

**Changing Reward Structures:
(Temporary) Layoffs and Returns
on Human Capital**

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DFG Research Center (SFB) “From Heterogeneities to Inequalities”

Whether fat or thin, male or female, young or old – people are different. Alongside their physical features, they also differ in terms of nationality and ethnicity; in their cultural preferences, lifestyles, attitudes, orientations, and philosophies; in their competencies, qualifications, and traits; and in their professions. But how do such heterogeneities lead to social inequalities? What are the social mechanisms that underlie this process? These are the questions pursued by the DFG Research Center (Sonderforschungsbereich (SFB)) “From Heterogeneities to Inequalities” at Bielefeld University, which was approved by the German Research Foundation (DFG) as “SFB 882” on May 25, 2011.

In the social sciences, research on inequality is dispersed across different research fields such as education, the labor market, equality, migration, health, or gender. One goal of the SFB is to integrate these fields, searching for common mechanisms in the emergence of inequality that can be compiled into a typology. More than fifty senior and junior researchers and the Bielefeld University Library are involved in the SFB. Along with sociologists, it brings together scholars from the Bielefeld University faculties of Business Administration and Economics, Educational Science, Health Science, and Law, as well as from the German Institute for Economic Research (DIW) in Berlin and the University of Erlangen-Nuremberg. In addition to carrying out research, the SFB is concerned to nurture new academic talent, and therefore provides doctoral training in its own integrated Research Training Group. A data infrastructure project has also been launched to archive, prepare, and disseminate the data gathered.

Research Project B4 “Companies and Inequality: The Synchronic and Diachronic Inequality Effects of Temporary Layoffs (Recalls)”

Project B4 studies discontinuous employment in the context of employing organizations and households. First, it analyzes how and why flexible employment relationships arise from heterogeneous individual and organizational characteristics and preferences. Second, it examines the impact of interrupted membership in employing organizations upon inequality over time. Thus, different mechanisms that give rise to inequality (exclusion/inclusion, hierarchization, exploitation, and opportunity hoarding) are analyzed in more detail using a mixed-method design.

During the initial funding period, the project concentrates on “recalls” that can be characterized as discontinuous employment relationships with an interrupted membership in the same employing organization, i.e., when employees leave a company and are re-contracted after some time. Research on labor market flexibility and organizational boundaries mainly ignores this longitudinal form of atypical work. Our secondary analysis of the Linked Employer-Employee Data from the IAB shows that about 20% of new hires in a firm are recalls. Analyzing the German Socio-Economic Panel we additionally find that 10% of all people who changed a job during the last year are recalled. The analysis provides new insights into flexible work and discontinuous employment, the blurring of organizational boundaries, and mechanisms that generate inequality within organizations.

The mixed-method design combines qualitative and quantitative approaches as well as secondary analysis and field research. First, secondary analyses of the German Socio-Economic Panel Study (SOEP) and data from the German Institute for Employment Research (SIAB, BHP, and LIAB) aim to deliver results on individual and operational determinants of recalls and their consequences. Second, expert interviews within companies and a combination of narrative and semi-structured interviews with recalled employees are conducted to gain further insights into their rationale, appraisals, and practices. Information about recalls, individuals, and households included in the SOEP is used to obtain access to recalled employees within different contrast groups. A similar strategy is used for the expert interviews as sampling is based on information about the firm-specific use of recalls that is provided by the IAB’s Establishment History Panel (BHP). The third component is a standardized telephone survey of employees that will be linked with information about employers in the IAB’s Linked Employer-Employee Dataset (LIAB). This is used to analyze the statistical effect of different determinants and outcomes of recalls which have been discovered during the qualitative research.

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**Changing Reward Structures:
(Temporary) Layoffs and Returns on Human Capital**

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Abstract:

In flexibilized labor markets discontinuous employment increases. Nevertheless, a theory-guided analysis is missing that explains why wage inequalities vary between employees who were recalled, workers who were reemployed by another employer, and employees in continuous employment relationships. Following Sørensen (2000), we test his theory of rent production and identify rent-seeking reemployment decisions of employers and employees as an inequality-generating mechanism. We use process-generated administrative data from German social security records that covers the time period 1975 to 2008. We were able to show that recalls are beneficial for employers because they capture a part of the employees' composite rent by dismissing and recalling them. Employees lose income due to unemployment and never recover the income they could have gained if they had not have been dismissed. Nevertheless, employees also gain advantages through recalls, because they receive higher post-reemployment wages than employees who moved to another employer. This is because former employers provide higher returns on tenure and credentials for people who wait for a recall. In contrast, employees who were dismissed and reemployed in a new firm suffer higher short-term wage losses than recalled employees, but are able to gain long-term income benefits by increasing returns to work experience.

Keywords: wage inequalities, rent production, discontinuous employment, human capital, recall

How Rent-seeking Reemployment Decisions Generate Wage Inequalities

The comprehensive research on wage inequalities has delivered many insights into its different determinants and mechanisms which explain the emergence of wage differentials. This article will contribute to this research by firstly examining discontinuous employment characterized by an interrupted membership in the same employing organization. These temporary layoffs of employees and their subsequent re-employment by the same employer are also known as recalls. The effect of this employment relationship on wages is mainly unexplored, but can provide new insights into wage inequalities that occur in flexibilized labor markets by comparing wage differentials of employees who were recalled with employees who moved to another employer, or stayed in the same employment relationship. Secondly, the article aims to identify the underlying mechanisms that explain these wage differentials, and thus to contribute to theoretical and empirical research on the causal emergence of wage inequalities. Therefore, the research questions of the following analysis are: Do recalls generate wage inequalities as compared to employees who remained employed and to employees who found a new employer? Which mechanisms and determinants explain these potential wage differentials?

This theory-guided analysis of wage differentials in flexible labor markets refers to the structural distributional mechanism that Sørensen (2000) calls rent production. While monopoly rents to credentials are generated by institutionalized social closure in the labor market, composite rents to firm-specific human capital are achieved from social closure in firms. The hypotheses are derived by considering the rent-seeking activities undertaken by employees and employers in order to increase their wages or their profit. Thus, it is assumed that rent-seeking employees are only willing to wait for a recall if this increases their rents compared to alternative employments. It could be shown that, indeed, employers provide incentives such as higher income returns to credentials and tenure that explain higher wages after reemployment for people who were recalled. Similarly, recalls are seen as a flexibility strategy of firms that enables

them to gain rents. It could be shown that this is achieved by a reduction of labor costs: On the one hand, total labor costs are reduced during the time of the temporary layoff. On the other hand, the individual wages of reemployed people are reduced due to this layoff compared to the income they could have gained if they had not have been dismissed. Thus, rent-seeking reemployment decisions of employers and employees explain wage inequalities: Employers increase their composite rents by layoffs because laid off employees receive lower wages than continuously employed workers. Recalled employees increase their composite and monopoly rents from their human capital compared to wages in new jobs. Nevertheless, the most beneficial option for employees is continuous employment without unemployment. In sum, rent-seeking is seen as a mechanism that generates wage inequalities by changing returns on assets. Thus, this theory-guided analysis explains why wages differ for people who were recalled, found another employer or stayed employed continuously. The article will start with an overview of empirical findings regarding wage differentials. This refers to research on income effects after reemployment and influential determinants of wages that can be altered through reemployment. This is followed by an explanation of Sørensen's theory of rent production and the inequality-generating mechanism of rent-seeking. In section three, hypotheses are derived, and the data described in section four is analyzed and discussed in sections five and six.

1. Reemployment and wage differentials

The research on recalls and our own analyses show that recalls are quantitatively important and require further examination (e.g., Feldstein, 1978; Katz and Meyer, 1990; Mavromaras and Rudolph, 1995; Mavromaras and Orme, 2004; Fallick, 2007). Our results show that around 16 % of all employment relationships started by recalls. There are very few studies investigating the effect of recalls on wages. Their findings consistently confirm that dismissed employees who were recalled have lower income losses immediately after reemployment than employees who

changed employers (Kodrzycki, 2007; Burda and Mertens, 2001; Mavromaras, 2003: 77). Additionally, Burda and Mertens (2001) have shown that in Germany, wage losses after dismissals are persistent. However when looking at long-term earning consequences, the recall effect fades significantly after two years. Kodrzycki (2007) investigates long-term earning consequences in the United States comparing wages of workers who got laid off permanently with workers who were unexpectedly recalled. Contrary to the findings of Burda and Mertens (2001), her results indicate a permanent positive recall effect. Nevertheless, recalled employees still receive lower wages than employees who stayed employed continuously (Kodrzycki, 2007).

Although these studies provide insight into recall effects on wage differentials, none of them offer a causal explanation. They neither examine determinants of this recall effect nor do they develop a theoretical explanation able to identify the mechanisms that generate these wage inequalities. This article attempts to close this gap by referring to rent-seeking reemployment decisions that explain the wage differences between recalled employees, employees who moved to another employer and employees who remained employed.

To achieve this, it is important to identify influential determinants for wages which could be altered by recalls and reemployment decisions. One of the most important determinants of wages is human capital (e.g., Mincer, 1974; Felli and Harris, 1996; Kambourov and Manovskii, 2008). Human capital comprises educational attainment level (in this article synonymous with credentials, formal education), work experience, and tenure (Becker, 1964; Blossfeld, Hannan and Schömann, 1988; Bowles, Gintis and Dickerson, 2001). Empirical findings consistently show that wages generally increase with increasing credentials, work experience, and tenure. Another important determinant of wages is unemployment. A lot of studies indicate that unemployment reduces wages after reemployment (e.g., Jacobson, LaLonde and Sullivan, 1993; Beblo and Wolf, 2002; Gregory and Juke, 2001; Strauß and Hillmert, 2011; Dijk and Folmer, 1999). Unfortunately, the research on the effects of human capital and unemployment on wages does not refer to

recalls. It neither analyzes the main effects of recalls nor interaction effects of recalls with human capital or unemployment. This article intends to close this gap by analyzing different returns on human capital and unemployment for recalled and non-recalled employees. Thus, it aims to identify mechanisms that change returns on assets after reemployment and explain wage inequalities in flexibilized labor markets.

To control for other effects that determine wages, the following control variables are used: gender, industry, region, and firm size. Research on the gender wage gap mostly shows that men on average earn higher wages than women (Reimer, 2006). Moreover, industries reflect different labor market conditions which have different effects on wages (Carruth, Collier and Dickerson, 2004; Benito, 2000). Furthermore, several studies identify regional effects on wages (Freguglia and Menezes, 2012; Pereira and Galego, 2011). For instance, in Germany there is a wage gap to the detriment of East Germans (Smolny and Kirbach, 2011; Gernandt and Pfeiffer, 2005). Additionally, wages are also determined by different firm structures. The most important proxy which is available in many data sets is the firm size; it can be shown that wages rise with increasing firm size (Gerlach and Hübler, 1995; Hollister, 2004).

2. Rent-seeking - a mechanism that changes reward structures

According to Sørensen (2000), wage inequalities are generated by rent-seeking actions of employers and employees. Taking the theoretical competitive market equilibrium as a benchmark, values for productive resource (e.g. human capital) higher than the price that could be obtained in a market with perfect competition are called rents: "Rents are payments to assets that exceed the competitive price or the price sufficient to cover costs and therefore exceeding what is sufficient to bring about the employment of the asset" (Sørensen, 2000: 1536). When wage differentials are analyzed with this approach, the structural distributional mechanisms that

generate rents have to be examined. Causal explanation of wage inequalities is achieved by identifying institutionalized distributional mechanisms that explain how rents emerge and by identifying the activities undertaken by the different actors in the labor market to change them.

Rent-seeking as a mechanism that generates inequality is based on the following assumptions:

- a. Actors usually depend on other actors and their assets; the value of an asset under their control can only be realized by entering into a social relationship.

Employees need a job to make use of their human capital to produce income. Likewise, employers rely on people with those abilities needed to produce certain products or services. This interdependence implies that actors have to enter into a social relationship to use their resources to their mutual benefit — otherwise their assets cannot produce any economic gain. However, this does not necessarily mean that their mutual benefit is divided equally.

- b. Actors have a general interest in maximizing and preserving returns on their assets. While seeking to generate and protect their own rents, they try to destroy or diminish the rents of their counterparts.

According to Sørensen (2000), the source of inequality resides in relations between actors. Due to the interdependent nature of an employment relationship, employees' rents are losses to employers and vice versa. Although a disadvantaged actor who is nevertheless able to enter into a productive relationship still realizes an economic return on his or her assets, the potential gain is reduced by the rent of the other. Thus, rent-seeking actors are interested in changing the distributional mechanism that produces advantages for others.

- c. Actors differ in their bargaining power, which depends on their control over rent-producing assets and their ability to constitute or protect their property rights to returns on their assets.

The value of an asset is induced by assessing its productive use in a market situation. Rents can be realized if someone else needs a resource a person controls and, additionally, this resource is in restricted supply. Under these conditions, the other actor is willing to accept a decrease in his/her potential gains in order to realize a return on his/her asset. Furthermore, the distribution of returns is restricted by institutionalized property rights that are socially accepted. In general, there are two ways to realize a rent: either by getting access to rent-producing assets or by changing property rights to returns on productive resources.

If wage differentials are analyzed using Sørensen's approach — that builds upon rent-seeking — the structural distributional mechanisms that generate rents and activities undertaken to change them have to be identified. According to Sørensen, composite rents and monopoly rents reflect different rent-producing mechanisms. Below, options for rent-seeking action that redistribute wage inequalities are explored in order to derive hypotheses about wage differentials after reemployment.

Social closure in firms: composite rents for company-specific human capital

If two assets are so specifically attuned to one another that their individual benefit depends greatly on the other, a composite rent emerges. Characteristically, this rent disappears if a certain social relationship is dissolved, because the rent requires a certain match. In transaction cost theory, this characteristic is called asset-specificity (Williamson, 1981: 555). Human asset specificity (firm- or job-specific human capital) that is able to produce a rent and higher wages is contingent on specific job situations. As a consequence, this human capital is not employable in alternative jobs and so loses its rent-producing potential. While employees reduce their wages in alternative jobs because of these forgone rents, employers lose their investments in the

emergence of firm-specific capital (e.g. costs of on-the-job-training). Therefore, re-contracting can be beneficial for both. Employers may be willing to reward former employees who waited for a recall by increasing their rewards for firm-specific human capital (tenure). Likewise, a rent-seeking employer could try to capture a part of the employee's composite rent by dismissing and recalling him or her. This is beneficial if this action reduces the employee's property rights to returns, so that he/she gains less than without being dismissed. Transaction cost theory deals with this option in terms of hold-up strategies (Klein, 1980).

Institutionalized social closure in the labor market: monopoly rents from credentials

Monopoly rents reduce competition by restricting the supply of monopolized resources to owners of monopoly rights. Hence, this rent-producing structural distributional mechanism is a form of social closure that creates and protects benefits for the in-group and prevents access to rents for outsiders. Wage differentials are produced by monopolized assets such as certain credentials. Rent-seeking employees strive to sustain or increase their property rights on returns to credentials. Thus, they prefer job offers that guarantee or enhance this rent.

3. Hypotheses

Employers and employees both profit from recalls, because recalls reduce transaction costs for both (Hense, Edler and Liebig, 2012). Additionally, recalls sustain composite rents due to firm-specific human capital. Nevertheless, employees alone bear the financial risk of not being recalled and the income loss because of the dismissal, while the employer saves wage expenditures during the time the employee is outside the firm. Thus, economic gains and financial risks are not redistributed equally. Therefore, it is assumed that firms have to offer some incentives such as higher rewards for human capital to convince employees to wait for recalls. Otherwise a rent-

seeking person would try to find a new job shortly after leaving their former employer in order to avoid income losses due to unemployment. This especially applies to employees who have good chances of finding alternative employment due to high credentials.

The following hypotheses are derived from the theory of rent-production and the empirical findings on wage differentials:

1. Valorization of human asset-specific capital: Wage differentials between recalled and non-recalled people are supposed to be generated by different rewards to tenure. As employers benefit from the firm-specific capital of former employees it is assumed that they will offer higher income returns to tenure for recalled employees. This sustains composite rents for employers and employees.
2. Valorization of human asset-unspecific capital: Wage differentials between recalled and non-recalled people are assumed to be also produced by different rewards to credentials and work experience. These are higher for recalled employees in order to provide an incentive that they would not receive if they would decide to find another employer. Therefore, it is assumed that recalled employees gain higher monopoly rents due to credentials and work experience.
3. Reduced devaluation of wages due to unemployment: Wage differentials between dismissed and continuously employed employees are induced by unemployment. Nevertheless, the losses in income for recalled and non-recalled employees in comparison to people who stayed employed are said to be different. It is assumed that recalled employees suffer less from unemployment than employees who changed their employer because composite rents can partly be retained and employer provide an incentive to wait for a recall.

4. Data

For our analysis we used a sample of integrated labor market biographies (SIAB) provided by the Institute of Employment Research (IAB). The data covers the time period 1975 to 2008. It comprises a 2 percent random sample of administrative social security records in Germany and includes information contributed to the social security system. The sample is restricted to full-time workers between 18 and 65 years. We exclude working interruptions due to maternity leaves applying an approximation by Schöneberg (2009). Moreover, employees who entered the labor market before 1975 are dropped to avoid left censoring. In total 6,459,378 observations remain.

Our dependent variable is the logarithmized daily income of an employee (in Euro). The data provide the precise earnings of the employees if these are below the top social security contribution threshold. To counter this censoring, we imputed the wages above the income threshold as suggested by Gartner (2005). The definition of recall on which the analysis is based is that a worker is dismissed, experiences a period of unemployment of at least 31 days, and is reemployed by the former firm. Our analysis also includes the following independent variables that are supposed to be altered by recalls: Time spent in unemployment before an employee is reemployed by the former or another employer is measured in years. Indicators for human capital are formal education, work experience, and tenure. Formal education is coded into three groups: (1) Low-qualified employees who did not complete formal education or vocational training, (2) medium-qualified employees with a secondary or intermediate school leaving certificate and completed vocational training or an upper secondary school leaving certificate with and without completed vocational training, and (3) highly-qualified employees who graduated a university of applied science or a college or university. Work experience is defined by the time an employee spends in the labor market (without periods of unemployment) in years. Tenure stands for firm-specific work experience. Thus, tenure encompasses the work-place specific work experience

before and after the displacement in the same firm. The descriptive statistics for these and the control variables are presented in the table 3 in the appendix.

5. Multivariate Results

The results (see table 1) are consistent across models, supporting a causal interpretation of the effects because the coefficients of the fixed- (fe) and random- effects (re) panel models are similar and do not lead to different conclusions. Thus the robust Hausman test, which favors the fixed effects model due to little endogeneity (with a correlation of 0.04 between the individual specific error term and regressors), remains without consequences for the interpretation. Models 1 (re) and 2 (fe) show the results for the main effects and will be interpreted first. Models 3 (re) and 4 (fe) add interaction effects in order to analyze different rewards to recalled and non-recalled employees assumed by the hypotheses. These results, and their conclusions as regards the hypotheses, are then discussed.

First, the negative coefficients of the two indicators for discontinuous employment (recall, unemployment duration) show that discontinuity results in income losses. The negative coefficient of recalls in models 1 and 2 indicates an income loss caused by a recall. The same applies to the negative main effect of unemployment duration, which causes income losses for all employees who entered into unemployment. Thus, employers are able to increase their rents by temporary layoffs. Second, the main effects of the three indicators measuring different types of human capital confirm the findings found in various studies: According to the human capital theory, wages increase with increasing credentials. This means that employees with medium formal education earn more than less qualified employees, and highly qualified employees earn most compared to the reference category of low qualified employees. Moreover, each additional year of work experience and tenure is remunerated by an increase in wages, whereas the

remuneration for work experience is more substantial and displays a diminishing marginal utility indicated by the negative effect of the squared work experience. The control variables, whose effects are not the focus of this analysis but are needed to control for additional effects on wages, are: gender, firm size, a dummy variable for East and West Germany, and industry. The results indicate that earnings are higher for men than for women and also increase with increasing firm size. Moreover, wages are higher in West than in East Germany. Compared to the reference category for industry (economic and household services) wages are mostly higher in other sectors.

The main effects models only prepare the ground for the analysis and interpretation of models 3 and 4, which are important to test the hypotheses. The first hypothesis states that recalled employees gain higher returns to tenure than non-recalled employees. This is supported by the positive interaction effect of tenure and recall: Whereas each additional year of tenure increases the wages of non-recalled employees by about 0.5%, the increase for recalled employees is about 1.1%. This shows that recalled employees receive higher remuneration for tenure and are able to increase their composite rent for human asset specificity. The second hypothesis assumes that returns to human asset-unspecific capital (formal education and work experience) are also higher for recalled employees than for non-recalled employees. This is supported by the interaction effects of formal education and recall (see table 2), because wage increases are consistently higher for recalls—and employees with the highest credentials are rewarded most if they wait for a recall. The second hypothesis is not supported by the interaction effect of work experience and recall as the wage returns to work experience are about 2% lower for recalled persons than for non-recalled persons. Thus, recalled employees are able to increase their monopoly rents for formal education, but they lose rents for work experience. In contrast, employees who move to another employer are able to increase their rents from work experience. The third hypothesis, which states that the unemployment effect of recalled employees is lower

than the unemployment effect for people who found another employer, is not supported. The interaction term of unemployment duration and recall is statistically insignificant. This indicates that growing unemployment duration leads to equal wage losses for recalled employees and other discontinuously employed workers. Thus, employers only offer incentives for human capital and tenure and reduce the wages of recalled employees similarly to other people with unemployment spells. The effects of the control variables remain stable.

Table 1: Determinants of daily wages (log-linear random- and fixed-effects panel models)

	RE	FE	RE (incl. interaction)	FE (incl. interaction)
Recall (ref.: no recall)	-.066*** (.001)	-.065*** (.001)	.046*** (.003)	.045*** (.003)
Formal education (ref.: low formal education)				
Medium formal education	.113*** (.001)	.081*** (.002)	.115*** (.001)	.083*** (.002)
Medium formal education * recall			-.021*** (.002)	-.016*** (.002)
Higher formal education	.507*** (.003)	.380*** (.004)	.507*** (.003)	.379*** (.004)
Higher formal education * recall			.014** (.005)	.020*** (.005)
Work experience	.074*** (.000)	.075*** (.000)	.076*** (.000)	.077*** (.000)
Work experience * recall			-.020*** (.000)	-.020*** (.000)
Work experience ²	-.001*** (.000)	-.001*** (.000)	-.001*** (.000)	-.001*** (.000)
Work experience ² * recall			.000*** (.000)	.000*** (.000)
Tenure	.006*** (.000)	.005*** (.000)	.005*** (.000)	.004*** (.000)
Tenure * recall			.006*** (.000)	.008*** (.000)
Duration of unemployment	-.003*** (.000)	-.003*** (.000)	-.003*** (.000)	-.003*** (.000)
Duration of unemployment * recall			-.001 (.001)	-.000 (.001)
Man (ref.: woman)	.294*** (.001)		.291*** (.001)	
West Germany (ref.: East Germany)	.140*** (.004)	.185*** (.007)	.139*** (.004)	.185*** (.007)
Firm size	.000*** (.000)	.000*** (.000)	.000*** (.000)	.000*** (.000)
Sector (ref.: Economic and household services)				
Agriculture, energy, mining	.066*** (.004)	.087*** (.004)	.066*** (.004)	.088*** (.004)
Basic Production, production of goods	.188*** (.002)	.196*** (.003)	.188*** (.002)	.197*** (.003)
Mechanical engineering, steel processing, Vehicle and equipment construction	.167*** (.002)	.174*** (.002)	.168*** (.002)	.175*** (.002)
Consumer goods, food and luxury foods	.102*** (.002)	.124*** (.002)	.102*** (.002)	.125*** (.002)
Construction	.106*** (.002)	.125*** (.003)	.106*** (.002)	.125*** (.003)
Wholesale trade and retail	.062*** (.002)	.079*** (.002)	.061*** (.002)	.079*** (.002)
Transport, storage and communication	.066*** (.003)	.070*** (.003)	.067*** (.003)	.071*** (.003)
Home services, hospital, education	-.180*** (.012)	-.153*** (.013)	-.180*** (.012)	-.153*** (.013)
(Street) cleaning, organizations	.168*** (.003)	.153*** (.003)	.167*** (.003)	.152*** (.003)
Public administration, social security	.048*** (.003)	.056*** (.004)	.048*** (.004)	.056*** (.004)
Constant	3.046*** (.004)	3.199*** (.007)	3.037*** (.004)	3.188*** (.007)
<i>R</i> ² within	.4276	.4290	.4290	.4304
between	.3982	.3150	.3982	.3162
overall	.4217	.3475	.4222	.3488
Number of obs	6,459,378	6,459,378	6,459,378	6,459,378
Number of groups	640,063	640,063	640,063	640,063
<i>Prob >F</i>	.000	.000	.000	.000

Remarks: *p<.05; **p<.01; ***p<.001, cluster-robust standard errors in brackets, RE: Random effects panel model, FE: Fixed effects panel model

Table 2: The effect of formal education on income for recalled and non-recalled employees

	Low formal education		Medium formal education		High formal education	
	RE	FE	RE	FE	RE	FE
Recall	.046	.045	.140	.112	.567	.443
No Recall	0	0	.115	.083	.507	.379

Long-term earning effects

Figure 1 plots the long-term earning effects of recalls compared to (1) employees with the same period of unemployment that are reemployed by another firm and to (2) continuously employed workers. The long dashed line illustrates continuously employed workers over eighteen years of work experience which is identical equal to eighteen years of tenure. If the employees become unemployed after five years, stay unemployed for one year and are reemployed in a new firm their income development is reflected by the course of the short-dashed line. For employees who instead are recalled to their previous firm, the solid line maps the course of their income development.

The positive slope of all three groups shows that each additional year of work experience and tenure leads to positive wage growth. In the main, the figure illustrates the strong negative effect of displacement on income. But if employees are recalled, they receive slightly higher wages directly after reentry into the labor market than employees who enter a new job. This means that the wage loss through displacement is weakened by recalls. And the results of the regression analysis demonstrate that this is due to returns on tenure and not due to a different assessment of unemployment spells for recalled and non-recalled employees. Moreover, the figure demonstrates that wages are not permanently higher for recalled employees. After about 2.18 years of reemployment, the line mapping wage growth of recalled employees and the line mapping wage growth of workers employed in a new job cross one another. This indicates that wage growth of recalled employees is lower and that a labor relationship with a previous employer leads to lower marginal utility with each additional year after reentry into the labor

market. The regression results provide the following explanation for this effect: The returns to work experience are lower for recalled employees. Overall it can be said that there are short-term income benefits for recalled employees compared to employees reemployed in a new job because the former are able to increase rents for tenure. But in the long-term, income development for employees in new jobs is better because they increase rents for work experience which counts more than tenure. Nevertheless, the negative effect of displacement on income applies to both. In the case of a future recall, this increases the employer’s rents.

Figure 1: Wage growth depending on work experience, tenure, and unemployment (FE model)



- Continuous:** Wage growth for each additional year of work experience and tenure of continuously employed workers
- Recall:** Wage growth for each additional year of work experience and tenure of recalled employees after 1 year of unemployment, 5 years of work experience and 5 years of tenure
- New job:** Wage growth for each additional year of work experience and tenure of employees in new jobs after 1 year of unemployment and 5 years of work experience and 0 years of tenure

6. Summary and discussion

This article analyzes and explains wage inequalities in flexibilized labor markets generated by discontinuous employment and different returns to human capital. The analysis compares wage differentials of employees who were recalled with employees who found another employer, or stayed in the same employment relationship. We identify rent-seeking as an inequality-generating mechanism and show that rent-seeking reemployment decisions of employers and employees result in wage inequalities.

Employees strive for continuous employment to maintain and increase income returns to human capital, and thus gain the highest wages. Rent-seeking employers are interested in obtaining benefits by changing the distributional mechanisms that produce income benefits but do not provide equal increases of employee's rents. Thus, a rent-seeking employer could try to capture a part of the employee's composite rent by dismissing and recalling him or her. This is beneficial because this action reduces the employee's property rights to returns, so that he/she gains less than without being dismissed. Although employers provide higher returns on tenure and formal education after a recall, the wages of employees are effectively reduced through a recall. This is because employees lose income due to unemployment and they never recover the income they could have gained if they had not have been dismissed. Hence, an employer changes the structural distributional mechanism of composite rents by reducing the employee's share through a recall. In sum, employers gain advantages by using recalls as an instrument for monetary flexibility by means of external-numerical flexibility (dismissal and re-hire). As a consequence, employers reduce total labor costs during the time of the temporary layoff as well as individual wages of reemployed people. They partly redistribute these gains by paying higher returns on tenure and credentials. Therefore, former employees get privileged access to job openings, but get fewer rewards compared to those who remained in the company. Accordingly,

employees' property rights to returns are reduced by means of the interruption of the employment relationship.

Nevertheless, workers who are employed discontinuously are able to increase returns to credentials and tenure through recalls and receive higher wages shortly after reemployment than employees who moved to another employer. In contrast, employees who were reemployed in a new firm suffer higher short-term wage losses than recalled employees, but are able to gain long-term income benefits by increasing returns to work experience. Thus, different reemployment decisions explain the short-term advantages of recalled people and the long-term advantages of employees who found another employer. Nevertheless, neither of them is able to recover his/her former income benefits as compared to those who were employed continuously. Hence, their wage losses reflect equally negative effects of unemployment on income. In sum, reemployment decisions modify property rights to returns on work experience to the advantage of non-recalled employees, while making a recall decision changes property rights to returns on credentials and tenure to the advantage of returnees. Thus, dismissed employees who were recalled best protect and increase monopoly rents from credentials and composite rents from firm-specific human capital. Nevertheless, people who found another employer benefit in the long run. A theoretical explanation for this effect could be the emergence of another type of composite rent that is based on the employee's ability to adapt human capital to alternative conditions and the employer's potential to provide new learning opportunities. Firms can enhance their competitiveness in the commodity market by opening some job positions to new job applicants. Similarly, employees can gain competitiveness in the external labor market by changing employers. Therefore, the rents gained by social closure of employment relationships may result in losses of other composite rents obtained by different experiences and different matches.

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Appendix

Table 3 Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max.
Daily income	67.403	42.760	0	1306.28
Recall (ref. no recall)	0.160	-	0	1
Formal education (ref. low)				
<i>Medium</i>	0.710	-	0	1
<i>Higher</i>	0.107	-	0	1
Work experience	8.704	6.678	0	33.0
Tenure	4.072	5.08	0	33.0
Duration of unemployment	0.397	1.319	0	31.915
Gender (ref. woman)				
<i>Man</i>	0.611	-	0	1
Germany (ref. East Germany)				
<i>West Germany</i>	0.974	-	0	1
Firm size	93.962	420.983	0	6286.9
Sector (ref. Economic and household services)				
<i>Agriculture, energy, mining</i>	0.028	-	0	1
<i>Basic production, production of goods</i>	0.061	-	0	1
<i>Mechanical engineering, steel processing, vehicle and equipment construction</i>	0.178	-	0	1
<i>Consumer goods, food</i>	0.096	-	0	1
<i>Construction</i>	0.081	-	0	1
<i>Wholesale trade, retail</i>	0.144	-	0	1
<i>Transport, storage, and communication</i>	0.054	-	0	1
<i>Home services, hospital, education</i>	0.004	-	0	1
<i>(Street) cleaning, organizations</i>	0.089	-	0	1
<i>Public administration, social security</i>	0.053	-	0	1
Number of observations	6,459,378			

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