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**Combining Part-time Work and
Social Benefits:
Empirical Evidence from Finland**



Combining Part-time Work and Social Benefits: Empirical Evidence from Finland*

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Abstract

We use detailed, population-wide data from Finland to provide evidence of the impact of earnings disregard policies on part-time work during unemployment spells, and describe the longer-run trends in combining part-time work and social benefits. We find that part-time work while receiving unemployment benefits is strongly concentrated in the service and social and health care sectors, and that women participate in part-time work much more commonly than men (25% vs. 12% of benefit recipients). The share of part-time workers among benefit recipients increased sharply from 10% to 18% over a few years after the implementation of earnings disregards in unemployment benefits and housing allowances, which allowed individuals to earn up to 300 euros per month without reductions in their benefits. Using variation in the impact of the reforms on incentives between individuals eligible for different types of benefits, we estimate a 16–28% increase in participation in part-time work due to the implementation of earnings disregards. However, we find no evidence of economically significant positive or negative effects of increased participation in part-time work on transitions to full-time employment.

Keywords: labor supply; social benefits; part-time work; earnings disregards.

JEL Codes: H24; J21; J22

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1 Introduction

There is a common conception that the structure of labor markets is changing. In many developed countries, part-time and temporary work arrangements are becoming more typical, and the share of workers who receive their income from a combination of social benefits and small labor earnings is increasing (see e.g. Cahuc 2018). However, there is a lack of empirical evidence illustrating how the share of these workers has developed over time, and how common combining benefits with part-time jobs is in different sectors and for different types of workers.

To encourage benefit recipients to participate in part-time labor markets, many developed countries have introduced policies that financially encourage combining social benefits and part-time work, including, for example, the US, the UK and Germany. However, evidence on the effectiveness of these policies is still relatively scarce, even though their impact on the prevalence of part-time work arrangements among benefit recipients, and particularly their potential longer-run impact on labor market outcomes, are crucial for assessing the welfare and fiscal implications of these policies.

In this paper, we first provide descriptive evidence on the longer-run development of combining part-time work and unemployment benefits in Finland. Using population-wide monthly-level administrative data over a 20-year period, we illustrate how the share of unemployment benefit recipients working part-time has developed in different industries and different groups of individuals, enabling us to characterize the longer-run trends in working while receiving benefits. We then utilize the implementation of earnings disregards policies in 2014 and 2015 to study how financial incentives affect participation in part-time work during unemployment spells. These reforms allowed benefit recipients to earn up to 300 euros per month without reductions in their benefits, providing much stronger incentives to participate in part-time employment.

We begin by illustrating how the share of partially unemployed individuals has developed over time. As in many other countries, Finland applies a system of partial unemployment benefits, in which benefit recipients can work part-time during their unemployment

spell without fully losing their benefit.¹ When working while receiving benefits, one euro of labor income reduces the amount of the unemployment benefit by 0.5 euros.

Our descriptive evidence shows that part-time work during unemployment benefit spells has increased over the last 20 years, and this increase is clearly associated with improvements in financial incentives. The share of unemployment benefit recipients with labor earnings remained rather stable at around 10–12% in 2000–2013. This share began to rise rapidly after the implementation of earnings disregards in the mid-2010s, and reached 18% by 2020. In Finland, an earnings disregard was first implemented for unemployment benefits in 2014, and then in 2015 for housing allowances. These policies allow benefit recipients to earn up to 300 euros per month without benefit reductions, which significantly improved the incentives for participating in the part-time labor market. Our descriptive evidence thus indicatively illustrates that financial incentives are likely to play a role in the labor supply decisions of benefit recipients.

We find that part-time work among unemployment benefit recipients is concentrated among workers in the service, and social and health care sectors, where the share of part-time work days of all benefit days was around 40% in 2020. In contrast, working while receiving (partial) benefits is still less common in certain industries, such as in manufacturing and construction, where this share is 10–15%. Relatedly, working part-time while receiving unemployment benefits is much more common among women (25% in 2020) than men (12%), as women are typically more likely to work in services and the social and health care sectors than men. At the beginning of the 2000s, part-time work during unemployment was less common among older individuals aged 56 or older (6%) compared to younger groups (12%), but the age differences disappeared by 2020. However, the share of part-time workers increased in all of these groups after the implementation of earnings disregard policies. Also, we find that the largest increases in the share of part-time workers are not linked to simultaneous changes in overall unemployment in the

¹Partial unemployment benefits are also known as adjusted, part-time or supplementary unemployment benefits. In Finland, partial benefits are also paid to those unemployed individuals who take up a full-time job for two weeks or less. We do not make a distinction between these workers and those who work part-time while receiving benefits, but refer to all partial benefit recipients as part-time workers or part-time unemployed workers.

same groups. This suggests that the increase in part-time work among the unemployed is not driven by transitions from full-time employment to part-time work while receiving benefits.

We then turn to more detailed analysis of how financial incentives affect participation in part-time employment. We zoom in on the earnings disregard reforms and analyze labor supply choices among those whose incentives were affected differently by these reforms, enabling us to assess their impact on part-time work participation. The first reform in January 2014 introduced the earnings disregard in unemployment benefits, and it reduced the participation tax rates for all unemployed individuals. In contrast, the second reform in September 2015 that introduced a similar earnings disregard for housing allowances had no effect on those unemployed individuals who were not eligible for housing allowances, but it significantly improved incentives for those unemployed individuals who also received housing allowances. Thus the identifying variation in incentives in our analysis stems from differences in household incomes and composition that affect eligibility for housing allowance.

We first compare the labor market outcomes of these groups before 2014 to assess the validity of our empirical approach. We find that the development of part-time work and labor earnings in the groups affected differently by the reforms follow each other very closely before the reforms, supporting our empirical strategy. We then evaluate the effects of earnings disregards on both part-time work participation and labor earnings while unemployed. Also, we study potential longer-run implications by following labor market outcomes over a longer period after the reforms. This analysis aims to reveal whether policies that promote part-time working during unemployment affect the likelihood of obtaining more permanent or full-time employment in the future.

Part-time working may provide a *stepping stone* to more permanent employment through, for example, work experience and contacts with employers. On the other hand, part-time work can crowd out full-time employment and delay or hinder transitions to full-time employment by reducing the time available to search for full-time jobs, constituting a so-called *lock-in effect* of part-time work. Therefore, due to these opposing mechanisms,

the sign of the net impact of part-time work during unemployment on subsequent full-time employment is unclear. Moreover, since partial benefits and earnings disregards make part-time employment financially more attractive compared to full-time employment, they may encourage unemployed job seekers to devote more time searching for part-time jobs instead of full-time jobs. This way policies promoting part-time work can reduce transitions to full-time employment also among unemployment benefit recipients who have not (yet) worked part-time. To account also for this *ex ante effect* of partial benefit and earnings regard policies, one must be able to compare unemployed workers under different policy schemes. In our analysis, we do not aim to identify these three effects separately but utilize our quasi-experimental setup to study the overall effect of the earnings disregard policies by including all of these potential channels.

We find significant 16% and 28% increases in the likelihood of participating in part-time employment after the implementation of earnings disregards, depending on the type of the unemployment benefit. First, we find that the introduction of the earnings disregard for all unemployment benefit recipients in 2014 is associated with an increase in part-time employment for all unemployed groups. After the implementation of the earnings disregard for housing allowance in 2015, we find that the share of part-time workers with housing allowance increased more rapidly compared to those unemployed whose households were not eligible for housing allowance and thus unaffected by this later reform. This evidence illustrates that improving financial incentives can increase participation in part-time work. In relative terms, this effect is larger for those with flat-rate unemployment benefits compared to those with earnings-related benefits. We estimate the participation elasticity for part-time work to be around 0.7–0.9. This implies that labor supply choices regarding participation in part-time employment are relatively responsive to changes in financial incentives among benefit recipients. In addition to participation responses, we find a small 1–3% average increase in part-time earnings after the reforms among those participating in the part-time labor market.

We find that the increase in part-time employment due to the earnings disregards is not associated with significant changes in subsequent permanent employment. Using

our population-wide job spell data, we find no meaningful differences in future full-time employment spells between the groups that were affected differently by the earnings disregard reforms, indicating that these policies did not affect the likelihood of finding a more permanent job in the future. This indicates that neither the lock-in effect nor the stepping-stone effect dominates for benefit recipients with part-time jobs. Therefore, we conclude that even though earnings disregards increased part-time employment among the unemployed, the effects on full-time employment are small at best.

As mentioned above, partial unemployment benefits and various types of earnings disregard policies that encourage working while receiving benefits are used in several countries.² Nevertheless, the effectiveness of these forms of support has been relatively understudied. One reason for this is that individuals receiving both labor earnings and unemployment benefits "operate" between employment and unemployment, making it difficult to identify them. In many survey and administrative data sets, such individuals are classified either as employed or unemployed, making it challenging to fully disentangle them from full-time employees, part-time employees without benefits, and the full-time unemployed. Our detailed population-level administrative data cover all unemployment spells, and include monthly-level information on earnings while receiving unemployment benefits, and direct information on whether the benefit was reduced due to labor earnings or not, together with a comprehensive set of individual and household background characteristics. This allows for a careful analysis of how working while receiving benefits has developed over time in different groups and, combined with quasi-experimental variation in incentives, enables us to study how changes in earnings disregard rules are associated with labor supply choices both in the shorter and longer run.

Our study contributes to the literature on the labor supply effects of partial unemployment benefits and earnings disregards. Munts (1970), Holen and Horowitz (1974), McCall (1996) and Le Barbanchon (2016) provide evidence that unemployed individuals in the US labor market often earn just enough income to stay below the earnings disregard

²In addition to Finland, earnings disregards are applied at least in Australia, Austria, Belgium, Canada, the Czech Republic, Finland, Germany, Luxembourg, Poland, the UK and in several US states (Cahuc 2018).

threshold. In most US states, unemployment benefits are reduced on a dollar-per-dollar basis after labor earnings exceed the disregard, which may explain strong bunching at the disregard thresholds. O’Leary (1997) and Lee et al. (2021) analyze a randomized experiment in the Washington State UI system in 1994 that provided more generous partial benefits for treatment group members who take up a part-time job. Both studies find that more generous partial benefits increased part-time work, leading to longer benefit duration and higher benefit expenditures without a notable effect on overall labor supply. Exploiting variation in earnings disregard reforms in different US states in the mid-1990s, Matsudaira and Blank (2014) find no effect of the earning disregards for welfare assistance on the labor supply of single mothers.

Several European studies have relied on the timing-of-events approach or matching methods to estimate the effect of part-time work during unemployment spells on subsequent employment. These include Gerfin and Lechner (2002), Gerfin et al. (2005) and Lalive et al. (2008) for Switzerland, Kyyrä (2010) for Finland, Cockx et al. (2013) for Belgium, Fremigacci and Terracol (2013) and Auray and Lepage-Saucier (2021) for France, Kyyrä et al. (2013) for Denmark, and Godøy and Røed (2016) for Norway.³ Many of these studies find significant lock-in effects for the duration of part-time work while receiving benefits (e.g. Fremigacci and Terracol 2013 and Kyyrä et al. 2013), but not all (e.g. Cockx et al. 2013 and Godøy and Røed 2016). Most of the studies also find stepping-stone effects towards full-time employment after part-time work, so that the estimated net effects on subsequent employment are typically either positive or around zero. Although the sign and magnitude of the net effect may vary across different subgroups of unemployed individuals, in most cases part-time working during unemployment seems to reduce benefit duration and increase employment in the European labor markets.⁴ However, since these studies do not account for possible ex-ante effects of the partial benefit and earnings disregard schemes, they do not identify the overall effects of policies

³See Cahuc (2018) for a summary of this literature.

⁴Unemployed workers may not be aware of the possibility to keep part of their benefits if they take up a part-time job or they may not know the details of complex benefit rules. Using randomized information experiments, Altmann et al. (2022) and Benghalen et al. (2023) find that the provision of information about partial benefits increased the propensity to work part-time while receiving benefits in Denmark and France, respectively.

promoting part-time work while receiving benefits, as we do in our analysis.

Finally, our study contributes to the more general literature on the effects of financial incentives on labor market participation, which are often difficult to analyze using administrative data due to a lack of suitable (quasi-)experimental variation in incentives (Chetty et al. 2013). A recent study from Finland by Verho et al. (2022) utilizing the basic income experiment as an empirical setting finds that a massive reduction in participation tax rates had only a small impact on the labor supply of those who received flat-rate unemployment benefits, mostly comprising long-term unemployed persons and individuals with a short or no employment history. Bastani et al. (2021) find a small participation elasticity of 0.13 for women with children in Sweden. Our setup enables us to provide evidence on the effects of financial incentives on participation in part-time work, as the earnings disregards had no direct impact on participation incentives for full-time employment. We provide novel quasi-experimental evidence that this labor supply margin is relatively responsive to changes in financial incentives among benefit recipients, even for those with shorter employment histories.

The remainder of the paper is organized as follows: Section 2 presents the institutional background and earnings disregard reforms in Finland. Section 3 describes the data, and Section 4 provides descriptive evidence on the longer-run trends in working while receiving benefits. Section 5 presents our results on earnings disregard reforms, and Section 6 concludes.

2 Institutions and Earnings Disregard Reforms

In this section, we first briefly introduce the main details of the Finnish unemployment benefit and housing allowance programs, and how both of them are adjusted if an individual works temporarily or part-time when receiving them. We then describe the introduction of earnings disregard policies for both of these benefits, and illustrate how these reforms affected incentives for participating in part-time employment.⁵

⁵Kyyrä et al. (2017) provide a more detailed description of the Finnish unemployment benefit system, and Eerola and Lyytikäinen (2021) of the Finnish housing allowance system.

2.1 Unemployment Benefits and Housing Allowance

Unemployment benefits (UB). Finland applies a typical two-tier unemployment compensation system that provides earning-related unemployment benefits for a limited period of time, and less generous flat-rate unemployment benefits thereafter. To be eligible for unemployment compensation, a claimant must register as an unemployed job seeker at the local Employment and Economic Development Office, search actively for a full-time job, and be ready and able to start working upon receiving a job offer.

Unemployment funds pay earnings-related benefits (*ansiopäiväraha*) to their unemployed members who satisfy the employment condition, which requires that they have been working and making membership contributions for at least 26 weeks within the last 28 months.⁶ During each contribution week, the claimant must have worked for at least 18 hours. Most unemployment funds are administrated by labor unions, and are thus targeted at certain occupation groups or workers in a given industry. Membership of unemployment funds is voluntary, and it is possible to enroll in a union-affiliated unemployment fund without being a member of a labor union. In 2022, about 70% of all workers in Finland were members of unemployment funds.

The level of the earnings-related benefit is determined by the average labor earnings over the employment weeks required for eligibility. There is no cap on the benefit level, but the replacement rate declines rapidly with past earnings.⁷ For a worker with median labor earnings (3195 euros per month in 2022), the replacement rate is slightly below 60%. As of 2017, the maximum duration of earnings-related benefits has been 400 days for those with at least three years of work history, and 300 days for those with a shorter work history.⁸

⁶The minimum number of working weeks was gradually reduced from 43 weeks to 26 weeks between 2003 and 2014.

⁷Slightly higher benefits are paid for those who participate in active labor market programs, including e.g. labor market training courses and job search training.

⁸The maximum benefit duration is 500 days for workers aged 58 or older with at least five years of work history in the last 20 years. Until 2013, the maximum duration of earnings-related UB was 500 days for everyone. In 2014, the maximum duration was cut by 100 days for those unemployed with less than three years of work history. In 2017, the maximum duration was cut by another 100 days for all unemployed except for the oldest workers. Moreover, unemployed workers old enough on the day when their regular UB expires are eligible for extended benefits which can be received until the statutory retirement age. The age threshold for this benefit extension was gradually increased by five years during

Unemployment fund members who exhausted their earnings-related benefits or who do not satisfy the employment condition and those who do not belong to any unemployment fund are eligible for flat-rate unemployment benefits, which are paid by the Social Insurance Institution of Finland for an indefinite period.⁹ Without child supplements, the flat-rate benefit was 768 euros per month in 2022, which amounts to 48% of the average earnings-related benefit.

Unemployment benefits are applied for retrospectively with a two-week reporting period at the beginning of unemployment, and subsequently in four-week or monthly periods if the unemployment spell continues. The unemployed individual reports any amount of work performed to the unemployment fund or Social Insurance Institution, either electronically or using a paper form. In addition to reporting the number of working hours, the amount of labor earnings is also reported. The income is reported using a payslip, a salary certificate, or other reliable documentation, such as an informal salary statement from the employer.

Benefit recipients who take up a part-time job (up to 80% of full-time working hours) or a short full-time job with a duration of no longer than two weeks (four weeks before 2013) are eligible for partial unemployment benefits (*soviteltu päiväraha*).¹⁰ In exchange for the partial benefits, these workers should continue their search for full-time employment and be willing to accept a full-time job if such a job is offered. The basic rule of partial benefits is that each euro of labor earnings reduces the benefit by 0.5 euros. For example, earning 800 euros per month would reduce monthly benefits by 400 euros.

our 20-year observation period.

⁹There are two types of flat-rate benefits in Finland, both of which are paid by the Social Insurance Institution. Unemployed individuals who are not members of an unemployment fund but satisfy the employment condition are eligible for a flat-rate basic unemployment allowance (*peruspäiväraha*), whereas all those unemployed who are not eligible for earnings-related benefits or for basic unemployment allowance can claim unemployment assistance (*työmarkkinatuki*). The unemployment assistance is means-tested against an individual's other income. Up until 2012, it was also means-tested against their spouse's income. The levels of the unemployment allowance and unemployment assistance are the same, and the only difference is that the unemployment allowance is not means-tested and it is available for a limited period of time only. We do not make a distinction between these two very similar benefits, and refer to both of them as "flat-rate unemployment benefit". At the end of 2021, of all unemployment benefit recipients, 39% received earnings-related benefits, 11% unemployment allowance, and 50% unemployment assistance.

¹⁰In what follows, we do not make a distinction between short full-time and part-time jobs and refer to all partial UB recipients as part-time unemployed or part-time workers receiving UB.

However, the total amount of benefits and labor earnings cannot exceed the recipient's pre-unemployment monthly labor earnings (90% of pre-unemployment earnings before 2014), i.e. the earnings that define the level of earnings-related benefits. Earnings exceeding this cap rule cut the benefit by 100%.

Also, during the receipt of partial benefits, the entitlement period for earnings-related benefits elapses at a reduced rate proportional to the ratio of the partial benefit to the full benefit level. For example, a part-time worker with 50% reduced benefits can receive partial benefits for twice as long as they could receive benefits when full-time unemployed. Thus the partial benefit scheme does not only provide relatively high income for part-time workers compared to both full-time unemployed and full-time employed workers, but also allows them to collect earnings-related benefits for a longer time. On the other hand, working on partial benefits may lead to lower benefits in the future, because all employment with weekly working time of at least 18 hours contributes to the employment condition. Thus long periods on partial benefits can lead to a drop in the level of UB, although large drops are prevented by a rule that the recalculated benefit must be at least 80% of the old benefit.

Overall, the Finnish partial benefit scheme, especially after the introduction of the earnings disregards, is rather generous compared to similar schemes in other countries (see Cahuc 2018 for a cross-country comparison). Even before the implementation of earnings disregards, the financial incentives for participating in the part-time labor market were relatively good due to the partial benefit system, and the earnings disregard policies further enhanced them. However, recipients of multiple benefits such as housing allowances were still faced with higher effective tax rates when participating in the labor market, which we discuss in more detail below.

Housing Allowance (HA). In Finland, low-income households are entitled to a means-tested housing allowance (*yleinen asumistuki*) to cover part of their housing expenses, provided by the Social Insurance Institution. Eligibility is based on gross income, financial wealth, and household size, and it can be claimed for private rental apartments, social housing units and owner-occupied apartments. Unemployed individuals are often

low-income, and approximately half of the general housing allowance granted in 2017 was given to unemployed households.

The amount of HA can be up to 80% of eligible housing expenses. In brief, until January 2015, the amount of eligible housing expenses depended on the floor area of the unit and the details of the building such as construction year, household size and structure, and four municipality groups. After January 2015, only the region of residence and the household size and structure have been taken into account. Especially in the capital city region, eligible housing expenses are almost always exceeded, so a single unemployed person eligible for the allowance typically receives a housing allowance of 413 euros per month.

Earnings affect HA in a similar way as they affect UB. The main difference is that all household members' earnings, not just the unemployed person's earnings, impact the housing allowance. The main rule is that for each euro earned the HA is reduced by 0.34 euros.

Housing allowance can be applied for either online or using a paper form. The application for HA requires attachments such as a payslip and a copy of the employment contract. The Social Insurance Institution conducts an annual review of housing allowance, but if the household's income or other conditions change, HA can be adjusted earlier. An interim review is conducted if the household's income increases by at least 400 euros per month or decreases by 200 euros per month. As a result, increased income has a less immediate impact on reducing HA compared to unemployment benefits, which are assessed each month.

It is important to note that partial benefits and earnings disregards do not have as significant an impact on the incentives of very low-income individuals who are entitled to last-resort income support. This means-tested social assistance is intended for persons whose income from work, benefits or assets does not cover their essential daily needs such as food and housing. Additional earnings reduce the amount of the income support almost one-to-one, thus mitigating incentives to participate in the part-time labor market. Therefore, we restrict our baseline analysis of earnings disregard reforms to individuals

not receiving or entitled to the last-resort income support. Consequently, we do not include income support in the microsimulation calculations below where we present and discuss the changes in incentives caused by the earnings disregard reforms.

2.2 Earnings Disregard Reforms and Changes in Incentives

Implementation of Earnings Disregards. The earnings disregard of 300 euros for unemployment benefits was introduced in January 2014. Prior to this, all labor earnings reduced the amount of UB by 50%, as described above. After the reform, an individual receiving UB can now earn up to 300 euros per month such that this amount does not reduce the benefit at all. Above the 300 euro earnings disregards threshold, additional labor income reduces UB by 50%, similarly as described above.

The goal of the reform was to further encourage the unemployed to accept short-term and part-time jobs. The participation tax rates reduced significantly after the reform for these types of jobs, as we will discuss in more detail below. In addition to the partial UB system already in place, the earnings disregard further increased disposable income if an unemployed individual participated in part-time employment.¹¹

A 300 euro earnings disregard was introduced in housing allowance in September 2015. The earnings disregard in HA functions similarly to the earnings disregard in UB. After its implementation, HA recipients can now earn up to 300 euros per month without these earnings affecting the amount of HA. Therefore, this reform had a similar impact on work incentives as the earnings disregard in UB. However, as mentioned above, the HA is reviewed less frequently than UB, and thus the effect of earnings disregards on incentives is likely to be more delayed than for UB, which is reviewed on a monthly basis.

The earnings disregard in HA further improved the financial incentives for accepting part-time work for unemployed individuals receiving the allowance. This applies particularly to those receiving the flat-rate UB, who in many cases are also eligible for the means-tested HA due to their lower income levels. Instead, those with higher earnings

¹¹At the same time, the cap rule of the combined maximum amount of partial UB and earnings changed such that the threshold was raised from 90% to 100% of pre-unemployment earnings. The aim of this change was to increase the incentive to work for those whose daily benefits are low, and reduce the number of situations where working more does not increase disposable income.

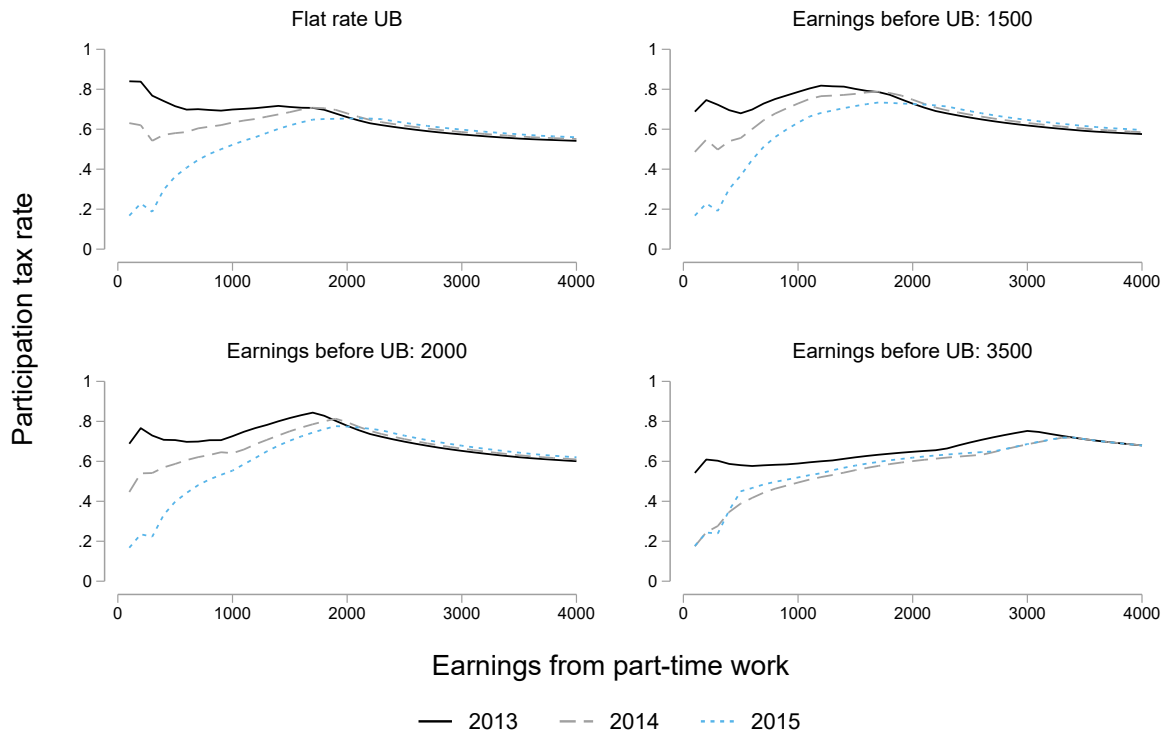
prior to unemployment and those with higher household incomes are often not eligible for HA. Thus for these individuals the earnings disregard in HA had no immediate impact on the incentives to participate in part-time employment.

Changes in Incentives. The earnings disregard reforms had differential impacts on incentives among the unemployed. The first reform in 2014 that implemented an earnings disregard for UB increased the incentives to participate in part-time work for all individuals receiving this benefits (except for those receiving the last-resort income support, who we exclude from our reform analysis). The incentives were further improved in 2015, when earnings disregards were also implemented for HA. However, this reform had no impact on the incentives for those UB recipients who were not eligible for HA. Instead, it provided a significant additional incentive for unemployed HA recipients to participate in the part-time labor market. We utilize this difference in incentives between these groups of unemployed individuals to analyze the impact of financial incentives on labor supply choices in Section 5.

Figures 1 and 2 describe the participation tax rates in different groups before and after the implementation of the earnings disregards. The participation tax rates in the figures indicate how much monthly household disposable income increases with earning labor income at different earnings levels, compared to a situation where an individual remains unemployed with no labor earnings. The participation tax rate takes into account the impact of both income taxes and means-tested social benefits on disposable income when participating in the labor market. For example, if the participation tax rate is 0.7, 30% of monthly gross wage income remains after income taxes and reduced social benefits. The participation tax rates in our analysis are calculated using the SISU microsimulation model, which includes the details of the Finnish tax and benefit legislation.

Figure 1 illustrates the participation tax rates for single-person households who receive UB. The figure includes flat-rate UB recipients and earnings-related UB recipients at different earnings levels between 1500–3500 euros per month before unemployment. As discussed above, earnings before unemployment define the daily UB such that higher earnings indicate higher benefits. Also, those with lower total income are more likely to

Figure 1: Participation tax rates for single-person households, 2013–2015



Notes: Figure presents the participation tax rates (PTR) in 2013, 2014 and 2015 for unemployed individuals with flat-rate UB and earnings-related UB recipients with different levels of earnings prior to unemployment: 1500, 2000 and 3500 euros per month. PTR indicates how much monthly household disposable income increases with labor earnings, compared to a situation where an individual remains unemployed with no labor earnings, accounting for income taxes and social benefit rules. The PTRs in the figure do not account for the impact of last-resort income support, as we exclude households receiving this benefit from our analysis. The PTRs are calculated using the SISU microsimulation model.

be eligible for HA, which is included when calculating the participation tax rates in the figure. Table A1 in the Appendix presents the details of HA eligibility for these example cases.

From Figure 1 we can observe that participation tax rates were generally above 0.6 before the earnings disregard policies in 2013. For example, the participation tax rate for an individual with monthly earnings of 3500 euros prior to unemployment (bottom-right graph in the figure) and earning 500 euros per month while unemployed was 0.6. Participation tax rates were higher and around 0.7–0.8 for those with flat-rate UB or lower earnings before unemployment, as these individuals were also eligible for HA. Therefore, this illustrates that the means-testing of HA further reduced the incentives to participate in part-time employment.

Figure 1 clearly illustrates that the earnings disregard for UB introduced in 2014 reduced participation tax rates for all UB recipients. This is simply due to the fact that the first 300 euros of labor earnings no longer affect UB, thus increasing disposable income when working part-time. Using average part-time earnings of approximately 600 euros per month for those eligible for HA (flat-rate UB recipients and those with low prior earnings), the participation tax rate reduced by approximately 36%. For those not eligible for HA with average part-time earnings of 900 euros per month, the reduction in the participation tax rate in 2014 was 21%.¹²

The implementation of an earnings disregard for housing allowance in 2015 reduced the participation tax rate only for those eligible for HA. Therefore, participation incentives improved mainly for those with flat-rate UB and lower pre-unemployment earnings. After this reform, the participation tax rates for earnings up to approximately 700 euros per month were below 0.4 for all UB recipients. Importantly, as this reform did not concern those not receiving HA, the incentives for UB recipients not entitled to HA remained practically unchanged between 2014 and 2015 (see bottom-right graph of Figure 1).

Figure 2 presents similar graphs for two-person households using different assumptions of spouses' earnings: 500 euros (above) or 1500 euros (below) per month. As discussed above, spousal earnings do not affect UB but they are included when defining eligibility for HA. Similarly as above in Figure 1, higher earnings indicate that the household is less likely to be eligible for HA. Table A1 in the Appendix shows the details of HA eligibility for these groups.

Figure 2 delivers a similar message as Figure 1 above: participation incentives changed for all UB recipients in 2014, but the later reform in 2015 reduced the participation tax rates only for those with smaller household earnings, as they are also eligible for HA. Therefore, differences in spousal earnings between UB recipients create additional variation in how the latter reform in 2015 affected the incentives to participate in the part-time labor market.

¹²Figure A4 in the Appendix shows the part-time earnings distributions for earnings-related and flat-rate partial UB recipients in 2013, separately for those with and without HA. The figure illustrates that partial UB recipients without HA tend to earn somewhat more than those with HA throughout the distribution.

Figure 2: Participation tax rates for two-person households in 2013–2015



Notes: Figure presents the participation tax rates (PTR) in 2013, 2014 and 2015 for earnings-related UB recipients with different levels of earnings prior to unemployment (2000 and 3500 euros per month) and with different spousal earnings (500 or 1500 euros per month). The PTR indicates how much monthly household disposable income increases with labor earnings, compared to a situation where an individual remains unemployed with no labor earnings, accounting for income taxes and social benefit rules. The PTRs in the figure do not account for the impact of last-resort income support, as we exclude households receiving this benefit from our analysis. The PTRs are calculated using the SISU microsimulation model.

Expected Impacts. Consistent with the changes in incentives, we expect the UB earnings disregard policy implemented in January 2014 to increase participation in part-time employment for all unemployed individuals included in our analysis. Instead, we expect the second reform in September 2015 to increase part-time work only for HA recipients, as those who were not entitled to or receiving HA were not affected by this later reform.

The changes in participation tax rates due to the implementation of earnings disregards were relatively large. For example, for single persons earnings 500 euros per month during an unemployment spell, the introduction of the earnings disregard in UB reduced the participation tax rate by over 30% (from approximately 0.6 to 0.4) among those who were not entitled to HA. The earnings disregard for HA further reduced the participation

tax rate by 30% for those entitled to HA. Therefore, due to the extent of these changes in incentives, we can expect the reforms to have an impact on part-time labor supply choices. Also, the earnings disregard policies were likely to be relatively transparent for benefit recipients. The clear 300-euro rule is presumably easier to comprehend and absorb compared to, for example, complex rules regarding progressive income taxes that were in use both before and after 2014. Even though we cannot test the role of the simplicity of the regulations in this case, we expect the transparency of the policy to further increase labor supply responses.

However, as can be observed from Figures 1 and 2, due to the relatively small income threshold of the disregard at 300 euros per month and the cap rule stating that earnings and partial UB cannot exceed earnings before unemployment, participation in employment more permanently with earnings around 2000 euros per month was not affected by these reforms. Therefore, earnings disregard policies have a direct effect only on incentives for part-time work. This feature enables us to provide novel evidence on how individuals respond to changes in financial incentives concerning this particular labor supply margin.

A potential increase in part-time work during unemployment spells can also affect longer-run labour market outcomes. The expected impact of part-time work on transitions to full-employment is, however, ambiguous due to the potentially opposite lock-in and stepping-stone effects. If earnings disregards increase part-time employment, participating in these types of jobs could increase the likelihood of finding a permanent job in the future through, for example, work experience and more active contacts with employers. On the other hand, taking up part-time jobs could slow down or hinder transitions to full-time employment if they crowd each other out. Moreover, UB recipients may acquire new skills when working part-time, increasing their productivity and earnings potential, and employers may use part-time jobs to screen potential candidates for more permanent full-time positions. Therefore, part-time work during unemployment spells may also lead to higher earnings and longer employment spells after benefit receipt.

In addition, the introduction of earnings disregards affected the incentives for transi-

tions from full-time employment to unemployment with part-time earnings. By making part-time work relatively more attractive, these reforms could have reduced full-time employment while increasing part-time working while receiving UB. Nevertheless, this transition would require the worker to first resign from his or her current job and register as an unemployed job seeker, which entails requirements to search actively for a full-time job and readiness to start working upon receiving a job offer. In addition, voluntary resignations typically lead to a waiting period of up to 45 days before receiving UB. This implies that moving from full-time jobs to part-time employment with UB is rather costly for workers, which notably reduces the incentives for these types of transitions.

We are not able to directly test the prevalence of transitions from full-time employment to part-time jobs with UB, as it is difficult to construct a reliable empirical setup with treatment and comparison groups for part-time work incentives for fully employed individuals. However, in Section 4 we present descriptive evidence that changes in the number of UB recipients are not linked to changes in the share of UB recipients working part-time among different subgroups. This indicates that this channel is not likely driving the changes in part-time work among benefit recipients, as the increase in part-time work in different subgroups appears not to be closely associated with transitions into unemployment in the same groups.

Also, the implementation of earnings disregards can mechanically increase the number of benefit recipients with positive labor earnings. This is because now the first 300 euros of earnings that do not impact the benefits "push" those with higher earnings than before the reforms into being eligible for small amounts of benefits. This issue needs to be considered when evaluating participation in part-time work while receiving benefits, as this mechanical effect does not necessarily indicate a participation response. We take this issue into account in our empirical analysis, and show evidence that this mechanical effect is not driving our findings.

Finally, the introduction of earnings disregards generated a new kink point in the budget set of UB and HA recipients at 300 euros, above which benefits begin to gradually reduce. In principle, this discontinuity could be used to identify local intensive-margin

responses to financial incentives using the so-called bunching method (see e.g. Kleven 2016). However, we do not use a bunching method in this study for two reasons: first, this method does not allow us to capture participation responses, which are the main outcome we are interested in. Second, identifying a credible counterfactual distribution from a non-monotonous part-time earnings distribution is challenging, implying that the local intensive-margin estimates are likely to be biased. However, we illustrate and briefly discuss the changes in the part-time earnings distributions around the earnings disregard reforms below in Section 5.

2.3 Other relevant reforms

Activation model. In 2018 and 2019, the so-called activation model was implemented in Finland. It was aimed at increasing employment by encouraging unemployed individuals to be more active throughout their period of unemployment. When the activation model was in effect, the UB was cut by 4.65% if an individual had not worked or participated in employment-promoting services during a three-month review period. The threat of benefit cut was meant to encourage unemployed individuals to seek short-term and part-time work or participate in employment-promoting services to a greater extent than before, both of which were expected to help prevent prolonged unemployment.

The incentives created by the activation model were different for different groups of unemployed individuals. In particular, the model did not provide additional financial incentives for those who, even without the activity requirement, would engage in short-term or part-time work during their unemployment period. Therefore, the model may have increased part-time work during unemployment, especially in groups where working with benefits was relatively rare before the reform. Also, by reducing unemployment benefits and tightening the activity condition, this reform may have increased full-time employment. This may show up as increased transitions to full-time employment in our analysis of the longer-run impacts of earnings disregard policies on more permanent employment.¹³

¹³According to Kyyrä et al. (2019), the sanctions of the activation model particularly affected older unemployed individuals. Approximately half of unemployed workers over 55 years old were subject to

The unemployment benefit reform, which included the activation model, received a lot of criticism even before its implementation, especially from left-wing politicians and labor unions. After a change of government in June 2019, the activation model was abolished at the end of the year, so it was in place for only two years.

COVID-19 measures. In 2020 and 2021, the government sought to alleviate the effects of the COVID-19 pandemic by making several changes to the rules on furloughs and unemployment benefits. COVID-measures and the consequences of them do not impact our analysis of earnings disregard policies, but show up in our longer-run descriptive analysis of part-time work that includes this time period.

The duration of collective negotiations on furloughs within firms and the notice period prior to a furlough were reduced for the period from April 2020 until the end of 2020. During this time, even employees with fixed-term contracts could be furloughed under the same conditions as those with permanent contracts. Entrepreneurs also temporarily gained the right to flat-rate unemployment benefits if their business income had decreased due to the pandemic. Normally, entrepreneurs are not entitled to unemployment benefits. Importantly, the earnings disregard in unemployment benefits was also raised from 300 euros to 500 euros from June 2020 to November 2021.

In Finland, labor market adjustments occurred mainly through furloughs, and unemployment did not significantly increase during the pandemic. Most new flat-rate UB recipients during the pandemic were entrepreneurs. Although the pandemic caused only a short dip in employment at the economy level, it had a significant and long-lasting negative impact on certain industries and groups. The sectors most severely affected were accommodation and restaurants, recreational services, and logistics. Apart from logistics, part-time work is relatively common in these sectors. Employment and earnings decreased, especially in the group under 25 years old, which includes many students whose part-time and occasional side jobs likely decreased (Isotalo et al. 2022).

the benefit cut. Also, men's unemployment benefits were more frequently reduced due to the activation model compared to women.

3 Data

We combine various administrative data sets to construct our data. Our data from the Social Insurance Institution and unemployment funds include individual-level information on each unemployment spell, and monthly-level information on unemployment benefits and earnings when receiving benefits in the period 2000–2021. These data allow us to reliably follow the development of part-time work while receiving UB over a long time period for individuals in different sectors, and to study how the earnings disregard reforms are linked to part-time work. To measure longer-run labor market outcomes, we use data on all employment spells and annual earnings from the pension providers. These employment and earnings records are available until the end of 2018.

To these data we link on other income and social benefits including HA, and background characteristics such as age, sex, education, place of residence, and family status from different registers of Statistics Finland. The data also enable us to link individuals living in each household. These data are available at an annual level until 2020. Therefore, one limitation in our data is that we observe housing allowances only at the annual level, in comparison to monthly-level unemployment benefits. We discuss below the implications of this limitation in terms of our empirical analysis of earnings disregard reforms.

Another data limitation is that after the implementation of earnings disregards, we do not observe earnings below the 300 euro threshold for all earnings-related UB recipients. This is due to the fact that some of the unemployment funds that are responsible for UB payments do not register individual earnings below 300 euros after 2014, even though they typically record the part-time work status of benefit recipients in these cases too.¹⁴ Due to this restriction, our analysis on earnings while unemployed is based on a subsample of individuals for whom monthly earnings below 300 euros are observable in the data, which covers 66% of the recipients of earnings-related UB.

Table 1 presents descriptive statistics on key variables using our main estimation sam-

¹⁴Whether earnings below the earnings disregard are registered or not in a given unemployment fund depends on the fund's IT system provider, which we observe in the data.

Table 1: Descriptive statistics, 2012–2018

	All	Earnings-related UB	Flat-rate UB
Age	43.03	47.05	38.84
Female	0.53	0.55	0.50
Spouse	0.60	0.66	0.54
Spouse's earnings (annual)	14,669	17,486	11,740
Family size	2.39	2.35	2.43
Number of children aged 7 and below	0.21	0.19	0.23
Working part-time (yes/no)	0.17	0.20	0.13
Received housing allowance (yes/no)	0.23	0.11	0.35
Earnings from part-time work (per month)	818	922	693
Observations in total	23,289,294	11,870,324	11,418,970
Unique individuals	1,126,214	693,445	621,050

Notes: Table presents the monthly averages for key descriptive statistics for individuals who received unemployment benefits (UB) in 2012–2018. Mean values are presented for all UB recipients and the recipients of earnings-related and flat-rate UB.

ple from 2012–2018, which we use to analyze the impacts of earnings disregard reforms. We focus on this time period in our regression analysis because complete employment records are available until 2018. The table shows mean values for all UB recipients and separately for earnings-related and flat-rate UB recipients. Those with earnings-related UB are slightly older, more likely to have a spouse, but less likely to have children below the school starting age (7 years in Finland). From the table we can observe that 20% of earnings-related and 13% of flat-rate UB recipients had part-time jobs in 2012–2018. Also, as can be expected, those with flat-rate UB are more likely to receive HA due to their lower individual and spousal incomes. Finally, earnings-related UB recipients' part-time earnings were higher (922 euros) compared to those with flat-rate UB (693 euros).

4 Combining Benefits and Part-time Work Over Time

In this section, we describe how combining unemployment benefits and part-time work has developed in Finland over the last 20 years, and describe how working while receiving

UB has evolved among different types of individuals and sectors.

Panel A of Figure 3 illustrates the development of the number of unemployed individuals and part-time workers receiving UB in Finland, and Panel B the overall trend in the share of part-time workers who received UB relative to all UB recipients in 2000–2021. The figure shows that while the number of unemployed persons has varied following the changes in the business cycle, the share of part-time workers receiving benefits remained relatively stable around 10–12% during 2000–2013, although the share dipped slightly after the financial crisis in 2008–2009. After 2013 the share of part-time workers began to increase sharply, and before the pandemic in March 2020 their share reached 18%.¹⁵ This increase took place at the same time as earnings disregards in UB and HA were implemented, denoted by vertical dashed lines in the figure. This tentatively suggests that these policies increased part-time working while receiving benefits, which we analyze in more detail below.¹⁶

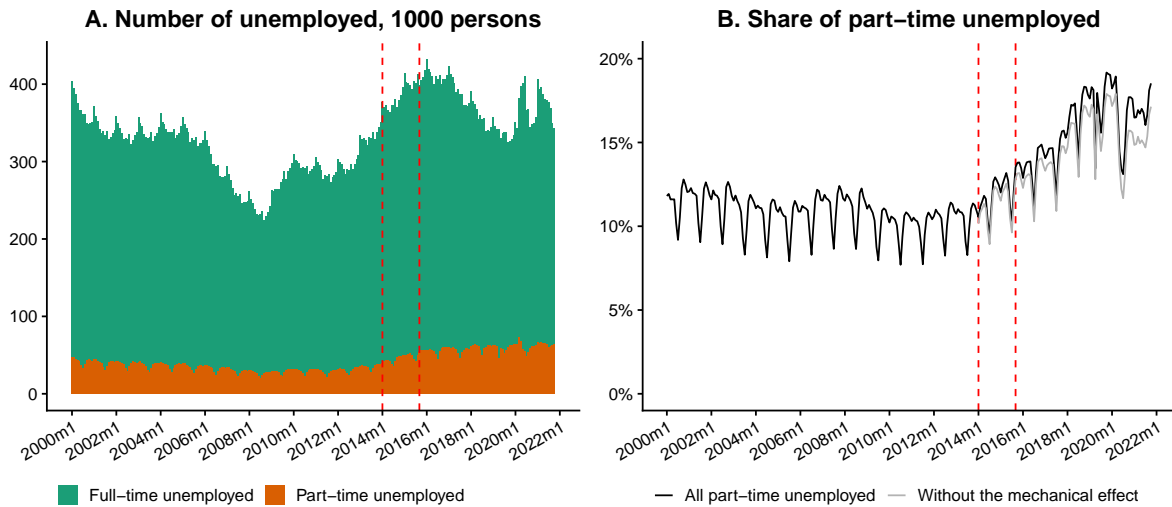
Moreover, the increase in the monthly share of the part-time unemployed in the post-reform period cannot be explained by a higher part-time work intensity, i.e. longer part-time work spells of groups that used to combine part-time work and benefits already before the reforms. Of all individuals who received UB in 2013, 17% worked part-time at some point when receiving UB within the year. This share increased to 24% by 2019, so that a higher share of the unemployed have worked part-time after the reforms.

Also, Figure 3 illustrates the temporal variation in unemployment each year. The figures show that the number of fully unemployed persons increases during the summer, and consequently the share of part-time workers drops at the same time. This phenomenon concerns women in particular (see Panel B of Figure 4 below), and is likely driven by school holidays when teachers, who are often women, are more likely to be unemployed, and mothers of young children more likely to be without employment due to the lack of

¹⁵During the COVID-19 pandemic in 2020–2021, the number of furloughed workers increased drastically, partly due to temporary legislative changes that made it easier to furlough workers. We focus on unemployed workers and exclude furloughed workers from our analysis. We also exclude entrepreneurs who were temporarily given eligibility for flat-rate UB during the pandemic.

¹⁶Over the same period the share of part-time workers among all workers in Finland increased much less and in a smoother fashion from 12% in 2000 to 14% in 2020, see Figure A1 in the Appendix. This suggests that the rapid increase in unemployed part-time workers in the mid-2010s does not stem from an overall increase in the prevalence of part-time work at the same time.

Figure 3: Full-time and part-time unemployed individuals, 2000–2021



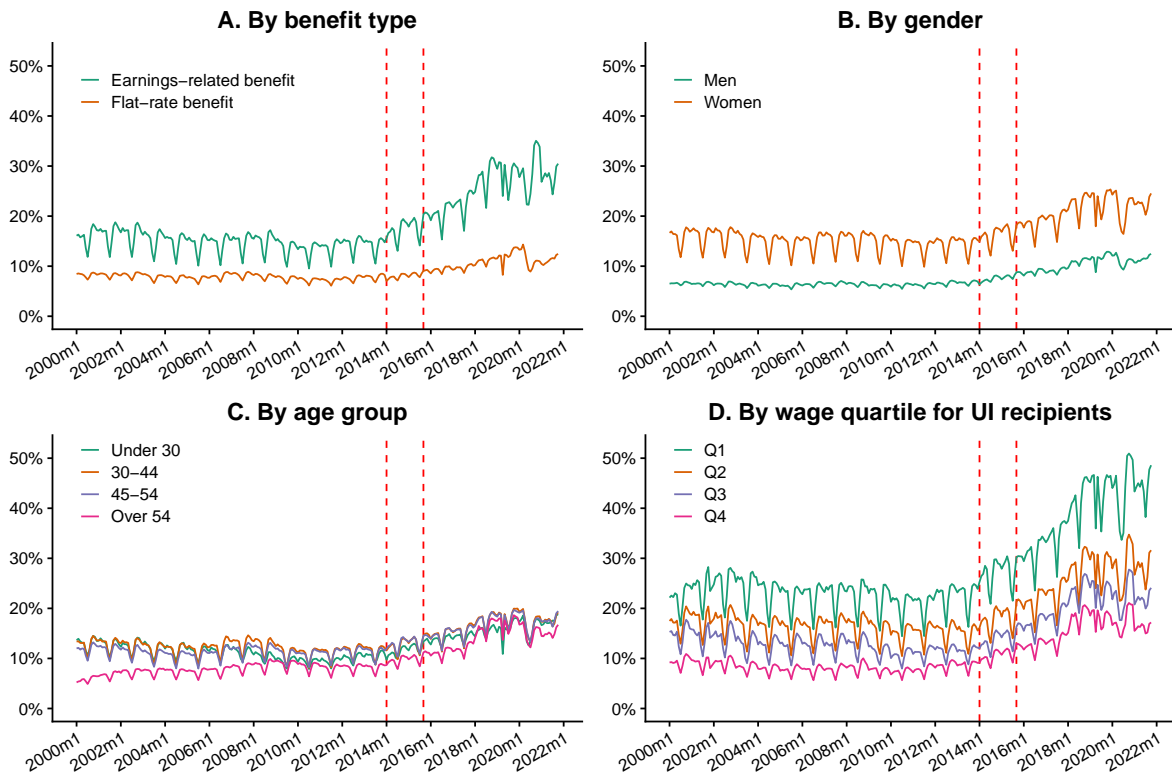
Notes: Panel A of the figure shows the number of unemployed individuals in 1000 persons in Finland in 2000–2021. The graph includes the number of full-time unemployed (green bars), and part-time unemployed (orange bars) who are working part-time and receiving benefits. Panel B shows the development of the share of part-time unemployed of all UB recipients in 2000–2021. The black line denotes the share of all part-time unemployed, and the grey line the share when excluding the mechanical increasing effect of the earnings disregard reforms on part-time unemployment. The vertical dashed lines denote the implementations of earnings disregards in unemployment benefits (January 2014) and housing allowances (September 2015).

daycare opportunities for their children. This issue is recently illustrated and discussed in more detail using data from the US by Price and Wasserman (2023).

In addition to the share of all part-time workers receiving benefits, Panel B of Figure 3 includes the share of them when excluding the mechanical effect of the 2014 earnings disregard reform. As discussed above, the first 300 euros of earnings that do not impact the benefit increase the number of those individuals eligible for small amounts of UB who were not eligible before the reform in 2014 due to their high labor earnings. The figure shows that removing these individuals as partial UB recipients does not change the overall pattern of an increasing share of part-time unemployed workers after 2014, but reduces this share by approximately 1–1.5 percentage points. Therefore, based on this finding, we conclude that the mechanical effect does not significantly alter the above implications.

Figure 4 illustrates the development of the share of part-time workers receiving benefits into different subgroups. Panel A shows the development by benefit type, dividing UB

Figure 4: Share of part-time unemployed workers in different subgroups of all UB recipients, 2000–2022



Notes: Panels A, B, C and D show the development of the share of part-time unemployed workers among all UB recipients in 2000–2021 by benefit type (earnings-related/flat-rate), gender, age group, and among recipients of earnings-related benefits by annual wage quartiles before the current benefit entitlement period, respectively. The vertical dashed lines denote the implementations of earnings disregards in unemployment benefits (January 2014) and housing allowances (September 2015).

recipients into earnings-related and flat-rate UB recipients. Part-time work is more common among earnings-related UB recipients, but the share of part-time workers increased in both of these groups after the implementation of earnings disregards (vertical dashed lines in the figure). Panel B shows that combining part-time work and benefits is more common among women compared to men, but again part-time work increased in both groups after 2014. Also, these figures underline the temporal difference in unemployment and the share of part-time workers between the groups, stemming from the fact that full-time unemployment tends to increase particularly among women during the summer (see Price and Wasserman 2023).

Panel C of Figure 4 shows that in the early 2000s working part-time was much less common among older unemployed persons aged above 54 years, while the differences

among other age groups were negligible. However, the share of part-time workers increased most notably among the oldest age group after 2014, and by 2020 the differences by age were rather small. The oldest group includes workers who are eligible for extended unemployment benefits after their regular benefits expire. Since these extended benefits can be received until the statutory retirement age, the combination of the regular and extended benefits provides a kind of early retirement scheme. As a result, many of the oldest unemployed are not actively looking for a new job but are passively waiting for their old-age pension eligibility to start (Kyyrä and Ollikainen 2008). The age threshold of this early retirement scheme was gradually increased from 55 to 60 between 2005 and 2021, encouraging re-employment among the oldest unemployed group by increasing their risk of benefit exhaustion. These reforms probably partly explain the larger increases in part-time work in the oldest group compared to younger groups. Also, the activation model, which was in effect in 2018–2019, may have encouraged part-time working among older workers more than among younger workers due to the lower initial level of part-time employment within the oldest group.

Panel D shows the development of part-time working by income group for earnings-related benefit recipients, measured as wage quartiles before the current benefit entitlement period. UB recipients are allocated into different income groups according to the monthly wage on which the level of their earnings-related benefit is based. This graph shows that individuals in the first income quartile are much more likely to work part-time while receiving UB, and in this group the share of part-time workers increased from 22% in 2013 to 50% in 2020. In contrast, the share of part-time workers in the top income quartile only reached 20% even after the earnings disregards were implemented. It should be stressed that the first income quartile is likely to include many individuals who work part-time frequently while receiving UB. For these individuals, their pre-unemployment wage income is at least partly based on part-time earnings, because part-time working with or without UB also contributes to the employment condition and hence to the level of the future earnings-related UB, provided that the working time is at least 18 hours per week. Overall, Panel D of Figure 4 shows that despite these differences part-time work

increased in all income groups after the mid-2010s.

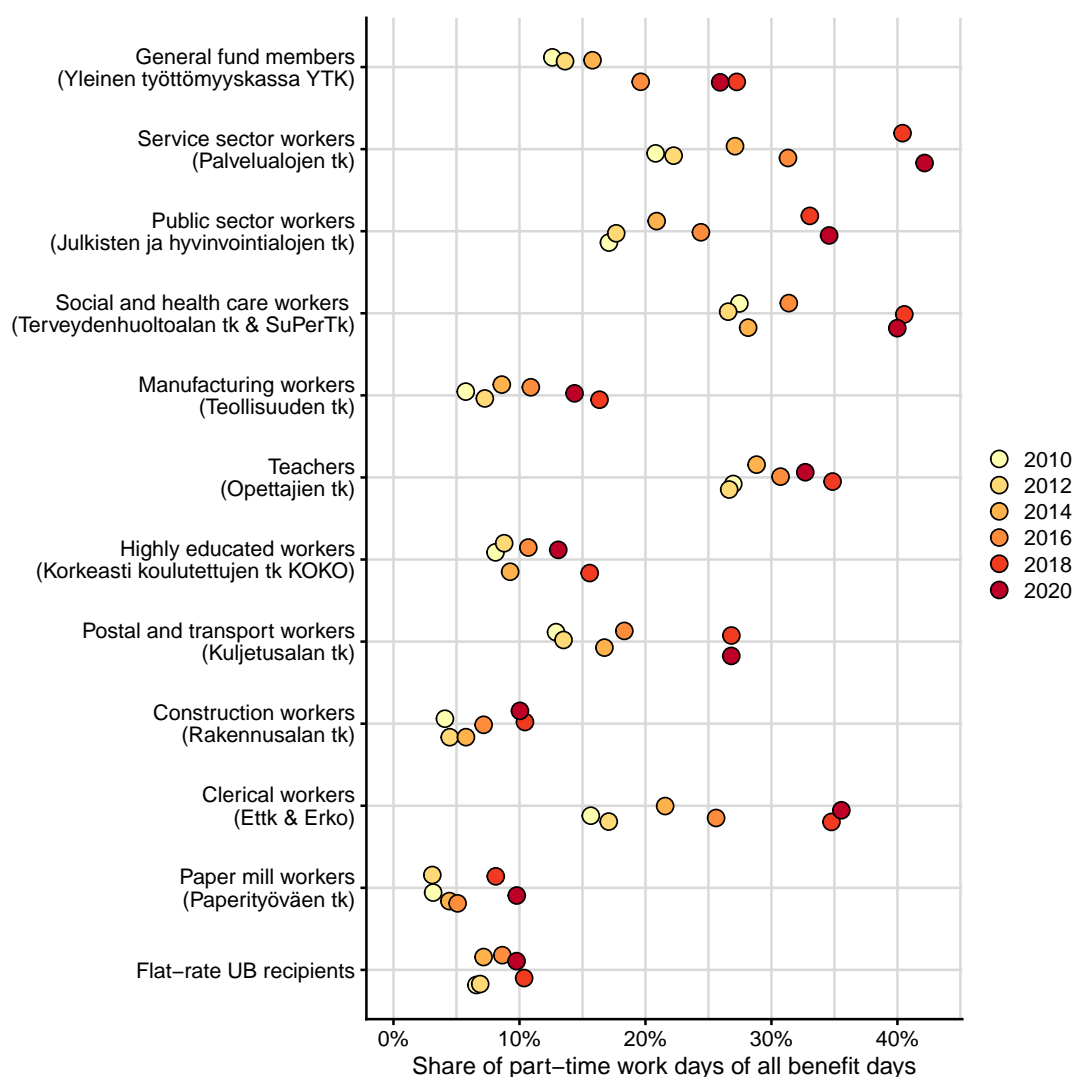
Figure 5 shows how the share of unemployment days involving part-time work out of all unemployment days developed in 2010–2020 among earnings-related benefit recipients in certain occupations as identified by their unemployment fund, and among flat-rate benefit recipients.¹⁷ Since most unemployment funds are administrated by labor unions, which represent different industries and occupation groups, information on the unemployment fund that pays out the benefit to the recipient represents an intuitive proxy for differences by industries, if we assume that members of the funds are likely to continue working in the same industry in the future. In addition to industry and occupation-related unemployment funds, Figure 5 includes the general unemployment fund available for all workers irrespective of industry or occupation. The general fund has been gaining popularity steadily over time, and it is by now the largest unemployment fund, with roughly one-fifth of all workers being members of it. The figure also includes the recipients of flat-rate benefits from the Social Insurance Institution as a separate group. This group mainly consists of long-term unemployed who have exhausted their earnings-related benefits and labor market entrants without sufficient work history to be eligible for earnings-related benefits.¹⁸

From Figure 5 we can observe that there is large variation in both the level and development of part-time working during unemployment between different groups. The figure shows that part-time work while receiving benefits is most common in the social and health care sectors and among service sector workers. Also, in these groups the share of part-time work days has increased the most during the years 2010–2020. The share of these days is also relatively large among teachers, but in this group the share has not increased much after 2014. In contrast, the share of part-time work days among clerical workers increased from around 15% to 35% between 2010–2020. Working part-time during unemployment spells is less common among construction, paper mill and

¹⁷The graph shows numbers only for the largest unemployment funds whose membership is targeted at clearly defined occupations or industries. Many smaller funds have merged over time, resulting in combined funds with very heterogeneous member pools.

¹⁸Note that UB regulations do not depend on the unemployment fund, meaning that all variation in the level or duration of benefits between these groups is driven by differences in the earnings and work histories between the individual members of different funds.

Figure 5: Share of part-time work days by occupation and benefit type, 2010–2020



Notes: The figure presents the shares of days involving part-time work of all unemployment days for the members of different unemployment funds and for flat-rate UB recipients. Recipients of earnings-related benefits are allocated into different occupation and industry groups based on their unemployment fund (Finnish names for the funds shown in brackets). UB recipients from the general fund and recipients of flat-rate UB from the Social Insurance Institution are reported as separate groups.

manufacturing workers and among the members of the unemployment fund for highly educated workers. The low share in the first three of these groups is also likely to explain the large difference between part-time work among men and women presented above.

As discussed above, one potential channel behind the increase in the share of part-time workers receiving UB is transitions from full-time employment to part-time unemployment. To characterize the extent of this potential margin, Figure A2 in the Appendix presents the changes in the number of all UB recipients in 2010–2020 for the same groups

shown above in Figure 5. Comparing these two figures illustrates that the increases in the share of part-time workers are not very closely associated with changes in overall unemployment. For example, while combining part-time work and benefits has become much more common among service sector and clerical workers over the last decade, their overall unemployment has not significantly increased over the same period. Also, the number of unemployed individuals has increased notably among the members of the non-occupation-specific general unemployment fund, but their share of part-time work days is still around 25%. One exception to this development is social and health care workers, in which group both unemployment and part-time working have increased at the same time. Overall, these observations suggest that transitions from employment to part-time jobs with UBs are not driving the increase in part-time work, but this channel could play some role in some specific sectors.

5 Analysis of Earnings Disregard Reforms

Next, we zoom into the implementation of the earnings disregard policies to evaluate how they affected part-time work while receiving benefits. In addition, we analyze whether potential participation responses to part-time work are linked to longer-run labor market outcomes.

5.1 Methods and Definitions

As discussed in detail above, the implementations of the earnings disregards had differential impact on the incentives to work part-time for different unemployed individuals depending on whether their households received housing allowances or not. As shown in Figures 1 and 2, the earnings disregard in UB implemented in January 2014 reduced participation tax rates for all unemployed individuals. The earnings disregard in HA implemented in September 2015 further reduced participation tax rates, but only for those who also received HA, leaving the incentives of other unemployed individuals unchanged. Due to the differential impact of the later reform, we will label as our treatment group

those with both UB and HA, and the control group as those with UB only.

To study the impact of these reforms, we compare the monthly-level labor market outcomes between the treatment and control groups (UB recipients with and without HA). In our baseline analysis, we define HA recipients as those with positive UB in a given month and whose household received HA during a year, as we can only observe HA on an annual basis in our data. Those UB recipients without HA are defined as those with only unemployment benefits in a given month. As a robustness check, we also analyze the outcomes by simulating HA recipient status based on the annual incomes of the household, and define the groups based on whether the individual's household is eligible for HA based on this simulation. However, the take-up of HA is not complete, meaning that some of the households eligible for HA do not apply for it. Therefore, the analysis based on the simulated HA status produces effects that represent a lower bound of the potential effects, as those eligible for HA but not receiving it are presumably less likely to respond to changes in incentives related to the earnings disregard in HA. Our findings below support this hypothesis, as we find qualitatively similar but smaller effects when using simulated eligibility for HA for earnings-related UB recipients, but no detectable effects for flat-rate UB recipients.

As discussed and described above in Sections 2 and 3, individuals with earnings-related and flat-rate UB differ in various characteristics, including work history, prior earnings, age and spousal earnings. In addition, the share of housing allowance recipients is larger among flat-rate compared to earnings-related UB recipients, causing an imbalance in the size of the treatment and control groups across the types of UB. Furthermore, those with earnings-related UB tend to earn more while working part-time (on average 922 euros per month) compared to those with flat-rate UB (693 euros per month). These features indicate that pooling all UB recipients together can be challenging, as their labor market histories and potential responses to earnings disregard reforms might differ from each other. Therefore, we will study the impact of the earnings disregard reforms separately for both earnings-related and flat-rate UB recipients.

Our baseline identification assumption is *not* random assignment into the treatment

and control groups, but that the development of the labor market outcomes of the groups would have remained similar without the reforms. This is commonly referred to as the parallel trends assumption. To evaluate the validity of this assumption, we follow the development of the labor market outcomes in the treatment and control groups long before the implementation of the reforms. Our graphical analysis below illustrates that the outcomes of the groups develop very similarly in the years preceding the reforms, strengthening the validity of our baseline identification assumption. We discuss other potential identification issues at the end of this section.

Our main measure for the effect of the reform is an indicator variable of participation in part-time employment while receiving UB. Using our detailed data, we define participation in part-time work each month and follow the development of the share of UB recipients working part-time over time, similarly as above in Section 4. In addition, we measure potential intensive-margin responses by studying labor earnings from part-time work.

We measure longer-run labor market outcomes by focusing on the likelihood of full-time employment, i.e. employment without receiving UB. We use the employment spell data to calculate the total number of working days in the next 24 months for UB recipients in each group for each month, including weekends and holidays but excluding the days in part-time work during an UB spell. We then estimate the impact of the earnings disregard reforms on the number of working days to analyze whether potential part-time work participation effects are linked to days in full-time employment in the future. In addition to the total number of full-time working days, we use several cutoffs to analyze transitions to more permanent employment. We define indicator variables using 360 employment days within the next 24 months (50% of days in employment), 550 (75%) and 660 days (90%). The results of these analyses enable us to comprehensively analyze the potential impact of earnings disregards on longer-run labor market outcomes. In addition to measuring employment for the next two years, we also run a separate analysis using data for the next year and for the second year (i.e. from 1–12 months and 13–24 months after the current period, respectively) to test the robustness of our findings to

different time periods.

As shown in Section 4, there is a clear seasonal pattern in the share of people who work part-time while receiving unemployment benefits, such that full-time unemployment tends to peak and the share of part-time workers to reduce during the summertime. In our analysis below, we remove this seasonality from our main outcome variables. To do this, we first run a regression of the outcome variable with calendar-month dummies separately for the treatment and control groups, and then take the residuals of this regression, which represent the deviation of the actual data from the seasonal patterns captured by the calendar-month effects.

To plot the timeline of the outcomes for earnings-related and flat-rate UB recipients, we estimate the following equation for the treatment and control groups:

$$Y_{it} = \lambda_t + X_{it}\beta + \epsilon_{it} \quad (1)$$

where Y_{it} is the monthly outcome variable for individual i in period t , denoted in relation to December 2013, the month just before the implementation of the first reform. We omit this period dummy from the regression so that the estimated coefficients λ_t represent the average outcome development relative to this month. We include as controls (X_{it}) age, gender, household size and the number of children below 7 years. ϵ_{it} denotes the error term. We cluster standard errors at the individual level.

We estimate the following cross-sectional difference-in-differences equation to capture the magnitude of the effects separately for earnings-related and flat-rate UB recipients:

$$\begin{aligned} Y_{it} = & \alpha_1 + \alpha_2(Treat_{it} \times Post_{Jan2014}) + \alpha_3(Treat_{it} \times Post_{Sept2015}) \\ & + \alpha_4Treat_{it} + \alpha_5Post_{Jan2014} + \alpha_5Post_{Sept2015} + X_{it}\beta + \epsilon_{it} \end{aligned} \quad (2)$$

where the treatment group ($Treat_{it}$) is defined as those with both UB and HA, and the control group is those with UB only. We conduct the analysis using cross-sectional data on the groups, and thus define the treatment status for each individual each month. Therefore, our analysis aims to capture the differences in the development of the groups

over time but allows individuals to move out of the sample, for example, due to transiting to full-time employment. As unemployment benefits and housing allowances are often received for short periods of time, restricting the analysis to a panel setup where we would follow the same individuals over a long time would restrict the sample to a small negatively selected group of individuals who remain unemployed for a long time. However, as a robustness check, we estimate a similar model around the 2015 reform using unbalanced panel data and by keeping the treatment status fixed as it was observed one month before the implementation of earnings disregards in HA in September 2015. In this specification we follow the same individuals one year before and after the reform. Our results from this specification are very similar to those with the cross-sectional baseline model.

In equation (2), $Post_{Jan2014}$ is an indicator variable for the period after the first reform (January 2014–August 2015), and $Post_{Sept2015}$ for the period after the second reform (September 2015 and later periods). Coefficient α_2 in equation (2) thus captures the difference between the groups after the introduction of earnings disregards for all UB recipients, and α_3 captures the difference after the implementation of earnings disregards in HA that affected the treatment group only. Both of the coefficients show the difference between the groups relative to the period before 2014. As such, the effect of the later reform is obtained by the difference between the coefficients, $\alpha_3 - \alpha_2$, which is the effect of primary interest. X_{it} includes controls for age, gender, household size and the number of children below 7 years, similarly as above, and ϵ_{it} is the error term.¹⁹ To study potential heterogeneity in the response, we interact both $Treat_{it} \times Post_t$ variables with indicator variables for gender, age (below or above 56 years), and below or above median wages before unemployment for earnings-related UB recipients.

Potential threats to identifying the effect of earnings disregards using equation (2) relate to compositional changes in the treatment and control groups that could affect the likelihood of participating in part-time work irrespective of the reforms. For example, if the composition of HA recipients were to change over time such that this group included significantly more women, who are more likely to participate in part-time work compared

¹⁹Figure A5 in Appendix shows that the exclusion of controls does not affect the pre-trends or the results.

to men (see Figure 4), it could be that this change is driving the results instead of changes in financial incentives due to the earnings disregard reforms.

We conduct three tests to support the validity of our findings. First, we illustrate that the composition of HA recipients did not change significantly at the time of the earnings disregard reforms. Thus, this channel is likely not able to explain the observed effects after the earnings disregard reforms. Second, while the share of HA recipients in our sample increases over time, these increases occur rather similarly throughout our inspection period, including the years before the implementation of earnings disregards.²⁰ Therefore, increases in the relative number of individuals in the treatment group that could be driven by e.g. mechanical effects of the earnings disregards discussed above do not explain our findings after the reforms. Third, our panel data results using fixed treatment and control groups are very similar to the results from the cross-sectional baseline model, suggesting that potential (unobserved) changes in the composition of the groups are not likely to explain our main findings.

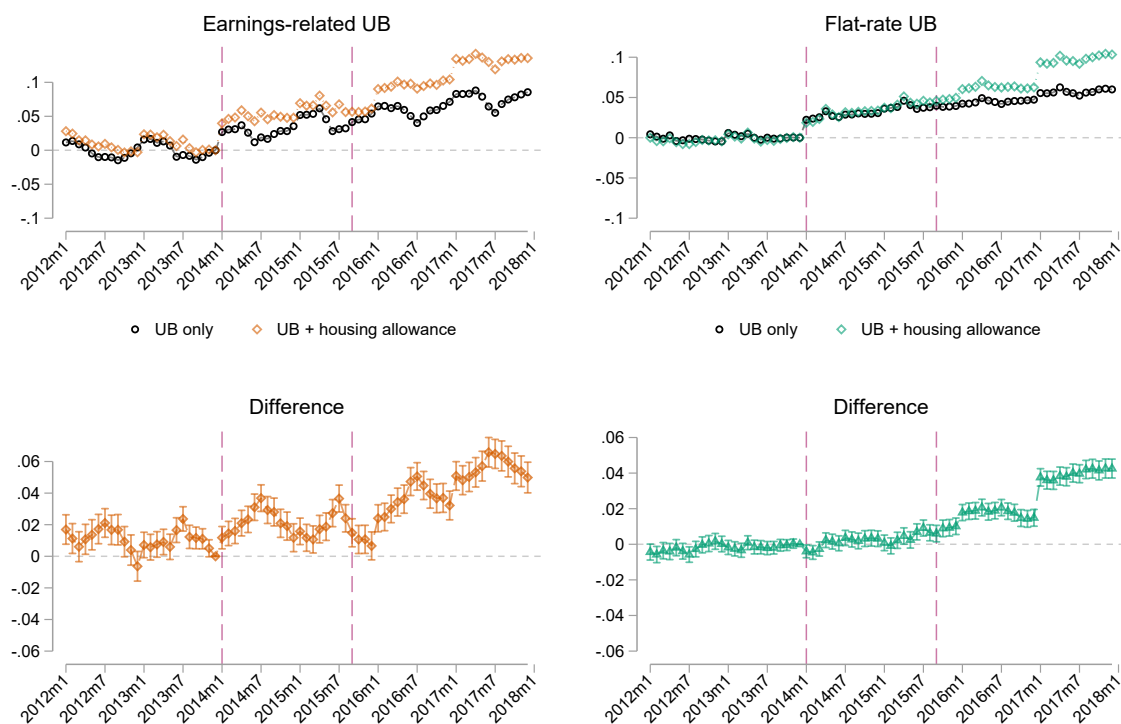
5.2 Results

Participation in part-time work. We begin by plotting the development of participation in part-time work and earnings over time around the reforms. Figure 6 presents the development of the part-time work participation rate among earnings-related (left-hand side) and flat-rate (right-hand side) UB recipients in 2012–2018, divided between those with both UB and HA and those with UB only, estimated using equation (1). The bottom graphs in the figure show the differences between the groups each month. The development of part-time work is presented relative to December 2013, one month before the first earnings disregard reform, denoted by zero for all groups in the figure. The vertical lines in the figure denote the implementation of earnings disregard policies: first for all UB recipients in January 2014, and then for HA recipients in September 2015.

The figure shows that participation in part-time work developed very similarly in

²⁰The total number of HA recipients has increased steadily in Finland from 2010 onward. In 2010, the number of households receiving HA was approximately 175,000, and by 2016 it had increased to 270,000 households.

Figure 6: Development of the share of part-time unemployed workers, earnings-related and flat-rate UB recipients



Notes: The figure plots the development of the share of part-time unemployed workers with labor earnings for earnings-related and flat-rate UB recipients in 2012–2018, separately for those with and without housing allowance. The share is presented relative to December 2013, which is denoted by zero for all groups. The figure also shows the difference between the groups each month with 95% confidence intervals. The baseline shares of part-time workers in December 2013 were 17% and 16% for earnings-related UB recipients without and with HA, and 8% and 10% for flat-rate benefit recipients, respectively.

the treatment and control groups before the reforms. This supports the validity of our empirical approach. Second, the figure shows that from 2014 onward working part-time while receiving UB increased after the implementation of earnings disregards for UB for both flat-rate and earnings-related UB recipients. Except for a small increase for earnings-related UB recipients in the treatment group, there are no clear differences between the groups after the first reform. This can be expected as this reform affected all UB recipients, including those with both UB and HA.

From Figure 6 we can observe a clear deviation in the development of part-time work between the treatment and control groups starting after the HA earnings disregard implementation in September 2015. The share of part-time workers among those with both HA and UB increased more significantly compared to those with UB only, who

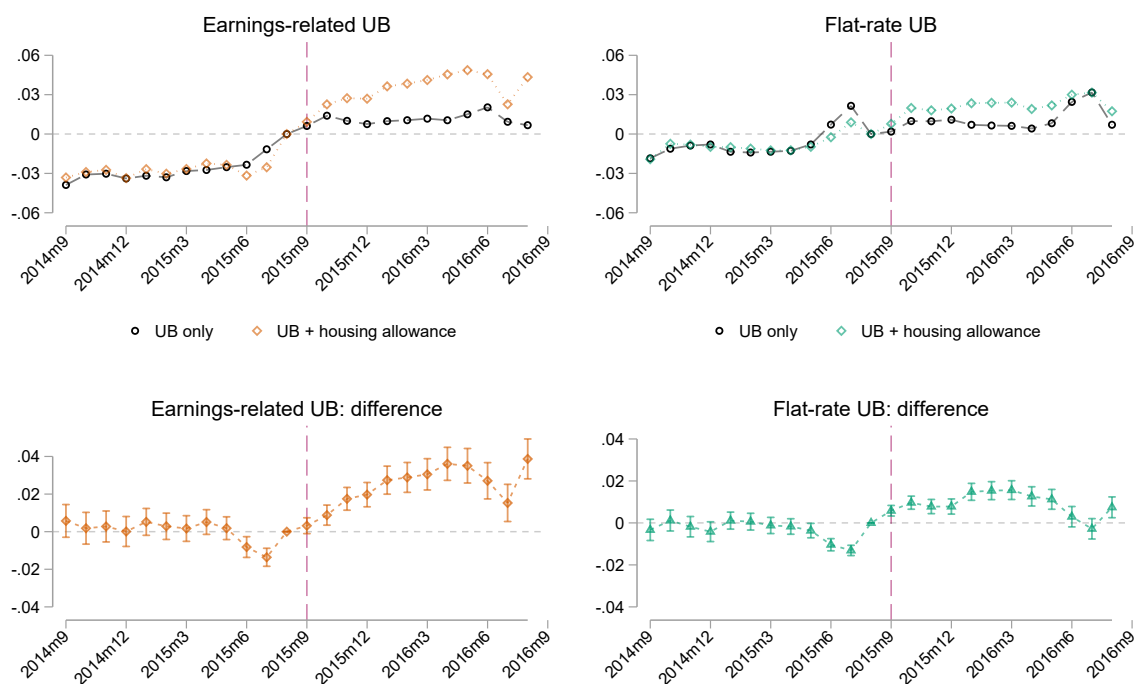
were unaffected by this later reform. This development is observed for both earnings-related and flat-rate UB recipients. Also, we observe that the difference in participation in part-time work increases gradually between the groups after the second reform, which is consistent with the fact that HA is reviewed less frequently than UB, implying that the incentives to participate in part-time work did not necessarily change for all HA recipients immediately after September 2015. Overall, the evidence in Figure 6 suggests that improving financial incentives for part-time work among benefit recipients increases their participation in part-time employment.

Closer inspection of Figure 6 shows that there are discontinuous changes in the development of part-time work in the beginning of each year, particularly among flat-rate UB recipients. This stems from the fact that we rely on annual data to define HA recipient status, meaning that the treatment group status of UB recipients is defined in the beginning of each year in our data. However, this data-driven feature does not invalidate our setup and findings unless there are simultaneous compositional changes between the treatment and control groups at the time of the earnings disregard reforms that would affect part-time work participation through some other channels than changes in financial incentives.

Tables A2–A3 in the Appendix show how the compositions of the treatment and control groups evolved in terms of age, gender and household characteristics in 2012–2018. Overall, there are no significant changes in these characteristics over time. If anything, there appear to be some small changes in household composition within the groups, but as we control for these characteristics in our regressions it is unlikely that they are driving our observed patterns.

Second, Figure A6 in the Appendix shows the development of the shares of treatment and control groups out of all UB recipients over time for both benefit types. One might worry that the mechanical increase in the number of HA recipients due to the earnings disregard reforms is driving our results. However, based on Figure A6 this is not the case. The changes in the shares are small over time, but there is a small increasing trend in the share of HA recipients from 2013 to 2016. However, the relative share of HA recipients

Figure 7: Development of the share of part-time unemployed workers, panel data analysis

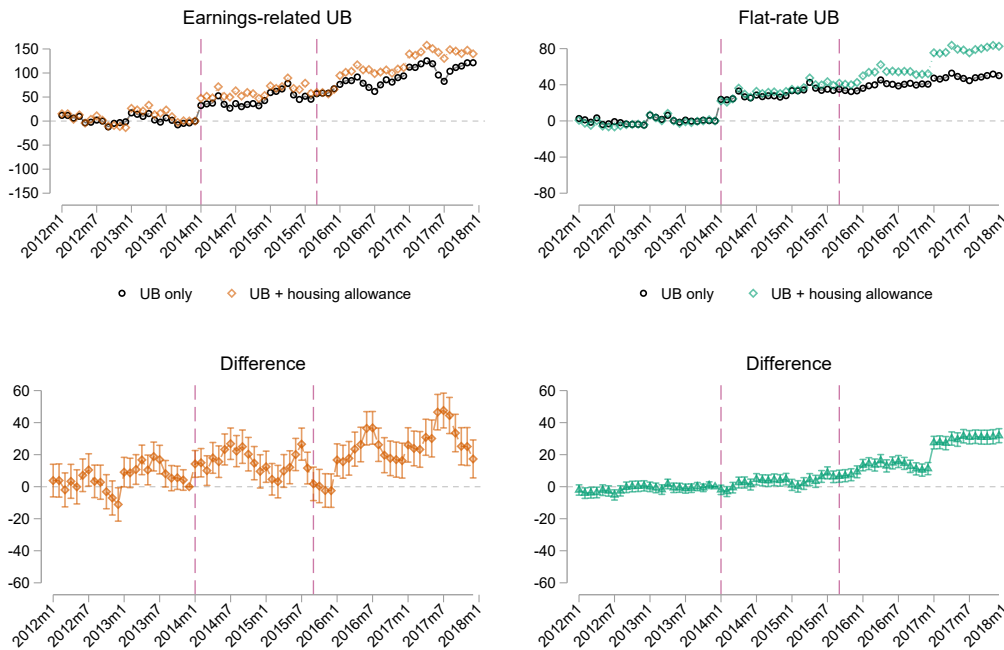


Notes: The figure plots the development of the share of part-time unemployed workers with labor earnings for earnings-related and flat-rate UB recipients in 2012–2018, separately for those with and without housing allowance. The share is presented relative to December 2013, which is denoted by zero for all groups. This analysis uses unbalanced panel data, and we define and fix the treatment group status based on August 2015, one month before the implementation of earnings disregards in HA. The number of observations for the treatment and control groups in August 2015 are 20,018 and 142,379 for earnings-related, and 58,623 and 98,276 for flat-rate benefit recipients, respectively. The figure also shows the difference between the groups each month with 95% confidence intervals. The baseline shares of part-time workers in December were 18% and 19% for earnings-related UB recipients without and with HA, and 11% and 13% for flat-rate benefit recipients, respectively.

then slightly reduced in 2017. Therefore, these differential changes in the shares of HA recipients are not similar to our findings of a consistent increase in part-time work in the treatment group in both 2016 and 2017 after the earnings disregard reform in HA. This implies that potential mechanical effects that would increase the number of HA recipients after the 2015 reform are not driving our findings.

Figure 7 shows the results for earnings-related and flat-rate UB recipients when using (unbalanced) panel data around the 2015 reform. In this specification, we fix the treatment status based on pre-reform observed HA recipients and follow the same individuals one year before and after September 2015. The results show that the share of part-time

Figure 8: Earnings from part-time work, earnings-related and flat-rate UB recipients



Notes: Figure plots the development of earnings from part-time work for earnings-related and flat-rate UB recipients, relative to December 2013, which is denoted by zero in the figure. UB recipients are split into two groups based on eligibility for HA, and the figures include the difference in earnings between the groups each month with 95% confidence intervals. The baseline earnings from part-time work in December 2013 were 825 euros and 731 euros per month for earnings-related UB recipients with and without HA, and around 600 euros for both groups for those with flat-rate UB.

workers in the treatment and control groups evolved very similarly before September 2015, as in our baseline model. Also, part-time work in the treatment group increases relative to the control group after the introduction of earnings disregards in HA for both earnings-related and flat-rate UB recipients in a very similar way as in our baseline model. This specification thus further demonstrates that potential changes in the compositions of the groups in the beginning of the year or the potential mechanical effects on HA eligibility after the reform are not affecting our baseline results, as this specification does not allow any compositional changes in the groups. Overall, these findings support the validity of our findings from our baseline cross-sectional regressions.²¹

Figure 8 shows the development of earnings from working while receiving UB sepa-

²¹As an additional robustness check, Figure A7 in the Appendix shows the development of part-time work when dividing UB recipients into the groups based on simulated eligibility for HA instead of using the observed HA recipient status available in the data. Overall, the patterns in part-time work are similar as above, but the responses to the disregard reforms are more noisy and smaller among simulated HA recipients, as was expected.

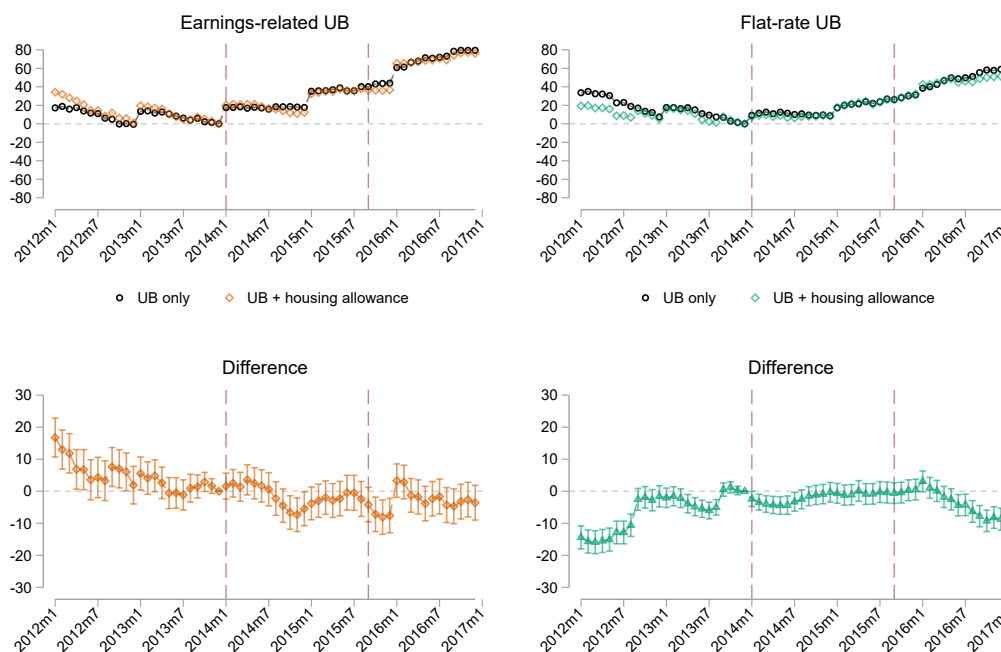
rately for the recipients of earnings-related and flat-rate UB. The figure again illustrates that the development of average earnings was similar in the treatment and control groups before 2014, further strengthening our identification assumption. After the earnings disregard reforms, the part-time earnings of those who received both UB and HA increased relatively more compared to those with UB only. This suggests that in addition to the likelihood of participating in the part-time labor market, the introduction of earnings disregards increased labor earnings. However, the relative increase in earnings is much smaller than the increase in the participation rate, which we discuss in more detail below.²²

Permanent employment. Figure 9 plots the development of days in full-time employment within the 24 months following each unemployment month in both the treatment and control groups around the earnings disregard reforms. The figure thus illustrates how the number of working days (excluding working days while receiving UB) developed for both earnings-related (left-hand side) and flat-rate (right-hand side) UB recipients, separately for those with and without HA. As an example, the average number of full-time working days within the next 24 months was 194 for earnings-related UB recipients without HA who we observe to have been unemployed in December 2013.

Figure 9 shows that the number of days in full-time employment developed similarly in both groups and within both benefit types a year before the reforms. Days in full-time work increased slightly in both groups after 2014, but there is no economically significant difference in this development between the groups over time. This overall increase in full-time employment days continued after September 2015 as well, but there is again no clear difference in this trend between the treatment and control groups. This illustrates that even though participation in part-time work diverged between the groups after the 2015 earnings disregard reform in HA, this pattern is not linked to a significant difference

²²Figure A3 in the Appendix presents the monthly earnings distributions for those who received UB in 2013, 2014 and 2016. From the figure we can observe that the distributions moved slightly to the right after the earnings disregard reforms for both UB types, which is consistent with an increase in earnings after the reforms. Also, we observe some degree of local bunching at the 300 euro threshold for both groups, indicating that some individuals are able to adjust their earnings precisely such that they do not exceed the monthly earnings disregard threshold.

Figure 9: Days in full-time employment within the next 24 months, earnings-related and flat-rate UB recipients



Notes: Figure plots the development of days in full-time employment within the next 2 years (24 months) for all earnings-related and flat-rate UB recipients in 2012–2018, presented separately for those with and without HA. The development is presented relative to December 2013, which is marked by zero for both groups. The baseline days in full-time employment within the next 24 months in December 2013 were 194 and 244 for earnings-related UB recipients with and without HA, and 145 and 143 days for flat-rate UB recipients with and without HA. The bottom graphs illustrate the difference between the groups each month with 95% confidence intervals.

in the likelihood of subsequent full-time employment.

Figures 10 and 11 present the likelihood of working for at least 360 days (50% of the days), 550 days (75%) or 600 days (90%) in full-time employment within the next 24 months for both the treatment and control groups among earnings-related and flat-rate UB recipients. The figure paints a similar picture as above: while the likelihood of more permanent employment appears to have increased over time, there is no significant difference between the groups around the earnings disregard reforms.

Figures A8 and A9 in the Appendix present the results for the number of full-time working days within the next 12 months or within 13–24 months for recipients of both benefit types. The results for these first- and second-year outcomes are very similar to those presented above, and illustrate that there appear to be no clear changes in full-time

Figure 10: Likelihood of permanent employment in the future, earnings-related UB recipients



Notes: Figure presents the likelihoods of working for at least 360 days (50% of all working days), 550 days (75%) or 660 days (90%) in full-time employment within the next 24 months for earnings-related UB recipients, presented separately for those with and without housing allowance. The likelihoods are denoted in the figure relative to December 2013, which is marked by zero for both groups. The baseline likelihoods in December 2013 were 0.24 and 0.33 for those with and without HA for at least 360 days, 0.10 and 0.15 for 550 days, and 0.04 and 0.07 for working full time for at least 660 days within the next 24 months. The bottom graphs of the figure illustrate the difference between the groups each month with 95% confidence intervals.

or more permanent employment between the treatment and control groups over time.

Regression estimates. Table 2 presents the difference-in-differences estimates of participation in part-time work based on equation (2) separately for earnings-related and flat-rate benefit recipients. The table shows the estimates separately for the effect of the first reform and for the joint effect of both reforms, as explained above. We are mainly interested in the effect of the later reform, which is obtained by subtracting the effect of the first reform from the joint effect. It captures the causal effect of the reduction in the part-time work participation tax rate due to the introduction of the earnings disregard for HA. Since the first reform affected both the treatment and control group, its effect does

Figure 11: Likelihood of permanent employment in the future, flat-rate UB recipients



Notes: Figure presents the likelihoods of working for at least 360 days (50% of all working days), 550 days (75%) or 660 days (90%) in full-time employment within the next 24 months for flat-rate UB recipients, presented separately for those with and without housing allowance. The likelihoods are denoted in the figure relative to December 2013, which is marked by zero for both groups. The baseline likelihoods in December 2013 were 0.18 for those with and without HA for at least 360 days, 0.08 and 0.07 for 550 days, and 0.03 for working full-time for at least 600 days within the next 24 months. The bottom graphs of the figure illustrate the difference between the groups each month with 95% confidence intervals.

not capture the effect of the introduction of the earnings disregard for UB but describes the potential impact heterogeneity of the first reform between these groups.

The estimates largely confirm the visual findings from the figures above. The estimates show that participation in part-time work increased for the treatment group (those with both UB and HA) relative to the control group (those with UB only) after the second earnings disregard reform in HA. There are also small 1.2 and 0.4 percentage point differences between the treatment and control groups' participation rates after the first reform for earnings-related and flat-rate UB recipients, respectively. The effects of the second reform concerning the earnings disregard in HA are much larger, given that the estimated joint effects of both reforms show 3.7 and 3.2 percentage-point increases in part-time work participation for earnings-related and flat-rate UB recipients, respectively. Subtracting

Table 2: Regression estimates for part-time work, earnings-related and flat-rate UB recipients

	Earnings related UB		Flat rate UB	
	Working part-time	Part-time earnings	Working part-time	Part-time earnings
Treat _{it} × Post _{Jan2014}	0.0117*** (0.00235)	11.05*** (2.702)	0.00444*** (0.00125)	4.457*** (0.958)
Treat _{it} × Post _{Sept2015}	0.0367*** (0.00255)	20.87*** (3.031)	0.0318*** (0.00142)	24.42*** (1.067)
Baseline control	0.170	731.1	0.0800	604.1
Baseline treatment	0.160	825.6	0.100	594.5
Observations	11,870,324	8,056,990	11,4189,70	11,4189,70

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Table presents the difference-in-differences estimates estimated using equation (2) for participation in part-time work and earnings from part-time work for both earnings-related and flat-rate UB recipients. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

away the effect of the first reform, these estimates imply 16% and 28% increases in participation in part-time work, relative to the baseline participation rates of 16% and 10% in December 2013 for earnings-related and flat-rate UB recipients, respectively. This is in line with the visual observations above showing that the implementation of the earnings disregards in HA was associated with a notable increase in the share of part-time work in the treatment group for both benefit types. Furthermore, the estimates from the panel data analysis described in Figure 7 are similar but somewhat smaller than those in the cross-sectional baseline model. The difference-in-differences estimates for the September 2015 reform are 0.03 (standard error 0.003) for earnings-related and 0.01 (0.001) for flat-rate UB recipients in the panel regressions.²³

We can evaluate the magnitude of the estimated response by approximating a participation elasticity with respect to incentives for part-time work. To do this, we relate this response to the change in the (net-of) participation tax rate due to the implementation of the earnings disregard in HA. To obtain a more easily interpretable estimate, we conduct this analysis by focusing on the latter reform, which changed the incentives for the treatment group of HA recipients only.

The relative change in the participation tax rate caused by the 2015 reform was approximately 22% for earnings-related and 31% for flat-rate UB recipients using the av-

²³See Appendix Table A4.

erage earnings from part-time work in the treatment group (826 and 595 euros per month for earnings-related and flat-rate UB, respectively). To capture the average participation response to the second reform alone, we deduct the small estimated effects of the first reform (1.2 and 0.4 percentage points) from the effect of the second reform for both benefit types. This gives us point estimates of 2.5 and 2.8 percentage-point increases in part-time work, translating into 16% and 28% increases relative to the treatment group means for earnings-related and flat-rate UB recipients, respectively.

Therefore, the obtained participation elasticity estimates for earnings-related and flat-rate UB recipients are approximately 0.7 and 0.9, respectively. These numbers indicate that the part-time labor supply decisions of benefit recipients are relatively responsive to changes in financial incentives. These estimates are larger than what has been found for participation in full-time employment in the literature, where the elasticity with respect to the net-of-tax participation rate is typically estimated to be below 0.5 (Chetty et al. 2013).

In addition, Table 2 shows the estimates for earnings during part-time work for both benefit types. The estimates indicate a statistically significant increase in earnings, but in relative terms the earnings increase is much smaller compared to the participation response after the 2015 reform. The average 10 and 20 euros per month increases in earnings (after deducting the effect of the 2014 reform) correspond to 1.2% and 3.4% increases relative to the treatment group baseline means of 826 and 594 euros per month in December 2013 for earnings-related and flat-rate UB recipients, respectively.

Tables 3 and 4 show the estimates for full-time employment for both benefit types. Column (1) shows the estimates for days in full-time employment within the next 24 months. There is a statistically significant increase of approximately 3 days after September 2015 compared to the pre-2014 level among flat-rate UB recipients with HA. However, the economic importance of this small increase is not substantial, translating into an approximately 2% increase in working days relative to the treatment group baseline measured in December 2013. The earnings disregard reforms had an opposite employment effect for earnings-related UB recipients with HA, as their working days reduced

Table 3: Regression estimates for full-time employment, earnings-related UB recipients

	Days in employment	Full-time (360)	Full-time (550)	Full-time (660)
$Treat_{it} \times Post_{Jan2014}$	-4.856** (1.695)	-0.00424 (0.00315)	0.00223 (0.00186)	0.00294** (0.00101)
$Treat_{it} \times Post_{Sept2015}$	-6.815*** (1.813)	-0.00781* (0.00337)	-0.00134 (0.00194)	-0.000260 (0.00106)
Baseline control	244.2	0.330	0.150	0.0700
Baseline treatment	194	0.240	0.100	0.0400
Observations	7,937,657	7,937,657	7,937,657	7,937,657

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within 24 months following a partial UB spell for earnings-related UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 360, 550 and 660 days in full-time employment within the next 24 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

by some 7 days following the 2015 reform. This effect is also small in relative terms, corresponding to a 3% drop in average working days within the treatment group. For both benefit types, the overall employment effect stems from the earlier reform in 2014, while the effect of the implementation of the earnings disregard for HA in September 2015 is close to zero. However, because of the 24-month observation window, the effect of the 2014 reform also captures part of the effect of the 2015 reform, suggesting that the effects of the two reforms on the full-time employment outcomes are not fully separately identified in this specification.²⁴

Columns (2)–(4) show the estimates for the likelihood of working at least 360, 550 or 660 days in full-time employment during the next 24 months. All the point estimates for earnings-related UB recipients are small and mostly statistically insignificant. For flat-rate UB recipients, the estimates are positive but well below 1 percentage point in all the specifications. Together with the small estimate for full-time working days, these results confirm the visual observations above and illustrate that the increased part-time

²⁴Tables A5 –A8 in the Appendix present the results for full-time employment separately when using the first and second 12 months to measure the longer-run employment outcomes. Overall, the estimates from these specifications are very small and vary between negative and positive effects. Therefore, these results indicate that we do not observe any consistent significant effects on transitions to full-time or more permanent employment. However, for flat-rate UB recipients the effects on full-time employment are consistently positive across different specifications but still very small in magnitude. If anything, this suggests that we find no evidence that the earnings disregards discourage full-time employment for those with lower incomes and shorter work histories, who typically comprise the flat-rate benefit recipients.

Table 4: Regression estimates for full-time employment, flat-rate UB recipients

	Days in employment	Full-time (360)	Full-time (550)	Full-time (660)
$Treat_{it} \times Post_{Jan2014}$	4.286*** (1.019)	0.0101*** (0.00181)	0.00677*** (0.00106)	0.00364*** (0.000580)
$Treat_{it} \times Post_{Sept2015}$	3.225** (1.160)	0.00888*** (0.00203)	0.00688*** (0.00115)	0.00392*** (0.000630)
Baseline control	142.9	0.180	0.0700	0.0300
Baseline treatment	145.0	0.180	0.0800	0.0300
Observations	7,315,800	7,315,800	7,315,800	7,315,800

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within 24 months following partial UB spell for flat-rate UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 360, 550 and 660 days in full-time employment within the next 24 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

employment during (partial) UB spells after September 2015 within the treatment group is not linked to significant changes in transitions to full-time employment.

Heterogeneity. Table 5 shows the regression results when we interact the $Treat_{it} \times Post_t$ terms in equation (2) with various heterogeneity indicators. We analyze how the effects differ by age (below or above 56 years) and gender, and by earnings below or above the median for those receiving earnings-related UB.

The results show that the impact of the earnings disregard reforms are larger for individuals below the age of 56 after the second reform. This is at odds with the evidence in Panel C of Figure 4, showing that part-time working during unemployment has increased most among the oldest workers over the past two decades. These differences suggest that the increases in part-time work among the oldest unemployed persons are not only driven by the implementations of the earnings disregards, and that other reforms, such as postponing access to extended UBs and the activation model, have also probably played a significant role in labor supply decisions.

The estimates among flat-rate UB recipients are larger among women than men, and the impact of the second reform in 2015 was larger for those with smaller earnings than those with above-median earnings before unemployment among earnings-related UB recipients. These observations suggest that the overall increase in part-time work during

Table 5: Heterogeneity results: working part-time

	Earnings-related UB			Flat-rate UB	
	Below 56 years	Female	Above median	Below 56 years	Female
Treat _{it} × Post _{Jan2014}	0.0110 (0.0057)	0.0022 (0.0044)	-0.0061 (0.0046)	-0.0053 (0.0036)	0.0093** (0.0025)
Treat _{it} × Post _{Sept2015}	0.0370** (0.0064)	0.0092 (0.0047)	-0.0135* (0.0047)	0.0088* (0.0043)	0.0211** (0.0029)
Observations	11,870,324	11,870,324	11,870,324	11,418,970	11,418,970

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates from equation (2) interacted with heterogeneity indicator variables for age (below or above 56 years), gender and earnings below or above median for those receiving earnings-related UB. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. The coefficients on Treat_{it} × post_{Jan2014} and Treat_{it} × post_{Sept2015} without interactions are -0.0006 (0.006) and -0.01 (0.006) for earnings-related UB recipients and 0.004 (0.003) and 0.014 (0.004) for flat-rate UB recipients. Standard errors are presented in parenthesis.

Table 6: Heterogeneity results: days worked in the next 24 months

	Earnings-related UB			Flat-rate UB	
	Below 56 years	Female	Above median	Below 56 years	Female
Treat _{it} × Post _{Jan2014}	12.9275* (4.1966)	2.0127 (3.5010)	0.7578 (3.9903)	9.6379** (2.6964)	6.5767* (2.0429)
Treat _{it} × Post _{Sept2015}	23.4513** (4.6364)	13.8284** (3.7232)	6.0372 (4.1716)	11.4733** (3.3215)	9.8830** (2.3245)
Observations	7,937,657	7,937,657	7,937,657	7,315,800	7,315,800

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates from equation (2) interacted with heterogeneity indicator variables for age (below or above 56 years), gender and earnings below or above median for those receiving earnings-related UB. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. The coefficients on Treat_{it} × post_{Jan2014} and Treat_{it} × post_{Sept2015} without interactions are -9.0 (4.5) and -22.6 (4.9) for earnings-related UB recipients and -7.5 (2.6) and -11.9 (3.3) for flat-rate UB recipients. Standard errors are presented in parenthesis.

unemployment observed in these same groups from the mid-2010s onward discussed in Section 4 stems at least partly from the implementation of earnings disregards.

Table 6 shows the results for the heterogeneity in full-time working days within the next 24 months by age, gender and income levels prior to unemployment, in a similar way as above in Table 5 for part-time work. The table shows that days in full-time work increased after the reforms more significantly for younger workers and women compared to men and older workers. This suggests that for these groups the stepping-stone effects could be somewhat larger.

6 Discussion

In this paper, we find that participation in part-time employment increased considerably after the implementations of earnings disregard policies that allow unemployment benefit recipients to earn small amounts of income without reductions in their benefits. The implied participation elasticity estimates of 0.7–0.9 derived from the earnings disregard reform for HA suggest that the part-time labor supply choices of benefit recipients are responsive to changes in financial incentives. These estimates are an order of magnitude larger than what is typically observed for labor market participation more generally (Chetty et al. 2013) and intensive-margin earnings responses for wage earners (see Neisser 2021 for a survey), where elasticity estimates are often found to be below 0.5.

However, we find no economically significant effects of increased participation in part-time work on transitions to full-time employment after a benefit spell. This implies that part-time work while receiving benefits does not appear to significantly decelerate or accelerate transitions from benefits to more permanent employment. However, we find some indication of small positive effects on full-time employment in some specifications and for some subgroups, indicating that part-time work may help some groups to find more permanent employment. The evidence of small or negligible overall effects on full-time or permanent employment aligns with various studies that do not find significant effects or associations between part-time work and employment in the future (O’Leary 1997; Cahuc 2018; Lee et al. 2021). Our study adds to this literature by utilizing a quasi-experimental setting from a transparent reform that changed financial incentives and participation in part-time work between different types of individuals to further demonstrate that the effects of part-time work on permanent employment are small at best.

Furthermore, we find that part-time work while receiving benefits is heavily concentrated in the service and health care sectors, and women participate in part-time work during unemployment spells significantly more often than men. This illustrates that the effects of policies aiming to encourage (or discourage) part-time work while receiving benefits are likely to entail very heterogeneous effects across industries and sectors, which

need to be considered when evaluating the consequences of such policies.

It is important to note that policies such as an earnings disregard have an ambiguous effect on public expenditure. Potential labor supply responses reduce benefit payments paid to those who would otherwise remain full-time unemployed, but the earnings disregard also increases benefits paid to individuals who participate in part-time work irrespective of the reform. Our simple microsimulation calculation shows that saved benefits due to increased part-time work are not enough to cover the increased unemployment benefits and housing allowances paid because of the earnings disregard for those who already participated in the labor market.²⁵ This implies that the potential benefits of increased part-time work need be evaluated against this cost. Even though we observe that part-time work is not linked to transitions to full-time employment on average, it could still improve the welfare of some benefit recipients in other ways. In addition to increased income levels, it could, for example, improve mental health through increased social interactions and meaningful activities (see e.g. Ahammer and Packham 2023 for the health effects of extended UI benefits). Also, part-time work could in principle affect the qualitative aspects of future employment, such as job stability. Therefore, we need more evidence on these types of aspects of part-time work to draw more comprehensive conclusions on the welfare effects of policies aiming to encourage part-time work among benefit recipients.

²⁵Using the average part-time earnings from the data, we find that, on average, participating in part-time work reduces benefit payments more than the earnings disregard increases them for those who were already working before the reform. However, based on our participation response estimates, the associated increase in the share of part-time workers after the earnings disregard reforms (3.7 and 3.2 percentage-points for earnings-related and flat-rate UB recipients) is not large enough to overcome the sum of the benefit costs stemming from the increase in benefits for those who were already working (16 and 10% of all unemployed individuals in 2013). In this simplified calculation, we assume that all part-time workers earn the average wage, and therefore it does not necessarily reflect the true net costs of the reform. The current Finnish government has decided to abolish the earnings disregards from April 1st 2024 onward. They estimate a static net saving in public expenditure of 56 million euros per year from abolishing the earnings disregards.

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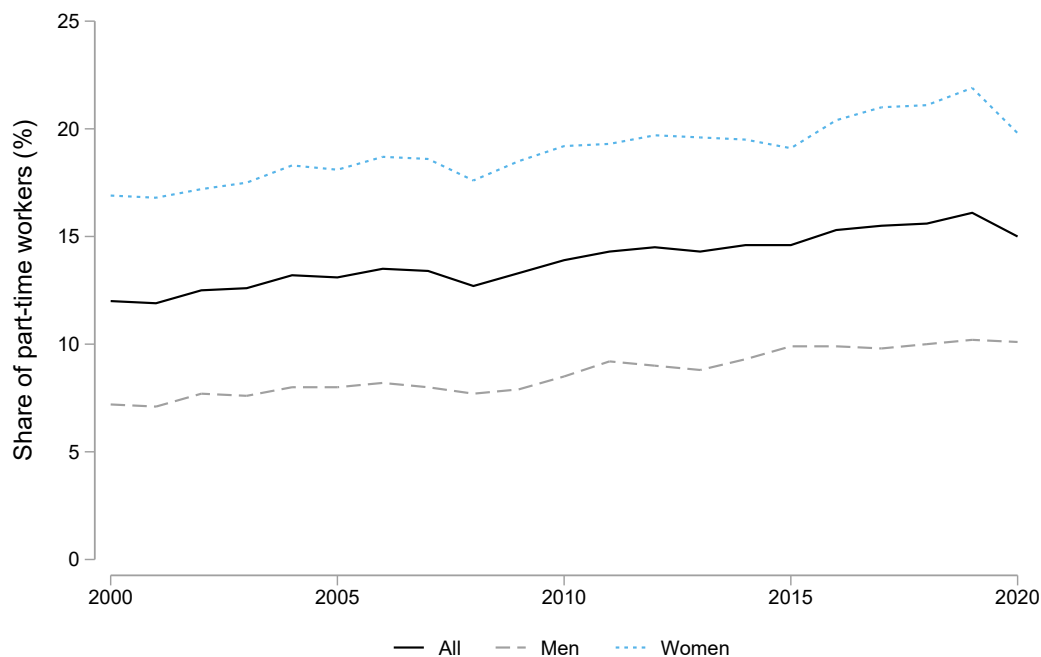
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Appendix

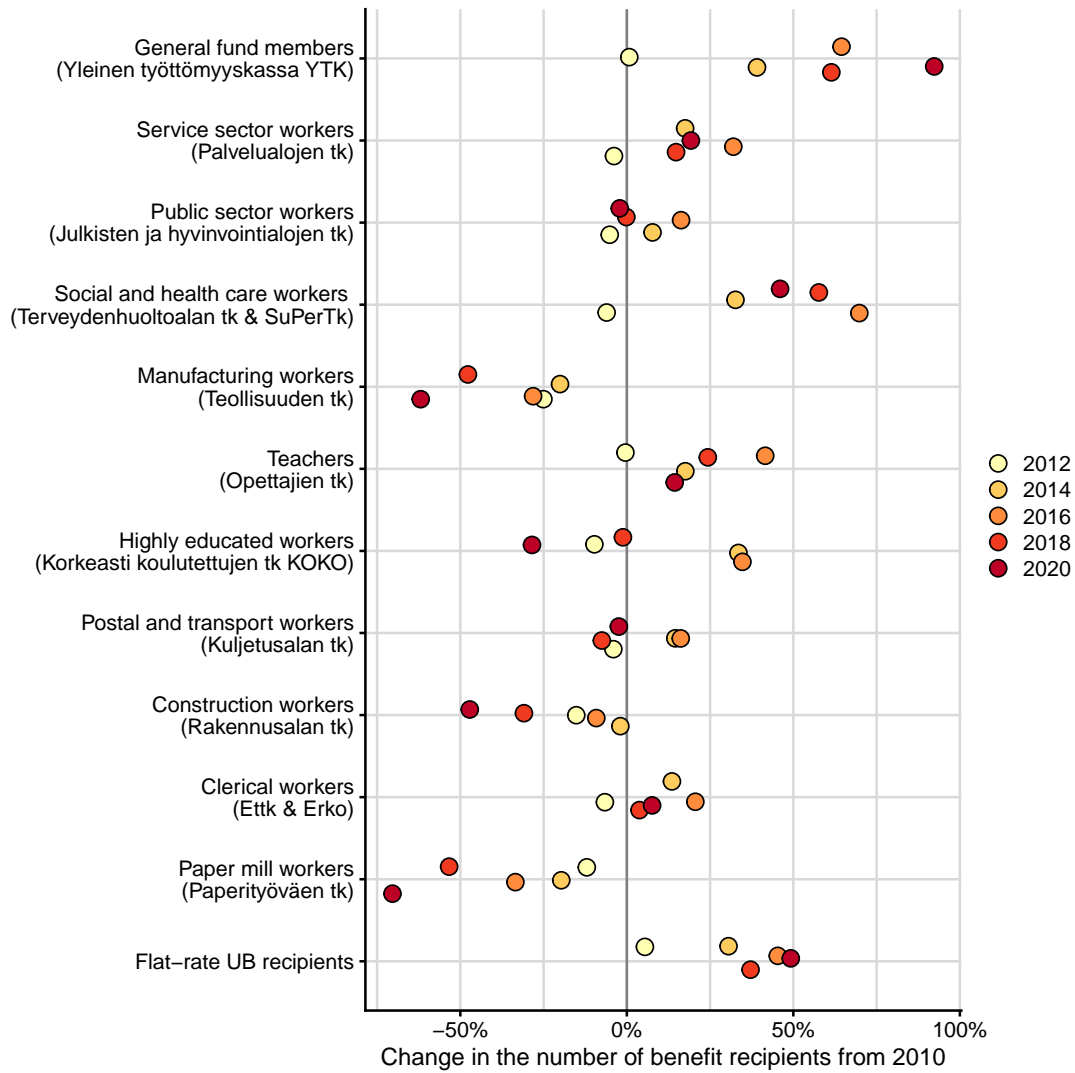
Figures

Figure A1: Share of part-time workers in Finland, 2000–2020



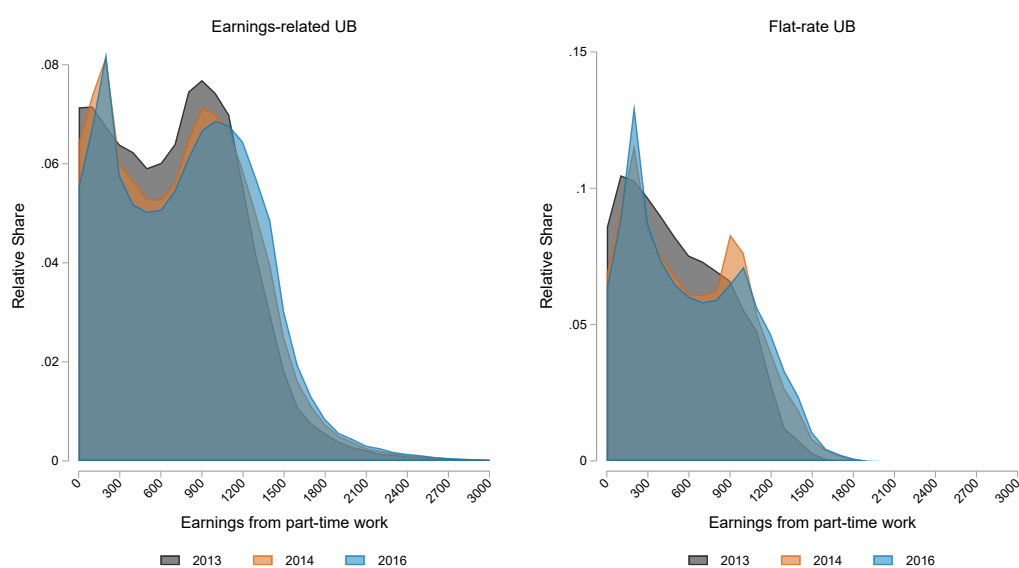
Notes: Figure shows the evolution of the share of part-time workers out of all workers in Finland in 2000–2020 in total and separately for men and women. The figure is based on the Statistics Finland Labour Force Survey. The figure shows that the share of part-time workers in Finland has increased steadily from around 12% in 2000 to 14% in 2020. This development differs from that presented in Figure 3 in the main text, showing the rapid increase in part-time workers among UB recipients from the mid-2010s onward. This illustrates that the surge in UB recipients working part-time is not stemming from a general increase in part-time work arrangements in Finland at the same time.

Figure A2: Changes in unemployment by UI funds, 2012–2020



Notes: The figure presents the relative change in the number of unemployed individuals for the members of different UI funds and for flat-rate UB recipients in 2012–2020, relative to unemployment levels in 2010 for each group. Recipients of earnings-related benefits are allocated into different occupation and industry groups based on their unemployment fund (Finnish names for the funds shown in brackets). UB recipients from the general fund and recipients of flat-rate UB from the Social Insurance Institution are reported as separate groups. The figure shows that changes in the numbers of benefit recipients in the funds do not in general follow a similar development as changes in the share of part-time UB presented in Figure 5 in the main text, indicating that the increase in the share of part-time workers does not mechanically stem from increased unemployment.

Figure A3: Distributions of part-time earnings when receiving partial UB in 2013, 2014 and 2016, earnings-related and flat-rate UB recipients



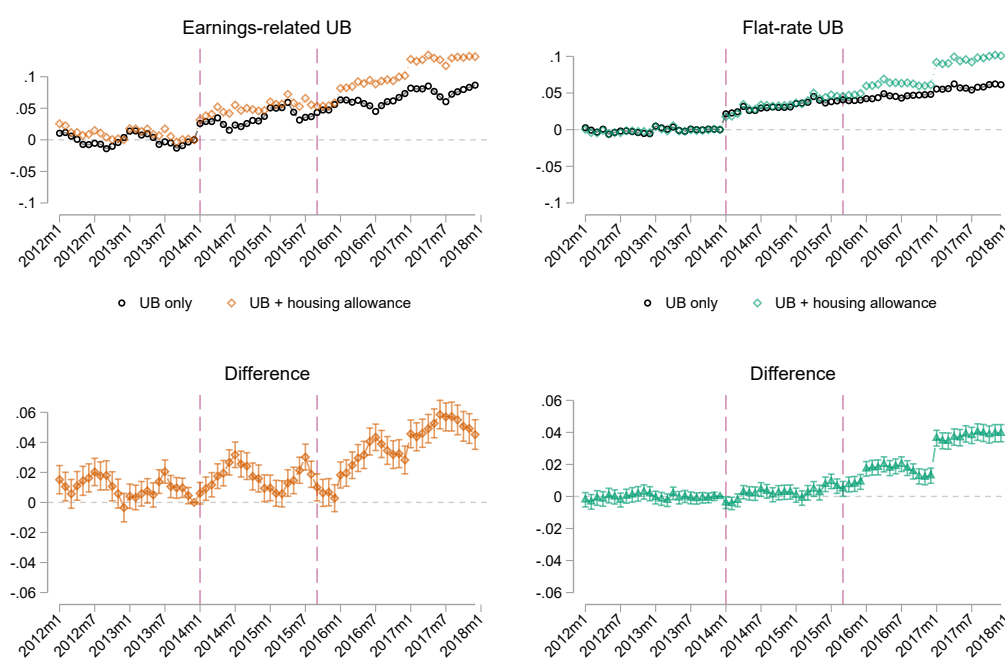
Notes: Figure shows the distributions of part-time earnings when receiving partial UB for earnings-related and flat-rate unemployment benefit (UB) recipients before (2013) and after the earnings disregard reforms (2014 and 2016). The year 2015 is not included in the figure as the second reform occurred in the middle of the year (September 2015). The figure for earnings-related UB includes only those for whom we can observe earnings below the 300 euro threshold after the reforms, who comprise approximately 66% of all earnings-related UB recipients. The figure shows that the distributions have shifted slightly to the right after the earnings disregard reforms, which is consistent with the observed small increase in part-time earnings in the main text. Also, the figure shows that after the reforms some unemployed individuals bunch at the 300-euro monthly earnings disregard threshold, above which the benefit starts to gradually decrease.

Figure A4: Distributions of part-time earnings when receiving UB in 2013, earnings-related and flat-rate UB recipients with and without housing allowance



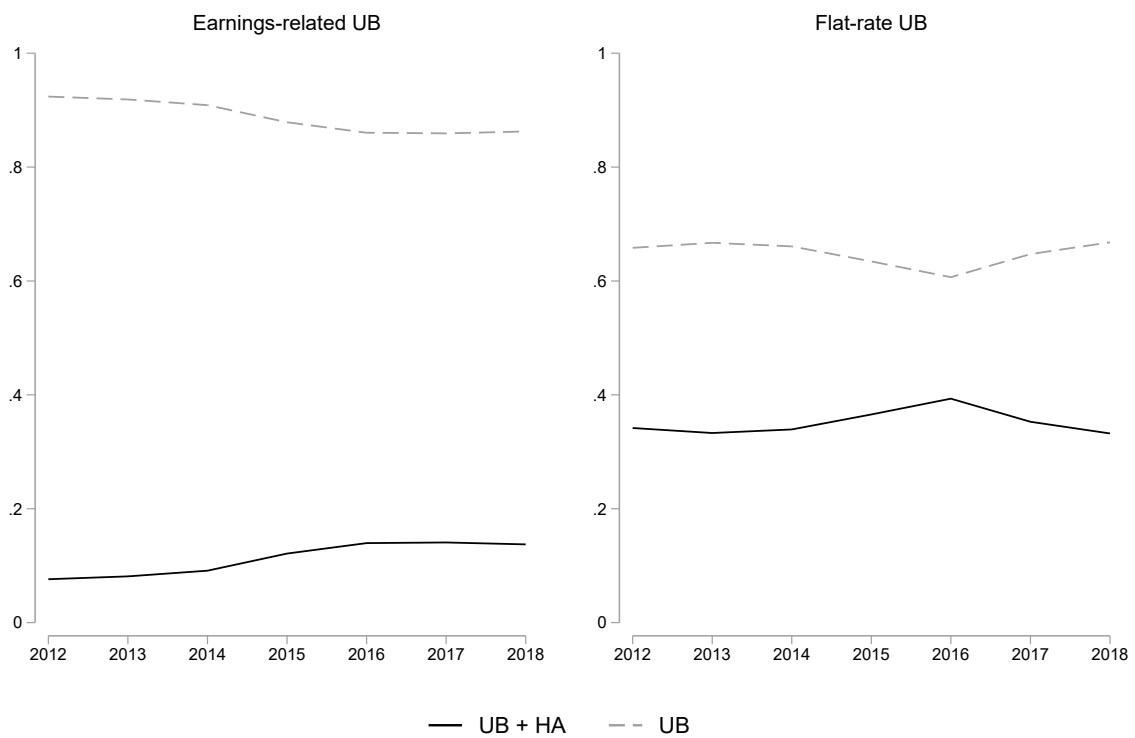
Notes: Figure shows the distributions of part-time earnings when receiving partial unemployment benefit (UB) for earnings-related and flat-rate UB recipients in 2013, separately for those with UB only and those with both UB and housing allowance. The figure for earnings-related UB includes only those for whom we can observe earnings below the 300 euro threshold after the reforms, who comprise approximately 66% of all earnings-related UB recipients (see Section 3).

Figure A5: Development of the share of part-time unemployed workers without controls



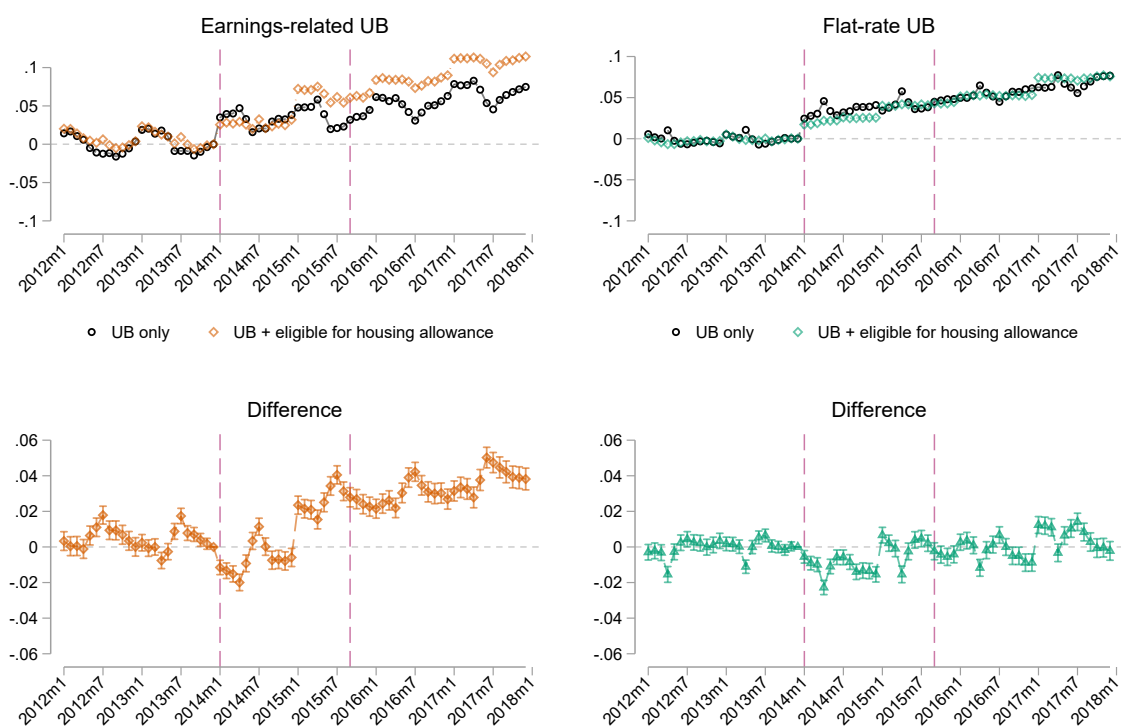
Notes: The figure plots the development of the share of part-time unemployed workers with labor earnings for earnings-related and flat-rate UB recipients in 2012–2018, separately for those with and without housing allowance. The share is presented relative to December 2013, which is denoted by zero for all groups. The figure also shows the difference between the groups each month with 95% confidence intervals.

Figure A6: Shares of treatment (UB+HA) and control (UB only) groups over time for earnings-related and flat-rate UB recipients, 2012–2018



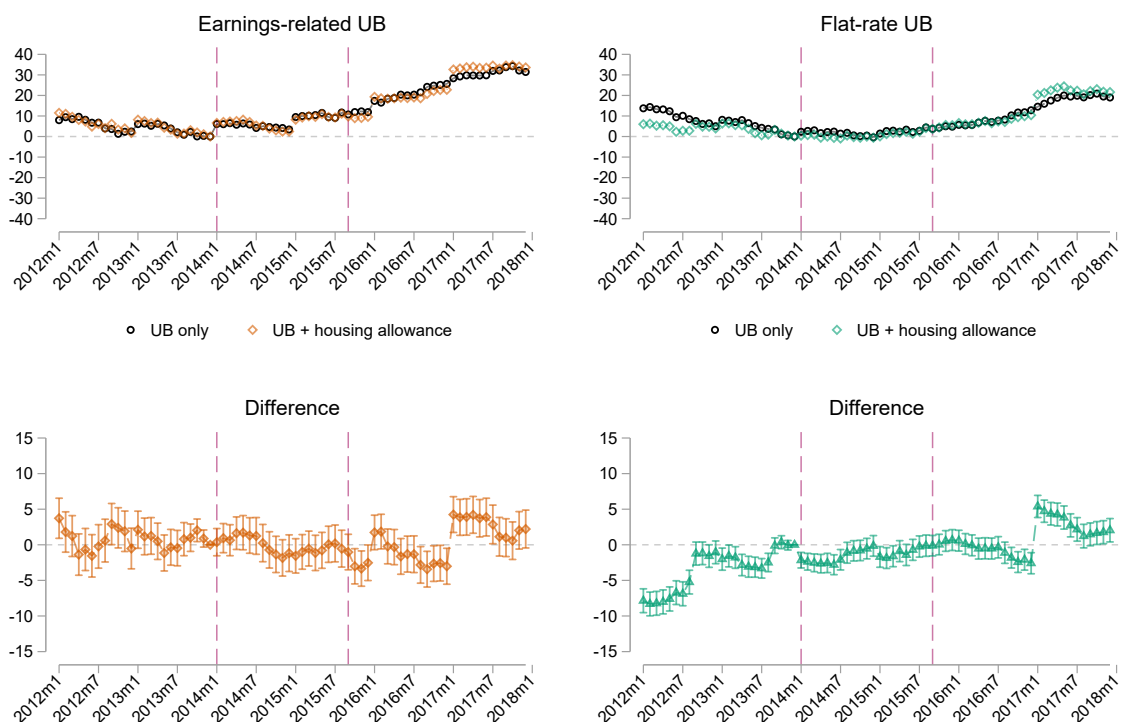
Notes: Figure presents the shares of treatment (unemployment benefit, UB + housing allowance, HA) and control (UB only) groups for earnings-related (left-hand side) and flat-rate (right-hand side) benefit recipients each year in 2012–2018. The figure shows that changes in the shares of treatment and control groups over time are rather stable, and not directly associated with changes in the shares of part-time workers in the groups over time (see Figure 6 in the main text).

Figure A7: Development of the share of part-time unemployed workers when HA recipient status is based on simulated eligibility



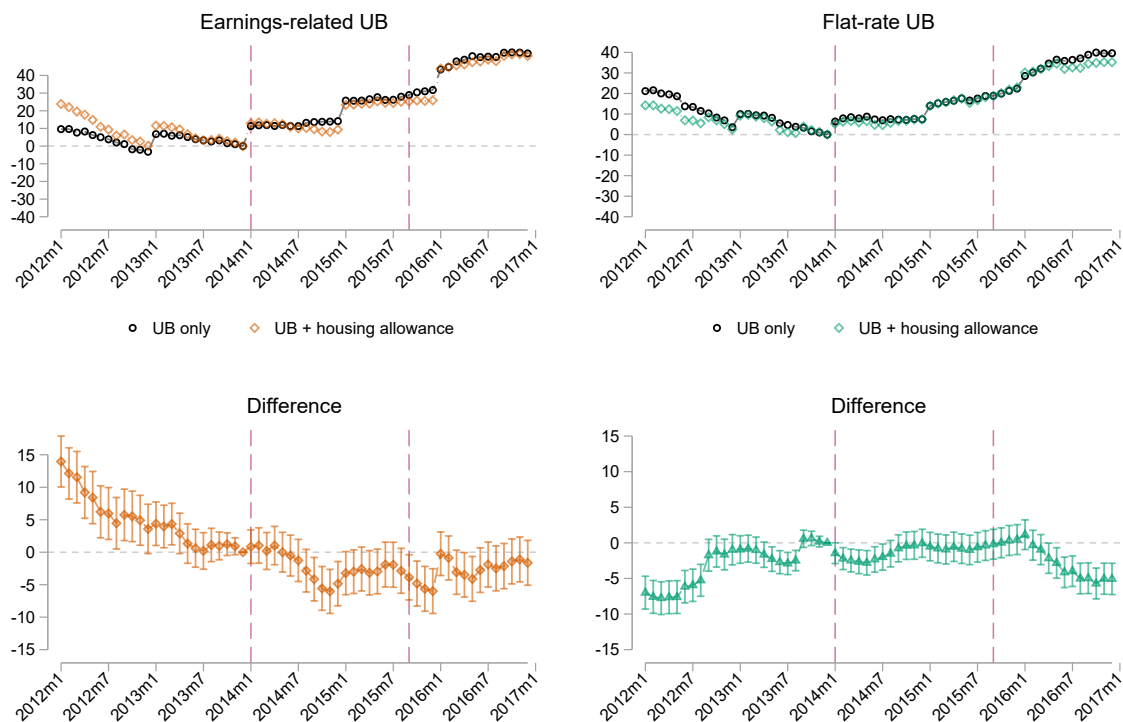
Notes: The figure plots the development of the share of part-time unemployed workers with labor earnings for earnings-related and flat-rate UB recipients in 2012–2018, separately for those with and without housing allowance. The HA recipients’ status is based on simulation instead of observed HA status as in the baseline analysis. The share is presented relative to December 2013, which is denoted by zero for all groups. The figure also shows the difference between the groups each month with 95% confidence intervals. The baseline shares of part-time workers in December 2013 were 17% and 20% for earnings-related UB recipients without and with HA, and 13% and 11% for flat-rate benefit recipients, respectively. The figure shows that the results based on simulated eligibility are qualitatively similar to our baseline analysis (Figure 6 in the main text). As expected, the effects appear to be smaller and more noisy in the simulated case, as the incentives to respond to the earnings disregard reforms are imprecisely measured in the simulations due to incomplete take-up of the housing allowance.

Figure A8: Days in full-time employment within the next 12 months, earnings-related and flat-rate UB recipients



Notes: Figure plots the development of days in full-time employment in the next 12 months for earnings-related and flat-rate UB recipients in 2012–2018, presented separately for those with and without HA. The development is presented relative to December 2013, which is marked by zero for both groups. The baseline days in full-time employment within the next 12 months in December 2013 were 71 and 90 for earnings-related UB recipients with and without HA, and 54 and 52 days for flat-rate UB recipients with and without HA. The bottom graphs illustrate the difference between the groups each month with 95% confidence intervals. The figure illustrates that the findings in this alternative approach are similar to those in our baseline model in the main text (full-time employment in the next 24 months).

Figure A9: Days in full-time employment within the next 13–24 months, earnings-related and flat-rate UB recipients



Notes: Figure plots the development of days in full-time employment in the next 13 to 24 months for earnings-related and flat-rate UB recipients in 2012–2018, presented separately for those with and without HA. The development is presented relative to December 2013, which is marked by zero for both groups. The baseline days in full-time employment within the next 13–24 months in December 2013 were 121 and 150 for earnings-related UB recipients with and without HA, and 91 and 90 days for flat-rate UB recipients with and without HA. The bottom graphs illustrate the difference between the groups each month with 95% confidence intervals. The figure illustrates that the findings in this alternative approach are similar to those in our baseline model in the main text (full-time employment in the next 24 months).

Tables

Table A1: Simulated eligibility for housing allowance (HA) for different groups

	Year	Housing allowance (eur)	Monthly income threshold for HA eligibility
Flat rate unemployment benefit (UB)			
Single-person households			
	2013	342.47	1800
	2014	372.96	1900
	2015	406.4	2300
Earnings related UB			
Single-person households			
Earnings before UB: 1500	2013	223.27	1800
	2014	257.76	1900
	2015	301.12	2300
Earnings before UB: 2000	2013	159.27	1000
	2014	189.76	900
	2015	232.32	2300
Earnings before UB: 3500	2013	0	0
	2014	0	0
	2015	44.16	500
Two-person households			
Spouse earns 500			
Earnings before UB: 2000	2013	174.8	900
	2014	220.12	800
	2015	384.92	2700
Earnings before UB: 3500	2013	0	0
	2014	0	0
	2015	193.76	1500
Spouse earns 1500			
Earnings before UB: 2000	2013	0	0
	2014	0	0
	2015	61.92	600
Earnings before UB: 3500	2013	0	0
	2014	0	0
	2015	0	0

Notes: Table presents the simulated housing allowance eligibility from the participation tax rate calculations presented in Figures 1 and 2 in the main text. Table denotes the amount of HA with no earnings, and the monthly earnings threshold above which eligibility for HA ends.

Table A2: Descriptive statistics for earning-related UB recipients with and without HA

	UB only							UB + HA						
	2012	2013	2014	2015	2016	2017	2018	2012	2013	2014	2015	2016	2017	2018
Age	47.99	47.71	47.57	47.50	47.84	48.16	48.44	40.76	40.70	40.54	40.47	40.57	40.99	41.40
Female	0.54	0.53	0.53	0.54	0.55	0.56	0.56	0.67	0.65	0.64	0.63	0.63	0.64	0.64
Spouse	0.72	0.71	0.71	0.72	0.72	0.72	0.71	0.20	0.20	0.20	0.21	0.21	0.19	0.19
Family size	2.41	2.42	2.42	2.43	2.43	2.41	2.39	1.92	1.87	1.85	1.81	1.81	1.79	1.78
Number of children < 7	0.19	0.20	0.20	0.20	0.19	0.18	0.17	0.21	0.20	0.19	0.18	0.18	0.17	0.16
Observations	826,596	980,498	1,112,502	1,168,162	1,181,923	1,103,279	1,012,064	429,195	489,488	571,191	673,127	766,195	601,342	503,408

Notes: Table presents the descriptive characteristics each year in 2012–2018 for earnings-related unemployment benefit (UB) recipients with and without housing allowance (HA), who constitute our control and treatment groups in the analysis in the main text. Table shows the mean values, and illustrates that the characteristics of the groups have not changed significantly over our examination period.

Table A3: Descriptive statistics for flat-rate UB recipients with and without HA

	UB only							UB + HA						
	2012	2013	2014	2015	2016	2017	2018	2012	2013	2014	2015	2016	2017	2018
Age	40.41	40.25	40.14	40.09	40.42	40.92	41.21	34.93	35.09	35.11	35.33	35.69	36.88	37.85
Female	0.49	0.51	0.51	0.52	0.53	0.54	0.56	0.47	0.47	0.46	0.47	0.47	0.48	0.48
Spouse	0.64	0.66	0.67	0.68	0.69	0.71	0.72	0.29	0.29	0.29	0.29	0.29	0.26	0.24
Family size	2.68	2.72	2.74	2.78	2.80	2.81	2.80	1.85	1.83	1.83	1.82	1.81	1.76	1.74
Number of children < 7	0.24	0.25	0.26	0.27	0.27	0.27	0.27	0.17	0.17	0.17	0.17	0.17	0.15	0.15
Observations	826,596	980,498	1,112,502	1,168,162	1,181,923	1,103,279	1,012,064	429,195	489,488	571,191	673,127	766,195	601,342	503,408

Notes: Table presents the descriptive characteristics each year in 2012–2018 for flat-rate unemployment benefit (UB) recipients with and without housing allowance (HA), who constitute our control and treatment groups in the analysis in the main text. Table shows the mean values, and illustrates that the characteristics of the groups have not changed significantly over our examination period.

Table A4: Regression estimates for part-time work, earnings-related and flat-rate UB recipients using panel data

	Earnings related UB Working part-time	Flat rate UB Working part-time
Treat _{it} × post _{Sept2015}	0.0288*** (0.00263)	0.0119*** (0.00143)
Baseline control	0.180	0.110
Baseline treatment	0.190	0.130
Observations	2696237	2907987

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Table presents the difference-in-differences estimates for the September 2015 reform estimated using (unbalanced) panel data, estimated separately for earnings-related and flat-rate UB recipients. The outcome of interest is participation in part-time work. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

Table A5: Regression estimates for full-time employment within the next 12 months, earnings-related UB recipients

	Days in employment	Full-time (180)	Full-time (275)	Full-time (330)
Treat _{it} × Post _{Jan2014}	-0.614 (0.706)	-0.000586 (0.00244)	0.00242* (0.00121)	0.00301*** (0.000762)
Treat _{it} × Post _{Sept2015}	-0.269 (0.687)	-0.000193 (0.00236)	0.000160 (0.00115)	0.000954 (0.000723)
Baseline control	89.68	0.250	0.120	0.0600
Baseline treatment	71.10	0.190	0.0800	0.0400
Observations	9,973,465	9,973,465	9,973,465	9,973,465

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within the 12 months following partial UB spell for earnings-related UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 180, 275 and 330 days in full-time employment within the next 12 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

Table A6: Regression estimates for full-time employment within the next 12 months, flat-rate UB recipients

	Days in employment	Full-time (180)	Full-time (275)	Full-time (330)
Treat _{it} × Post _{Jan2014}	1.882*** (0.416)	0.00741*** (0.00140)	0.00460*** (0.000711)	0.00311*** (0.000446)
Treat _{it} × Post _{Sept2015}	3.635*** (0.421)	0.0136*** (0.00140)	0.00695*** (0.000690)	0.00481*** (0.000431)
Baseline control	52.26	0.140	0.0600	0.0300
Baseline treatment	53.57	0.140	0.0600	0.0300
Observations	9,379,868	9,379,868	9,379,868	9,379,868

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within the 12 months following partial UB spell for flat-rate UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 180, 275 and 330 days in full-time employment within the next 12 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

Table A7: Regression estimates for full-time employment within the next 13–24 months, earnings-related UB recipients

	Days in employment	Full-time (180)	Full-time (275)	Full-time (330)
Treat _{it} × Post _{Jan2014}	-5.933*** (1.120)	-0.0158*** (0.00356)	-0.0102*** (0.00306)	-0.00820** (0.00284)
Treat _{it} × Post _{Sept2015}	-6.923*** (1.196)	-0.0172*** (0.00380)	-0.0150*** (0.00328)	-0.0136*** (0.00306)
Baseline control	150.1	0.410	0.290	0.250
Baseline treatment	121.2	0.330	0.210	0.170
Observations	7,913,789	7,913,789	7,913,789	7,913,789

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within the 13–24 months following partial UB spell for earnings-related UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 360, 550 and 360 days in full-time employment within the next 13-24 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.

Table A8: Regression estimates for full-time employment within the next 13-24 months, flat-rate UB recipients

	Days in employment	Full-time (180)	Full-time (275)	Full-time (330)
Treat _{it} × Post _{Jan2014}	1.844** (0.677)	0.00772*** (0.00212)	0.00787*** (0.00177)	0.00767*** (0.00162)
Treat _{it} × Post _{Sept2015}	0.751 (0.773)	0.00428 (0.00240)	0.00531** (0.00200)	0.00527** (0.00184)
Baseline control	89.89	0.240	0.160	0.130
Baseline treatment	91.28	0.250	0.170	0.140
Observations	7,246,609	7,246,609	7,246,609	7,246,609

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table presents the difference-in-differences estimates estimated using equation (2) for full-time employment within the 13-24 months following partial UB spell for flat-rate UB recipients. Column (1) shows the estimates of the number of days in full-time employment, and columns (2)–(4) the likelihoods of working at least 360, 550 and 360 days in full-time employment within the next 13-24 months. The treatment group is those unemployed individuals with both UB and HA and the control group those with UB only. Standard errors are presented in parenthesis.