was not statistically significant relative to the baseline of the remaining unemployed. Relative to the exit rate to fixed-term employment, however, the change was statistically significant and large in magnitude, amounting to 62 percent. For the other age groups, the relative probabilities to transition from unemployment to either fixed-term or permanent employment were statistically not significantly different from each other.

The finding that transitions into permanent employment increased significantly for the oldest workers can be explained by the legislative changes which selectively reduced the firing costs for precisely those workers, while leaving them unchanged for younger ones. Prior to the implementation of the new law, workers aged 55 and over were categorically guaranteed job security; layoffs were possible only in cases of gross negligence. As explained above, according to the new law, this special protection no longer applies for the new hires who are above the age threshold at the time of the hire.⁹ As such, employers have a much stronger incentive to hire older workers who are above the age threshold, while continued disincentives are in place for hiring workers just below the age threshold (who will soon be subject to the increased job security).

The exit rates from unemployment to employment across demographic characteristics are consistent with those found in other studies (e.g. Bachmann et al., 2015). Women are found to have lower rates of exiting unemployment to either permanent or fixed-term employment than men, but not to self-employment. Exit rates to regular employment decrease with age, while exit rates to self-employment increase with age (although in general, exit rates to self-employment are much lower than to regular employment). Finally, higher levels of education are associated with much higher exit rates to employment in general, and permanent or self-employment in particular.

⁸ Note that the statistics reported here refer to exits from both covered and uncovered unemployment.

⁹ The precise stipulations for what constitutes an older workers are slightly more complicated: they were lower for women prior to April 2013, are gradually increasing over time, and are also linked to the age at which individuals may retire. These factors are taken into account in the empirical analysis but are not referred to in the text for simplicity of exposition.

6 CONCLUSION

The results of the paper indicate that the 2013 Employment Relations Act achieved its stated goals of reducing labour market segmentation, as well as improving access to jobs of vulnerable groups. On the labour market segmentation front, the new law increased the probability of accessing permanent jobs: (i) the probability of conversion from a fixed-term to a permanent contract with the same employer increased, (ii) workers employed under fixed-term contracts increased the probability of obtaining a permanent rather than a fixed-term job with another employer, and (iii) unemployed workers increased the probability of obtaining a permanent rather than a fixed-term job. On the vulnerable groups front, the new law improved accessibility of permanent jobs both for young and older workers. Younger workers can better access permanent jobs via transitions from unemployment and permanent contracts; older workers have a better access to permanent jobs via transitions from unemployment as well as from another permanent job.

Slovenia's 2013 ERA reduced job security for permanent workers and increased the costs associated with fixed-term employment; the above results suggest that this strategy has paid off. The "completeness of the reform" – the fact that the reform affected both fixed-term and permanent contracts – may well have contributed to favourable outcomes. It is also worth singling out favourable outcomes for the group of old workers (55 and older) – with the intention of increasing access to jobs for older workers, the new law stopped granting special dismissal protection to job-movers aged 55 or over. The findings of the paper indeed show favourable changes regarding this group: older workers were the only group for which under the new law the relative probability of transition from a fixed-term to a permanent contract with another employer increased, and they also faced favourable trends in transitions from both permanent jobs as well as unemployment.

The above results need to be qualified in several ways. First, it has to be recognized that 2013, the year of ERA introduction, was a turning point for the Slovenian economy, when the recovery from the 2008 recession began in earnest. Under such circumstances, the equal trend assumption that underlies the difference-in-differences approach may have been violated – conceivably, during the recovery the incentives of firms to attract new workers by offering them permanent employment contracts increased. The results of the paper may therefore partially reflect such a change in incentives and cannot be exclusively interpreted as the impact of the new law. Second, the results are of partial equilibrium nature, thus ignoring general equilibrium effects of the new law. Such effects can be substantial and involve, among others, interactions between temporary and permanent contracts (for a theoretical modelling of "two-tier reforms" see Boeri 2011). Third, the analysis is limited in that it examines the short-term results of the legislative change that limit the possibility of generalizing the estimated effects – applying the analysis to a longer time series may improve the reliability of the results and, by investigating longer-term effects, increase their richness.

REFERENCES

- Aguirregabiria, V., Alonso-Borrego, C. (2014). Labor Contracts and Flexibility: Evidence from a Labor Market Reform in Spain. *Economic Inquiry*, 52(2), 930–57.
- David, H., Kerr, W. R. & Kugler, A. D. (2007). “Does Employment Protection Reduce Productivity? Evidence from US States.” *The Economic Journal*, 117(521), F189–F217.
- Bachmann, Ronald, Peggy Bechara, Anica Kramer, and Sylvi Rzepka (2015). Labour market dynamics and worker heterogeneity during the Great Recession – Evidence from Europe. *IZA Journal of European Labor Studies*, 4(1), 1-29.
- Bassanini, A., Garnero, A., Marianna, P. & Martin, S. (2010). *Institutional Determinants of Worker Flows: A Cross-Country/Cross-Industry Approach*. OECD Social, Employment and Migration Working Paper 107. OECD Publishing. <http://econpapers.repec.org/paper/oecelsaab/107-en.htm>.
- Bentolila, S., Dolado, J. J. & Jimeno, J. F. (2008). Two-Tier Employment Protection Reforms: The Spanish Experience. *CESifo DICE Report*, 6(4), 49–56.
- Betcherman, G. (2012). *Labor Market Institutions: A Review of the Literature*. The World Bank, Policy Research Working Paper #6276.
- Blanchard, O.J. (2000). The Economics of Unemployment. Shocks, Institutions, and Interactions. Lionel Robbins Lectures, London School of Economics. <https://economics.mit.edu/files/708>.
- Blanchard, O. J., & Landier, A. (2002). The Perverse Effects of Partial Labor Market Reform: Fixed Duration Contracts in France. *The Economic Journal*, 112(480), F214-F244.
- Blundell, R. & Costa Dias, M. (2008). Alternative Approaches to Evaluation in Empirical Microeconomics. (IZA Discussion Paper no. 3800). Bonn: Institute for the Study of Labor.
- Boeri, T. & Jimeno, J. F. (2005). The Effects of Employment Protection: Learning from Variable Enforcement. *European Economic Review*, 49(8), 2057–77.
- Boeri, T. & Garibaldi, P. (2009). Beyond Eurosclerosis. *Economic Policy*, 24(59), 409-461.
- Boeri, T. (2011). Institutional Reforms and Dualism in European Labour Markets. In Ashenfelter, O. & Card, D. (EDS.), *Handbook of Labour Economics*, Vol. 4(B) (pp.1173-1236). Amsterdam: North Holland.
- Cingano, F., Leonardi, M., Messina, J. & Pica, G. (2010). The Effects of Employment Protection Legislation and Financial Market Imperfections on Investment: Evidence from a Firm-Level Panel of EU Countries. *Economic Policy*, 25(61), 117–63.
- European Commission (2010). *Employment in Europe 2010*. Bruxelles: European Commission: Directorate-General for Employment, Social Affairs and Equal Opportunities, Employment Analysis Unit.
- Gertler, P., Martinez, S., Premand, P., Rawlings, L., & Vermeersch, C. (2011). *Impact Evaluation in Practice*. Washington D. C: The World Bank.
- Haltiwanger, J., Scarpetta, S. & Schweiger, H. (2014). Cross Country Differences in Job Reallocation: The Role of Industry, Firm Size and Regulations. *Labour Economics*, 26(Jan.), 11–25.
- Kugler, A. D. & Saint-Paul, G. (2004). How Do Firing Costs Affect Worker Flows in a World with Adverse Selection? *Journal of Labor Economics*, 22(3), 553–84.

- Kugler, A. & Pica, G. (2008). Effects of Employment Protection on Worker and Job Flows: Evidence from the 1990 Italian Reform. *Labour Economics*, 15(1), 78–95.
- Laporšek, S. & Dolenc, P. (2012). Do Flexicurity Policies Affect Labour Market Outcomes? An Analysis of EU Countries. *Revija za socialnu politiku*, 19(2), 107-129.
- Messina, J. & Vallanti, G. (2007). Job Flow Dynamics and Firing Restrictions: Evidence from Europe. *The Economic Journal*, 117(521), F279-F301.
- Micco, A. & Pagés, C. (2006). *The Economic Effects of Employment Protection: Evidence from International Industry-Level Data*. IZA Discussion Paper 2433. Institute for the Study of Labor (IZA).
- Ministry of Labour, Family, Social Affairs and Equal Opportunities (2013). *Bistvene rešitve ZDR-1 [Essential solutions of the 2013 ERA]*. Ljubljana, Slovenia. Available at http://www.mddsz.gov.si/fileadmin/mddsz.gov.si/pageuploads/dokumenti__pdf/word/dpd/ZDR_1_-_podrobnejse.doc (in Slovene).
- OECD (2010). *OECD Employment Outlook 2010: Moving Beyond the Jobs Crisis*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2014). *OECD Employment Outlook 2014*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2015). *OECD Indicators of Employment Protection*. <http://www.oecd.org/els/emp/oecdindicatorsofemploymentprotection.htm> (accessed Dec 20, 2015).
- Official Gazette of the Republic of Slovenia (2013), No. 21/2013. “Employment Relationship Act.”
- World Economic Forum (2016). *The Global Competitiveness Report 2015-2016*, <http://reports.weforum.org/global-competitiveness-report-2015-2016/>, accessed July 3, 2018.

Table A1: Summary statistics of key variables (mean values of binary variables)

Variable	Labour market state			Entire sample
	Permanent employment	Fixed-term employment	Unemployed	
Gender				
Men	0.52	0.59	0.54	0.55
Women	0.48	0.41	0.46	0.45
Age				
Age under 30	0.10	0.28	0.25	0.15
Age 30-39	0.29	0.35	0.22	0.28
Age 40-49	0.33	0.23	0.18	0.29
Age 50-55	0.15	0.08	0.12	0.14
Age 55+	0.12	0.05	0.22	0.14
Education				
Primary education	0.12	0.16	0.19	0.22
Technical secondary education	0.23	0.28	0.25	0.24
General secondary education	0.33	0.30	0.27	0.25
Tertiary education	0.32	0.26	0.13	0.20
Number of observations	13,928,911	2,173,943	2,009,846	18,112,700

Note: Unit of observation is the monthly labour market status at the individual level. Data cover a two year period prior to and following the April 2013 labour market reform.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A2: Monthly transition matrix – comparison of the old and the new law (in percent)

Panel A: Old law										
Origin	Destination					Total				
	Fixed-term employment – same employer	Fixed-term employment – new employer	Permanent employment – same employer	Permanent employment – new employer	Other employment (e.g., self-emp.)		Unemployment –with unemp. benefits	Unemployment –without unemp. benefits	Inactivity	
Fixed-term employment	90.6	1.7	1.9	0.5	0.4	2.4	0.7	1.8	100.0	
Permanent employment	0.0	0.1	98.9	0.3	0.1	0.3	0.0	0.2	100.0	
Other employment (e.g., self-employment)	0.0	0.4	0.4	0.2	97.5	0.5	0.1	0.9	100.0	
Unemployment (with unemp. benefits)	n.a.	4.2	n.a.	1.0	1.2	84.8	0.2	8.6	100.0	
Unemployment (without unemp. benefits)	n.a.	2.5	n.a.	0.5	0.3	n.a.	93.5	3.0	99.9	
Panel B: New law										
Origin	Destination					Total				
	Fixed-term employment – same employer	Fixed-term employment – new employer	Permanent employment – same employer	Permanent employment – new employer	Other employment (e.g., self-emp.)		Unemployment –with unemp. benefits	Unemployment –without unemp. benefits	Inactivity	
Fixed-term employment	90.4	1.5	2.4	0.6	0.3	1.9	1.0	2.0	100.0	
Permanent employment	0.0	0.1	98.9	0.3	0.1	0.2	0.1	0.3	100.0	
Other employment (e.g., self-employment)	0.0	0.3	0.6	0.3	96.8	0.4	0.2	1.4	100.0	
Unemployment (with unemp. benefits)	n.a.	4.5	n.a.	1.2	0.9	83.0	0.1	10.2	100.0	
Unemployment (without unemp. benefits)	n.a.	2.4	n.a.	0.5	0.4	n.a.	93.9	2.7	100.0	
Panel C: Difference = Panel B-Panel A										
Origin	Destination					Total				
	Fixed-term employment – same employer	Fixed-term employment – new employer	Permanent employment – same employer	Permanent employment – new employer	Other employment (e.g., self-emp.)		Unemployment –with unemp. benefits	Unemployment –without unemp. benefits	Inactivity	
Fixed-term employment	-0.26	-0.15	0.46	0.09	-0.11	-0.50	0.33	0.14	0.0	
Permanent employment	0.00	-0.01	0.05	-0.01	-0.02	-0.11	0.04	0.06	0.0	
Other employment (e.g., self-employment)	0.01	-0.05	0.25	0.04	-0.70	-0.12	0.06	0.51	0.0	
Unemployment (with unemp. benefits)	n.a.	0.34	n.a.	0.26	-0.29	-1.83	-0.07	1.58	0.0	
Unemployment (without unemp. benefits)	n.a.	-0.09	n.a.	-0.03	0.05	n.a.	0.42	-0.32	0.0	

Note: Contains averages of monthly transition probabilities from April 2012 to March 2013 (the period prior to the legislative change) and May 2013 to April 2014 (the period the after legislative change). Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A3: Multinomial logit estimates of the monthly probability of transition from fixed-term employment to different labour market states

	Relative risk ratio of transition from <u>fixed-term</u> employment into:						
	Permanent employment - same employer	Inactivity	Unemployment - without unemp. benefits	Fixed-term employment - new employer	Permanent employment - new employer	Unemployment - with unemp. benefits	Self- employment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Effects of the legislative changes (baseline: old law)							
New law	1.282*** (0.013)	1.039*** (0.011)	1.461*** (0.023)	0.901*** (0.01)	1.189*** (0.023)	0.809*** (0.008)	0.732*** (0.017)
Gender (baseline: men)							
Women	0.945*** (0.008)	0.713*** (0.009)	1.527*** (0.026)	0.721*** (0.01)	0.810*** (0.017)	1.437*** (0.014)	1.790*** (0.045)
Age (baseline: under 30 years old)							
Aged 30-39	1.189*** (0.011)	0.746*** (0.01)	0.912*** (0.018)	1.049*** (0.015)	1.060*** (0.023)	1.143*** (0.014)	1.053* (0.028)
Aged 40-49	1.098*** (0.013)	0.705*** (0.012)	1.066*** (0.024)	1.149*** (0.019)	1.080*** (0.028)	1.436*** (0.02)	0.920** (0.033)
Aged 50-55	0.910*** (0.018)	0.666*** (0.017)	1.458*** (0.044)	1.028 (0.027)	0.796*** (0.035)	1.977*** (0.037)	0.978 (0.054)
Aged 55+	0.937** (0.024)	0.666*** (0.022)	1.185*** (0.05)	0.802*** (0.03)	0.539*** (0.037)	3.082*** (0.059)	0.813*** (0.059)
Education (baseline: primary school or less)							
Secondary school (technical)	1.199*** (0.017)	0.673*** (0.01)	1.086*** (0.027)	0.954*** (0.016)	1.054* (0.031)	1.029* (0.015)	1.191*** (0.052)
Tertiary	1.492*** (0.022)	0.294*** (0.006)	0.671*** (0.019)	0.519*** (0.011)	1.082** (0.035)	0.774*** (0.013)	1.723*** (0.073)
Constant (baseline risk ratio)	0.012*** (0)	0.068*** (0.002)	0.004*** (0)	0.025*** (0.001)	0.005*** (0)	0.016*** (0)	0.001*** (0)
Number of transitions	48,397	39,338	17,578	34,462	11,802	47,479	7,674
Number of observations	2,173,943						
Pseudo R-squared	0.027						

Note: Coefficients denote relative risk ratios obtained from multinomial logit regressions, where relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. Additional covariates included in the regressions include 11 dummy variables for calendar months and a dummy variable for April 2013. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A4: Multinomial logit estimates of the monthly probability of transition from fixed-term employment to different labour market states – age-specific effects of the legislative changes (relative risk ratios)

	Relative risk ratio of transition from fixed-term employment into:						
	Permanent employment – same employer	Inactivity	Unemployment – without unemp. benefits	Fixed-term employment – new employer	Permanent employment – new employer	Unemployment – with unemp. benefits	Self-employment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Effects of the new law, age-specific effects							
Aged 16-29	1.202*** (0.019)	1.011 (0.015)	1.122*** (0.027)	0.887*** (0.016)	1.207*** (0.035)	0.926*** (0.015)	0.757*** (0.027)
Aged 30-39	1.541*** (0.027)	1.122*** (0.022)	1.681*** (0.051)	0.930*** (0.019)	1.193*** (0.04)	0.808*** (0.015)	0.771*** (0.032)
Aged 40-49	1.135*** (0.026)	1.015 (0.025)	1.781*** (0.065)	0.890*** (0.022)	1.224*** (0.053)	0.751*** (0.016)	n.a.
Aged 50-55	n.a.	n.a.	n.a.	n.a.	n.a.	0.768*** (0.024)	n.a.
Aged 55+	n.a.	n.a.	n.a.	n.a.	n.a.	0.543*** (0.019)	n.a.

Note: Coefficients denote relative risk ratios obtained from separate multinomial logistic regressions estimated by age group. Relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. For each age group, the following covariates are included: gender, education (4 categories), dummy variables for calendar months and a dummy variable for April 2013. “n.a.” refers to labour market states/transitions for which there were too few observations for reliable estimates. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A5: Multinomial logit estimates of the monthly probability of transition from permanent employment to different labour market states

	Relative risk ratio of transition from permanent employment into:					
	Inactivity	Unemployment – without unemp. benefits	Fixed-term employment – new employer	Permanent employment – new employer	Unemployment – with unemp. benefits	Self- employment
	(1)	(2)	(3)	(4)	(5)	(6)
Effects of the legislative changes (baseline: old law)						
New law	0.850*** (0.011)	2.384*** (0.074)	0.913*** (0.017)	0.911*** (0.009)	0.602*** (0.007)	0.654*** (0.014)
Gender (baseline: men)						
Women	0.799*** (0.01)	0.961 (0.028)	0.602*** (0.012)	0.818*** (0.009)	0.857*** (0.01)	0.900*** (0.019)
Age (baseline: under 30 years old)						
Aged 30-39	0.536*** (0.013)	0.790*** (0.031)	0.997 (0.025)	1.310*** (0.023)	1.224*** (0.025)	1.363*** (0.041)
Aged 40-49	0.400*** (0.011)	0.660*** (0.027)	0.673*** (0.019)	1.279*** (0.023)	1.186*** (0.024)	0.937* (0.031)
Aged 50-55	0.772*** (0.022)	0.764*** (0.04)	0.577*** (0.023)	1.179*** (0.027)	1.603*** (0.037)	0.747*** (0.035)
Aged 55+	5.870*** (0.12)	1.194*** (0.058)	0.634*** (0.026)	0.906*** (0.023)	2.674*** (0.058)	0.752*** (0.036)
Education (baseline: primary school or less)						
Secondary school (technical)	0.890*** (0.017)	1.054 (0.045)	1.162*** (0.037)	0.985 (0.018)	0.885*** (0.015)	1.246*** (0.054)
Secondary school (general)	0.714*** (0.013)	0.837*** (0.036)	0.869*** (0.028)	0.920*** (0.017)	0.744*** (0.013)	1.473*** (0.06)
Tertiary	0.604*** (0.012)	0.486*** (0.024)	0.947* (0.031)	1.226*** (0.022)	0.477*** (0.009)	2.045*** (0.084)
Constant (baseline risk ratio)	0.006*** (0)	0.000*** (0)	0.004*** (0)	0.004*** (0)	0.007*** (0)	0.001*** (0)
Number of transitions	27,534	5,455	12,006	39,676	31,346	9,967
Number of observations	13,928,911					
Pseudo R-squared	0.046					

Note: Coefficients denote relative risk ratios obtained from multinomial logistic regressions, where relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. Additional covariates included in the regressions include 11 dummy variables for calendar months, a dummy variable for April 2013, and dummy variables for proxies of tenure with current employer. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A6: Multinomial logit estimates of the monthly probability of transition from permanent employment to different labour market states – age-specific effects of the legislative changes

	Relative risk ratio of transition from permanent employment into:					
	Inactivity	Unemployment – without unemp. benefits	Fixed-term employment – new employer	Permanent employment – new employer	Unemployment – new employer	Self-employment benefits
	(1)	(2)	(3)	(4)	(5)	(6)
Effects of the new law, age-specific effects						
Aged 16-29	1.177*** (0.042)	n.a.	1.059 (0.041)	1.140*** (0.032)	0.718*** (0.024)	0.695*** (0.035)
Aged 30-39	1.255*** (0.043)	n.a.	0.929** (0.028)	0.946*** (0.016)	0.711*** (0.016)	0.700*** (0.022)
Aged 40-49	1.126*** (0.042)	3.725*** (0.25)	0.903*** (0.034)	0.869*** (0.015)	0.720*** (0.016)	0.619*** (0.025)
Aged 50-55	0.912** (0.04)	3.658*** (0.38)	0.890* (0.06)	0.839*** (0.025)	0.599*** (0.019)	0.616*** (0.048)
Aged 55+	0.639*** (0.011)	2.086*** (0.172)	0.553*** (0.042)	0.730*** (0.027)	0.303*** (0.01)	0.474*** (0.042)

Note: Coefficients denote relative risk ratios of multinomial logit regressions estimated for each age group separately, where relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. For each age group, the following covariates are included: gender, education (4 categories), dummy variables for calendar months, a dummy variable for April 2013 and dummy variables for proxies of tenure with the current employer. "n.a." refers to labour market states/transitions for which there were too few observations for reliable estimates. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A7: Multinomial logit estimates of the monthly probability of transition from unemployment to different labour market states

	Relative risk ratio of transition from unemployment into:		
	Fixed-term employment – new employer	Permanent employment – new employer	Self-employment
	(1)	(2)	(3)
Effects of the legislative changes (baseline: old law)			
New law	1.027*** (0.009)	1.121*** (0.019)	0.852*** (0.016)
Gender (baseline: men)			
Women	0.688*** (0.008)	0.617*** (0.012)	0.99 (0.02)
Age (baseline: under 30 years old)			
Aged 30-39	0.843*** (0.012)	0.899*** (0.02)	1.474*** (0.037)
Aged 40-49	0.862*** (0.014)	0.819*** (0.021)	1.591*** (0.045)
Aged 50-55	0.751*** (0.017)	0.529*** (0.02)	1.797*** (0.065)
Aged 55+	0.474*** (0.013)	0.188*** (0.011)	1.274*** (0.051)
Education (baseline: primary school or less)			
Secondary school (technical)	1.864*** (0.032)	2.129*** (0.066)	2.123*** (0.076)
Secondary school (general)	1.757*** (0.03)	2.593*** (0.078)	3.202*** (0.108)
Tertiary	2.420*** (0.046)	4.226*** (0.137)	5.794*** (0.208)
Constant (baseline risk ratio)	0.078*** (0.002)	0.021*** (0.001)	0.006*** (0)
Number of transitions	68,302	15,521	13,225
Number of observations	2,009,846		
Pseudo R-squared	0.172		

Note: Coefficients denote relative risk ratios obtained from multinomial logistic regressions, where relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. Additional covariates included in the regressions include a dummy variable for receipt of unemployment benefits, 11 dummy variables for calendar months and a dummy variable for April 2013. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.

Table A8: Multinomial logit estimates of the monthly probability of transition from unemployment to different labour market states – age-specific effects of the legislative changes

	Relative risk ratio of transition from unemployment into:		
	Fixed-term employment – new employer	Permanent employment – new employer	Self-employment
	(1)	(2)	(3)
Effects of the new law, age-specific effects			
Aged 16-29	1.153***	1.294***	1.407***
	(0.016)	(0.034)	(0.049)
Aged 30-39	1.006	1.05	0.952
	(0.016)	(0.032)	(0.031)
Aged 40-49	1.033*	1.062	0.717***
	(0.019)	(0.04)	(0.028)
Aged 50-55	0.900***	0.912	0.455***
	(0.025)	(0.061)	(0.026)
Aged 55+	0.717***	1.161	0.331***
	(0.026)	(0.128)	(0.025)

Note: Coefficients denote relative risk ratios obtained from separate multinomial logistic regressions estimated by age group. Relative risk ratios are defined as the relative probability of observing a given outcome relative to the base outcome. For each age group, the following covariates are included: gender, educations (4 categories), dummy variables for calendar months and a dummy variable for April 2013. “n.a.” refers to labour market states/transitions for which there were too few observations for reliable estimates. The regressions are estimated for monthly transitions from April 2012 to April 2014, thus including 12 months before and after the legislative change (in addition to April 2013, when the new law went into effect in the middle of the month). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. Standard errors clustered by individual are in parentheses.

Source: Own calculations based on combined unemployment and employment registry data, Statistical Office of the Republic of Slovenia.