Does employment protection increase happiness?

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Abstract:

Reducing firing cost gaps in dual labor markets is often advocated from the perspective of labor market outcomes. While the effect of employment protection for permanent workers on objective outcomes is strongly studied, the effect on overall life satisfaction is unknown. This paper fills this gap by employing German reforms in employment protection in a difference-in-difference analysis. Controlling for individual fixed effects, group specific time trends and others, subgroups of temporary workers pay 1 unit of life satisfaction (0-10, when protection decreases, while permanent worker do not suffer. Placebo tests support this result. When protection increases, overall life satisfaction is not affected. But perceived job security of subgroups of temporary workers increases.

JEL Classification: J28 - Safety; Job Satisfaction; Related Public Policy, J65 - Unemployment Insurance; Severance Pay; Plant Closings, I31 - General Welfare

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1 Introduction

High firing cost gaps between temporary and permanent workers are considered to generate bad labor market outcomes, i.e. high youth unemployment rates or low transition rates into permanent work. However, reducing this gap by reforms which decrease employment protection legislation for permanent (EPP) workers is assumed to be politically costly. These reforms are assumed to be costly because politically important permanent workers are considered to suffer from these reforms while politically less relevant temporary workers would benefit (e.g. Rueda 2005).

This paper studies empirically whether permanent workers suffered and whether temporary workers benefit from a decrease in EPP: How does a reform in EPP affect overall life satisfaction of workers and is there a difference between temporary and permanent workers? And which mechanisms are relevant?

This is important from two perspectives: First, from the perspective of individual welfare in the sense of subjective well-being (Stiglitz-Sen-Fitoussi Report 2009), and, second, from a political economy perspective. Concerning the former, studies on the effects of employment protection legislation mostly focus on objective outcomes such as wages and youth unemployment. But the dimension of subjective well-being is often neglected. Concerning the latter, political economy models on employment protection derive preferences about employment protection from the effect of employment protection on individual welfare. For instance, it is assumed that permanent workers would suffer from a decrease in EPP because their job becomes less stable. This in turn reduces individual welfare of permanent workers. Once we allow subjective well-being measures to be proxies for individual welfare, we can test the effect of an institution on individual welfare and we can test for basic assumptions in political economy models (Frey and Stutzer 2010)[1].[2]

The contribution of this paper to a growing research on the relationship between employment protection legislation (EPL) and subjective well-being is twofold. First, existing studies analyzed relations between EPL and job satisfaction (e.g. Lepage-Saucier and Wasmer 2012, Salvatori 2010), EPL and job security (Clark and Postel-Vinay 2009, Kuroki 2009, Lepage-Saucier and Wasmer 2012, Salvatori 2010) as well as EPL and workplace stress (Lepage-Saucier and Wasmer 2012). But the impact and relation of EPL on overall

[1] Frey and Stutzer (2010) show that subjective well-being research can be employed in order to test basic assumptions of public choice models. For instance, in order to discriminate between opportunistic and partisan public choice models, subjective well-being mesaures are applied (DiTella and MacCullock 2005). It is tested whether right and left-wing voters are differently effected in their individual welfare by unemployment and inflation. As this is the case, partisan models are supported by DiTella and MacCullock (2005).

[2] It is not tested whether the effects of employment protection on individual welfare translate into preferences and whether these preferences translate into voting behaviour.

life satisfaction was not studied yet. This is exactly the aim of this paper.

Second, methodologically, the literature often relies on cross-country variation in EPL – mainly employing the OECD EPL indicator. Concrete, the most recent study of Lepage-Saucier and Wasmer (2012) employs cross-country, cross-province and cross-sector variation as well as some time variation of the OECD EPL indicator for identification. Clark and Postel-Vinay (2009) and Salvatori (2010) rely on EPL variations across country and time. A disadvantage of empirical studies relying mainly on cross-country variation is that they cannot rule out endogeneity of labor market institutions easily (e.g. Lepage-Saucier and Wasmer 2012, Clark and Postel-Vinay 2009). Hence, the correlations in cross-country studies might be due to reversed causality. For example, in some countries people might be stronger worried about their jobs than in other countries while their objective transition probabilities are the same. In countries with highly worried workers, workers would demand from politicians higher levels of protection in order to have a secure job. Hence, a positive correlation between EPL and worries about job security would not be due to the fact that EPL increases worries about job security but that worries about job security increases EPL for permanent workers via a political process. This paper improves on that by employing a reform in Germany which allows for difference-in-difference analyzes based on within country time variation. To the best of my knowledge, in the literature on EPL and subjective well-being, this methodology was only employed by Kuroki (2012). But he does not look on the effect of EPP on overall life satisfaction.

More specifically, I employ a difference-in-difference (DID) approach for two large reforms in 1996 and 1999 in the German EPP. These two reforms allow looking on a decrease of EPP in 1996 and on an increase of EPP in 1999. The reforms changed the firm size threshold from which on EPP is binding. Analyzes are conducted with data from the German Socio-Economic Panel. The treated workers in firms with 6-20 employees are compared to workers in firms with more than 20 employees. This comparison is conducted separately for permanent and temporary workers as well as for other subgroups. In order to address violation of the common time trend assumption and workers selection, I control for observables as well as time invariant unobservables by fixed-effect models and run placebo tests (reform and treatment group) as well as add group specific linear trends.

In contrast to the assumption in political economy models, that temporary workers benefit from increasing EPP, I find that EPP decreases overall life satisfaction for specific groups of temporary workers. Low and middle educated trainees significantly lose around 1 unit of life satisfaction on a scale from 0 to 10 when EPP decreases. This might be explained due to the fact that trainees often transition into permanent work after apprenticeships.

Interestingly, for an increase in protection, I do not find that any subgroup of temporary workers is affected in overall life satisfaction. However, I find that perceived job security increases for low-educated temporary workers and low-educated temporary trainees when EPP increases. Concerning permanent workers, political economy models would expect that permanent workers suffer from a decrease. But I do not find this. (The Analyses for potential mechanisms for permanent workers is not completed yet.)

The paper is organized as follows: First, I outlay theoretical considerations which frame the empirical analysis. Second, I introduce EPP in Germany. Third, the empirical strategy is shown. In chapter four and five the results (work in progress) are presented.

2 Conceptual framework

Building up on political economy models of Saint-Paul (1996), Rueda (2005) and other literature, the main channels of a reform in EPP on life satisfaction would be via perceived job security, wages and job satisfasction. This in turn might affect overall life satisfaction. The effect of EPP on these channel variables might differ across subgroups. At least this is a crucial element of political economy models: while some groups in the workforce would from EPP, others would suffer.

Therefore, I distinguish between temporary and permanent workers in the first stage and between low-educated, high-educated in the second stage. This is based on Rueda (2005) and Saint-Paul (1996). First, Rueda (2005: 62) derives that insiders would loose while outsiders would gain from lower EPP. He defines insiders as workers who hold a highly protected job while outsiders are those who are either unemployed or workers with insecure jobs, low wages and lower other privileges. He proxies them by permanent employed workers versus unemployed or temporary workers. Second, Saint-Paul (1996) distinguishs between unemployed (1), semi-skilled or unskilled workers (2) and high skilled workers (3). According to him, low- and medium skilled workers would loose from a decrease in protection, while the unemployed and also slightly the high skilled workers would gain from a decrease in EPP. Furthermore, he accounts for macro-economic conditions in order to proxy the probability of becoming unemployed.

Concerning the channels and subgroups, I derive the following expectations: First, EPP might affect wages. Firing costs either decrease wages of permanent workers due to shifting firing costs of firms to the workers (Lazaer 1990) or increase them due to increased bargaining power of incumbents (Lindbeck and Snower 2001). Temporary workers might suffer in terms of lower wages due to lower bargaining power in comparison to permanent

workers. Empirically, it was found that the burden of higher firing costs could be shifted to entry wages but that there was no effect on incumbent wages in Italy (Leonardi and Pica 2013).

Second, unemployment inflows and outflows decrease when EPP is increased (e.g. Boeri 2011). Thereby, low-educated workers (permanent and temporary workers) might suffer from an increase in EPP. Low-educated workers probably have less positive labor market prospects compared to high-educated workers. Therefore, low-educated workers would suffer from a rigid labor market where transition probabilities into permanent work are relatively low. An increaes in EPP therefore might decrease their perceived job security. In contrast, workers with a high probability of becoming a permanent worker (e.g. apprentices) might gain from an increase in EPP in terms of perceived job security.

Third, job satisfaction might be affected. A first argument is via monitoring. Usually dismissals serve as a disciplinary device in a moral hazard situation between workers and employers. But employers less often when firing costs are high. In this situation the employer might raise monitoring in order to avoid shirking. Increased monitoring, in turn, might decrease job satisfaction of permanent workers (Lepage-Saucier and Wasmer 2012). A second argument is via competition. When EPP is low, temporary and permanent workers might compete for the same jobs. This in turn might decrease their job satisfaction due to higher stress at the workplace. Therefore, when EPP increases, temporary and permanent workers might gain from an increase in job satisfaction. Finally, the buffering function of temporary workers increases, when EPP increases. This, in turn, might decrease job satisfaction of temporary workers.

Overal, I concluded that the effect of EPP on overall life satisfaction is ambigious and that it differs between subgroups. Table 1 gives an overview of the potential channels.

Table 1: Expectations for the effect of a decrease in EPP on central channels

	TEMPs			PERMs	
	low-educ		high-educ	low-educ	high-educ
	all	apprentices			
job satisfaction	?	?	-	?	?
wages	+/0	+/0	+/0	?	?
job security	+	-	0	+	0

3 Employment protection in Germany

3.1 Institutional background

Employment protection regulates hiring and firing of firms and, thereby, increases costs (or restricts the employment of specific type of workers) for firms. They are based on legislation, collective bargaining or court interpretation of the legislation. Concerning employment protection legislation, it is important to distinguish between different dimensions of employment protection legislation (EPL): employment protection legislation for permanent workers (EPP), temporary workers and temporary agency workers. The latter two are more of a restrictive nature, i.e. they restrict durations of contracts, reasons and legal number of renewals. Here, I focus on employment protection legislation for permanent workers (EPP) in Germany.

In Germany EPP is regulated in the civil code - Bürgerliches Gesetzbuch (BGB) - and in the German protection against dismissal act - Kündigungsschutzgesetz (KSchG). While the BGB applies to all firms the KSchG only applies to medium or large firms, i.e. the establishment employs a sufficiently large number of people (KSchG §23). Hence, the KSchG only raises firing costs for firms above a specific threshold of employees. Table 1 gives an overview on employment protection legislations for permanent workers in Germany.

Table 2: Employment protection legislation for permanent workers in Germany

	All Firms	Medium/Large Enterprises
Law	BGB, special groups	+ KSchG
Just dismissals	1) good faith, 2) basic rights, 3) no discrimination	+ Cause in the 1) person, 2) behaviour of a person, 3) economic necessity
Severance payment	Court decision	+ Compulsary in the case dismissals due to economic necessity
Collective dismissals		+ Notice: employment agency, works council
Period of notice	Depends on tenure	

First, all establishments in Germany need to apply at least some regulations (second column). The BGB defines minimum criteria for dismissals. The dismissal has to be in a written form (BGB §623) and noted within a specific period.(BGB §622) which varies with tenure. Next to this, dismissals are ineffective when employers do not account for good

faith, basic rights and no discrimination: e.g. dismissal due to ethnicity. Furthermore, all firms are binded to dismissal laws for specific groups such as disabled workers. In the case of unjust dismissals, the court decides on severance payments. But these payments are not a priori compulsory by law. Overall and importantly, these regulations are interpreted in such a way that small firms (which do not have to account for KSchG) are allowed to dismiss workers at any time without any reasons and without any legally fixed severance payments.

Second and in contrast to small firms, medium- and large-sized firms have to apply the KSchG (third column), additionally. Medium- and large-sized means that firms need to be above a specific firm-size threshold, i.e. need to employ a specific number of workers. In consequence of the KSchG, workers can only be dismissed, if one of the following causes is present (KSchG §1(1)):

1. causes in the person e.g. the worker became longterm incapacitated
2. causes in the behaviour of the person e.g. in case of theft
3. economic necessity e.g. recessions

In the last case, the dismissal must additionally fullfill social selection criteria concerning age, tenure and whether there are financial obligations. After being dismissed, the worker can call the court (KSchG §4). If the court decides the dismissal to be ineffective, the worker has the right to return to the firm or to claim severance payment. The dependency on the decision from the court increases uncertainty about the costs for the employer. When the dismissal is ineffective, this increases the costs for the firm directly as the employer has to pay severance payments. In the case of dismissals due to economic necessity, the employee can trade his right to go to the court against a legally defined severance payment. The amount differs by job tenure, age and earlier earnings (KSchG §10).

To conclude, the KSchG raises firing costs only for firms above a specific threshold of employees. The costs are in terms of procedural costs (e.g. additional laws have to be accounted for) and expected severance payments (higher uncertainty about court decisions on the justifiable dismissal).

3.2 Which reforms took place?

The threshold regulation of the KSchG §23 induces variation across firms. This threshold was reformed and, thereby, provides additional variation across time. The reforms generated a subgroup which is treated and a subgroup which is not treated by the reform.

Building up on this, a difference-in-differences regression approach can be employed. Table 3 presents an overview on two reforms in the 90s. It summarizes under which conditions permanent workers are protected by the KSchG and how the conditions changed.

Table 3: Criteria for the application of the KSchG

Reform	**Tenure**	**FTE (§ 23 KSchG)**
Pre 1.10.1996	Entries	> 5 FTE
		hours <11 –> 0
		hours <20 –> 1
		hours <30 –> 1
		hours >29 –>1
1.10.1996	Entries	> 10 FTE
		hours <11 –> 0.25
		hours <20 –> 0.5
		hours <30 –> 0.75
		hours >29 –>1
	Incumbent	> 5 FTE on 30.09.
		hours <11 –> 0
		hours <20 –> 1
		hours <30 –> 1
		hours >29 –>1
1.1.1999	All	> 10 FTE
		hours <11 –> 0
		hours <20 –> 0.5
		hours <30 –> 0.75
		hours >29 –>1

Before the 1st October in1996, all workers in firms with more than 5 full-time equivalent employees were covered by the KSchG. In 1996, the christian-democratic / liberal government faced increasing unemployment since the 1990s and wanted to reduce restrictions in the labor market. With the reform "Arbeitsrechtliche Gesetz zur Förderung von Wachstum und Beschäftigung" the government changed the KSchG on the 1st of October in 1996. The minimum establishment size was increased from 5 to 10 full-time employees and the definition changed slightly (weighting of part-time workers). Furthermore, social selection criteria for redundancies were loosened. The weighting of workers depending on their hours changed, too (see third column). For the empirical strategy it is important,

that incumbent workers were excepted from the changes for a specific period. Concrete, workers who were already employed on the 30th of September in 1996 and covered by the KSchG on this date, the new law came into effect in September 1999.

However, before the law came into effect for incumbent workers, the social democratic / green government re-regulated the law and returned to the old threshold on the first Janurary 1999: workers in establishments with more than 5 employees were covered ("Gesetz zur Korrekturen in der Sozialversicherung und zur Sicherung der Arbeitnehmerrechte"). The 5 employees were calculated differently after the policy change: workers with 10 hours work per week were not counted anymore. Furthermore, the selection criteria were strengthened.

There was a last threshold change in the early 2000s (not presented in Table 3). Germany faced a strong economic downturn which was accompanied by increasing unemployment. The high unemployment rate became the major issue of the elections in 2002. The social-democratic/green government promised to half the unemployment rate. In the preceding months the re-elected government decided on several labor market reform packages from which the first law became effective on the 1st of January in 2003. On the 1st January of 2004 the last change of the KSchG concerning the threshold became effective and it was increased to 10 employees again.

For identification issues, it is important to check whether parallel reforms took place. On the 1.10.1996, there were important changes to the employment of temporary contract workers which was regulated in the Beschäftigungsförderungsgesetz (BeschFG). Before this date firms could hire on temporary contracts for a maximum duration of 18 months without objective reason. Renewals were not allowed. With the 1996 reform the maximal duration was increased from 18 to 24 months and renewals were allowed for up to three times with a overall maximum duration of 24 months. If temporary contracts are disproportionally employed in bigger firms and increase insecurity among permanent workers (afraid of being substituted), than the estimates for the permanent workers might be biased. Also, temporary contract workers in bigger firms might feel less secure and, thereby, less satisfied. When the reform does not affect workers in small firms (due to less strong employment of temporary contract workers), the policy effect would be upward biased for the 1996 reform.This has to be accounted for the interpretation.

4 The empirical strategy

4.1 Where does the identification come from?

The identification of the causal impact of employment protection legislation on subjective well-being comes from variable enforcement across firm-size and within-country time variation of EPL (firm-size threshold reforms) (Boeri and Jimeno 2005). In this paper, the German reforms in EPL in 1996 and 1999 serve as quasi-experiments for which the difference-in-differences (DID) approach can be employed. Due to the reforms, the change in SWB of treated workers can be compared to changes in SWB of non-treated workers. Employing these kind of reforms becomes an increasingly applied tool for causality analyzes of EPL (e.g. Martins 2009, Kugler and Pica 2008, Bauer et al. 2007, Boeri and Jimeno 2005).

DID regression approach: Concrete, employment protection for regular contracts varies over time and over firm size in Germany in the 90s. The changes to the firm size threshold leave a subgroup of individuals with constant EPP (control group) while the other subgroup of workers faces decreasing or increasing protection (treatment group). Hence, the difference-in-difference equation for an ordinary least square regression is the following:

$$SWB_{it} = \beta_0 + TG_{it}\beta_1 + R_t\beta_2 + TG_{it}R_t\beta_3 + X_{it}\beta_4 + \epsilon_{it}$$

with SWB_{it} as the overall life satisfaction of individual i in time t, X_{it} as the vector of covariates and ϵ_{it} as the error term. TG_{it} is the dummy for being in the treatment group. It is one for individuals who were treated and zero for the non-treated.[3] The TG_{it} captures group specific time-invariant differences between the treatment and the control group which are not linked to the reform. R_t is defined to be one for the time after the new law became effective and zero for the period before. The reform dummy captures period effects which are similar across groups. The interaction between the reform and treatmentgroup dummy β_3 gives us the main measure of interest: the policy effect.

Common time trend assumption: The major identifying assumption for difference-in-differences analyzes is the common time trend assumption between treatment and control goup. This means that treatment and control group are allowed to differ in terms of the outcome but that this difference remains constant over the relevant time period. If the

[3] In the baseline model, this status for individual is allowed to change over time (time invariant). However, in other specifications it is concentrated on samples of individuals which do not change their status in the considered time period.

composition of treatment and control group would change, if the groups would differ in their time varying covariates or if a constant different composition would induce diverging dynamics in the outcome, the assumption fails. The policy effect β_3 would be biased.
In order to tackle these issues, it is controlled for time-variant and invariant observables $X_{it}\beta_4$ such as working hours, income, age, education, gender, marital status, health status, children, occupation fixed-effects, industry fixed effects, state fixed effects, previous employment status. Time-invariant individual unobservables are also controlled for by estimating individual fixed effects allowing the error term ϵ_{it} to incorporate a time invariant a_i and an idiosyncratic component u_{it}. This is specifically crucial for SWB regressions since time-invariant personality traits have a large effect on SWB (Ferrer-i-Carbonell and Frijters 2001).

Workers sorting: The DID estimates of β_3 are also biased, if workers endogenously choose their EPL regime (i.e. treatment or control group) and if this selection process is driven by SWB relevant variables. For instance, assume that married workers disproportional apply to better protected jobs. Before the reform takes place, the distribution of the marital status in the control and treatment group is the same. After the reform, jobs in treated firms are not protected very well anymore. Therefore, married workers start to apply for jobs in bigger firms. Consequently, the composition of the treatment and control group would change and bias the policy effect if being married is related to SWB.
In order to tackle the issue of selection driven by observable characteristics, it is simply controlled for these variables in $X_{it}\beta_4$. Selection which is driven by time-invariant individual unobservables can be tackled by the individual fixed effects estimators. Unfortunately, time variant unobservable characteristics driving the selection are not controlled for and difficult to capture.

Indirect tests for a common time trend: Since time-invariant unobservables are still not controlled for, the common time trend assumption might still be violated. Unfortunately, there does not exist any formal test, to check whether the assumption is valid but a placebo test and a group-specific time trend help to check whether one should be less or more worried about it. First, the **placebo-group test** checks whether there might be a different time trend between small versus big firms in SWB. For this purpose, workers are defined to be in a treatment group when they work in a non-treated medium sized firm and are in the control group if they are employed in a larger firm. Hence, both groups of workers did not face any changes. A significant DID estimator of the policy effect β_3 would disencourage us to assume a common time trend between the original treatment and control group. Second, the **placebo-period test** defines the a reform which did not

take place. Again a significant policy effect would disencourage us to assume common trends. Third and also proposed by Angrist and Pischke (2009), adding **group-specific time trends** in the DID regression equation tests whether the trends differ in a linear manner between treatment and control group. If the DID estimator of the policy effect β_3 does not change after controlling for the group-specific time trend, we know that there is at least no linear trend difference. This might encourage to assume that there is also not a non-linear.

4.2 Definitions of treatment and control group

In general, workers employed in firms with 6 to 10 full-time equivalent workers are defined to be treated because the reform changed EPP in these firms. Protection decreased in 1996 and increased in 1999. Workers in firms with more than 10 full-time equivalent workers are in the control group. For these kind of firms EPP remained always constant. In the preceding paragraphs, treatment and control groups - TG and CG, respectively - are defined for the reform on the 1st of October in 1996 and on the 1st of January in 1999 (Table 4):

Table 4: Definition of treatment and control group (TG and CG)

Reform	**Contract**	**TG**	**CG**
1.10.1996	TEMP	6-10 FTE_{jt}	>11 FTE_{jt}
	PERM (entries)	6-10 FTE_{jt}	>11 FTE_{jt}
1.1.1999	TEMP	6-10 FTE_{jt}	>11 FTE_{jt}
	PERM (entries)	6-10 FTE_{jt}	>11 FTE_{jt}

1996 reform: In 1996 the threshold in §23 increased from 5 to 10 FTEs. Therefore, workers in firms with 6 to 10 FTE_{jt}s faced a decrease in protection for permanent workers while bigger firms did not face a change. The precise definitions of treatment and control group are as follows (Table 1):

- **Permanent workers (PERM)**: In the **treatment group** are employees who work in firms with 6-10 FTE_{jt}s. In the **control group** are workers who are employed in firms with above 10 FTE_{jt}s. However, workers in 6-10 FTE_{jt}s were not equally affected due to an **exception rule**. The exception rule says that some workers in firms with 6 to 10 FTE_{jt} remained under the KSchG after the reform took place. The conditions for that were, (1) that workers signed their contract before the 1st October (incumbents) and (2) that the firm employed 6 to 10 full-time equivalent employees on the 30.09.1996. For these incumbents, the decrease in EPL became effective

only after the 30th September 1999. Therefore, it is concentrated on workers who entered firms. **Entries** are defined as those workers who signed their contracts either between the 1st Janurary 1995 and 30th September 1996 or between 1.10.1996 and 31.12.1998. The second restriction is necessary due to the exception rule (incumbents were not affected in the first years after the reform). The first restriction avoids that tenure is distributed very unequal between the pre- and post-reform treatment group as well as between treatment and control group. This helps to avoid a violation of the common time trend assumption.

- **Temporary contract workers (TEMP)**: We assume that it is most likely for TEMPs to switch into permanent contracts in the firm they are already employed in. Therefore, these workers are faced with a lower employment protection for a permanent contract in the second $(t + 1)$ and third $(t + 2)$ period. Hence, the **treatment group** is defined as temporary contract workers in firms with 6-10 FTE_{jt} and the **control group** is defined as workers on temporary contracts in firms with more than 10 FTE_{jt}.

1999 reform: On the 1st January 1999 the threshold decreased. Hence, workers in small firms (6-10 FTE_{jt}) faced an increase in protection for permanent workers and are defined to be treated. Employees in larger firms (above 10 FTE_{jt}) faced no changes and are in the control group. Hence, the precise definitions are as follows (Table 1):

- **Permanent workers**: In the **treatment group** are employees who work in firms with 6-10 FTE_{jt}s. In the **control group** are workers who are employed in firms with above 10 FTE_{jt}s. Entries (contracts after the 30.09.1996) are affected in their second period expected income. While incumbents (before 1.10.1996) are only affected in their third period, due to the exception rule. The sample is restriced to entries. First, they are affected more directly. Second, this ease a comparability to the 1996 reform.

- **temporary contract workers** (TEMP): The **treatment group** is defined as temporary contract workers in firms with 6-10 FTE_{jt} and the **control group** is defined as workers on temporary contracts in firms with more than 10 FTE_{jt}.

4.3 Data: GSOEP and definitions

Ideally, the used data set includes information on individual characteristics such as subjective well-being, information on job characteristics and information on the firm. Specifically,

data on subjective well-being of workers in a firm in combination with data on working hours in the firm are required in order to identify control and treatment group. Linked-Employee-Employer Data would provide information on the firms in which the worker is employed but in Germany there are no data on subjective well-being in this data. The German Socio-Economic Panel (G-SOEP) which is the largest and longest household panel for Germany provides the most suited information.

Sample selection: The sample includes all relevant waves from 1995-2000, is unbalanced and restricted to private households (rather than institutional households). Then the employment status is defined:

- inactive: Non-Working (NW), NW-Age 65 And Older, NW-In Education-Training, NW-Maternity Leave, NW-Military-Community Service, NW-But Sometimes Sec. Job, NW-but work past 7 days, NW-But Reg. Sec. Job
- unemployed: NW-Unemployed
- employed: Working, Working But NW Past 7 Days

Persons which were either inactive, unemployed or employed were kept in the subsample. All employed people in this subsample are distinguished into permanent workers, temporary workers or self-employed. Temporary worker can either be a temporary agency worker or a temporary contract worker. Then the sample is restricted to individuals in an employable age which is 15 until 65 years old.

SWB measures: The dependent variable of interest is overall life satisfaction but in order to disentangle mechanisms, other subjective well-being measures are considered, too. The employed SWB variables are the following:

- Overall life satisfaction: "How satisfied are you with your life, all things considered?" Completely dissatisfied (0) - completely satisfied (10)
- Worried about job security: "What is your attitude towards the following areas - are you concerned about them?...Your job security" Very concerned (1) - not concerned at all (3)
- Job satisfaction: "How satisfied are you with your job?" Totall unhappy (0) - totally happy (10)

Subgroups: In the first stage it is distinguished between temporary and permanent workers. In the second stage it is distinguished between different levels of education. High

education is defined as more than 11 years of education. This means that workers in this subgroup have a high school degree at least. Low/middle educated are those with less or equal 11 years of education. Furthermore, workers in vocational training are distinguished for temporary low-educated workers.

FTE: As the definition of treated and non-treated is based on the number of FTE_{jt}s in the firm, it is crucial for the identification strategy how it is calculated. This calculaction changed with the reforms in 1996 and 1999 which was presented above. Overall, ideally, FTE_{jt}s of firm j are calculated by weighting regular workers in a firm by their working hours. Unfortunately, we do not have this information in the data set. We chose a variable which asks the individual "Approximately how many people does the company employ as a whole?". This variable contains subjective assessments in categories only which are the following:

- 1995-1998: up to 5, 6-20, 21-200, 201-2000, above 2000, self-employed without coworkers
- 1999-2004: up to 5, 6-20, 21-100, 101-200, 201-2000, above 2000, self-employed without coworkers

There are two disadvantages of this. First, we do not know how many weekly hours employees in the firm work. Hence, 6-20 employees means probably less than 6 and less than 20 FTEs when part-time workers are weighted with one in the SOEP categories. Second, assuming that these are FTEs, we would need information on the categories 6-10 and not 6-20. Hence, the explanatory variable suffers from measurement error (Wooldridge 2010: 78-82) which either results in an absolute downward bias (closer to zero) or in an increase of the error variance.

Definitions of TG, R and four subsamples: Table 4 shows the ideal situation, Table 7 shows what the data allow us to do. There are four samples for the two reforms. The reform dummy switchs to one when the interviews were conducted after the reforms took place. Two samples are constructed for each reform - PERMs and TEMPs. For the 1996 reform, the period starts on the 1.1.1995 before there was only very restricted information on TEMPs in the GSOEP. This periods ends in 1998 due to the next reform in 1999 for which the public discussion started in May according to newspapers. For the 1999 reform, the period starts on the 1.1.1997. It is not possible to start earlier due to the reform in 1996. Starting earlier would incorporate the reform in 1996, too. The period is chosen to end on 31.12.2000. This is chosen for comparability issues. However, the robustness of the results are checked for different time periods. The first difference compared to Table

4 is the definition of the treatment and control group due to less finegraded firm-size categories in the data (see above). The exception rule is taken into for permanent workers by concentrating on entries (see above).

Table 6: Definitions of TG, R and subsamples

Reform	**R=1**	**Contract**	**Period**	**TG**	**CG**
1.10.1996	$\geq$ 1.10.1996	TEMP	1.1.1995-12.1998	6-20 FTE	21-200 FTE
	$\geq$ 1.10.1996	PERM (entries)	1.1.1995-12.1998	6-20 FTE	21-200 FTE
1.1.1999	$\geq$ 1.1.1999	TEMP	1.1.1997-12.2000	6-20 FTE	21-200 FTE
	$\geq$ 1.1.1999	PERM (entries)	1.1.1997-12.2000	6-20 FTE	21-200 FTE

4.4 Descriptive statistics

Table 8 presents some descriptives on permanent and temporary workers in employable age and averaged over the periods mentioned in the note of Table 3.[4] Generally, permanent workers are considered to be better off. This is also true for our subsamples. Permanent workers earn more income and are usually more satisfied with life in general. At the same time they are older compared to temporary contract workers who include a major part of workers in vocational training.

Table 7: Descriptives, mean of subsamples

	TEMPs		PERMs	
	Pre-reform	Post-reform	Pre-reform	Post-reform
	Reform 1996, means of subsamples			
life satisfaction	6.9	6.8	6.9	6.8
mthl. income (€)	669	657	1037	1029
age	30	29	34	35
N	656	725	682	743
	Reform 1999, means of subsamples			
life satisfaction	6.8	7.0	6.8	7.0
mthl. income (€)	653	682	1045	1106
age	29	29	35	35
N	726	861	653	792

Note: 1996 reform: Pre-reform 1995-09.1996, Post-reform 10.1996-12.1998; 1999 reform: Pre-reform 1997-1998, Post-reform 1999-12.2000.

[4] Detailed descriptive statistics (standard deviations, minimum and maximum) can be found in the appendix.

5 Does a decrease in EPP decreases life satisfaction?

The decrease of EPP in 1996 and the increase in 1999 allow to look on the effect of EPP reforms on life satisfaction of temporary and newly hired permanent workers with a difference-in-difference approach. This chapter presents the effect of the policy reforms on overall life satisfaction for temporary and permanent workers. Table 8 gives an overview over the results while the Tables 9-12 show the results in detail.

Table 8: Does employment protection for permanent workers affect overall life satisfaction?

Dependent: overall life satisfaction									
	TEMPs					PERMs			
	1996	1996 stayers	1996 stayers placebo	1999	1999 stayers	1996	1996 stayers	1999	1999 stayers
Base model ß$_3$	-0.720	-0.652		-0.298	-0.294	-0.438	-0.891	0.0754	-0.0160
	(-1.48)	(-1.19)		(-0.71)	(-0.66)	(0.70)	(-0.95)	(0.12)	(-0.02)
N	1381	1255		1587	1448	1425	1182	1445	1239
Low-educated ß$_3$	**-1.177***	**-1.380***	0.107	-0.560	-0.917	1.249	-0.893	0.720	-1.337
	(-1.78)	**(-1.87)**	(0.15)	(-0.91)	(-1.30)	(0.79)	(-0.42)	(0.72)	(-0.50)
N	**833**	**762**	880	942	854	637	538	648	561
Low-educ. apprentices ß$_3$	**-1.641****	**-1.437***	-0.0445	-0.717	-0.950				
	(-2.10)	**(-1.69)**	(-0.05)	(-1.05)	(-1.30)				
N	**500**	**452**	466	613	551				
High-educated ß$_3$	1.154	2.314*	-0.845	0.70	0.564	-0.753	-1.406	0.466	-0.0802
	(1.08)	(2.04)	(-1.41)	(0.71)	(0.53)	(-0.95)	(-1.08)	(0.38)	(-0.03)
N	553	497	788	649	612	792	650	798	691
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occ. & Ind. D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Fixed Effects (FE) estimations, t statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01;**stayers** are workers which remain in the TG or CG; **placebo,** i.e. TG = 1 if 20-199 and TG = 0 if 200-1999; Controls: Reform, TG, year, income per month, working hours, working hours², healthd, tenured, education, female, part time, married, child dummies, age, age², dummies for unemployed, inactive or employed in previous employment spell.

5.1 Temporary Workers

5.1.1 Decreasing EPP and overall life satisfaction

The effect on overall life satisfaction The reduction in EPP in 1996 did not affect overall life satisfaction of temporary workers on average (Table 9.1- last column). The sign is negative but not significant. However, although there is no effect on the overall sample of temporary workers, subgroups might had been affected differently.
Low- and middle educated workers faced a substantial decrease in overall life satisfaction (Table 9.2 - last column). Life satisfaction of temporary low-educated workers decreased by 1.2 on a scale from 0 to 10. Since this group consists substantially of secondary school leavers who are in an apprenticeship. Usually after the training most young workers have the opportunity to stay at their company and get a permanent contract. Hence, these workers probably have a high transition probability. Therefore, the effect might be driven by workers in vocational training. Table 9.4 (last column) shows that the effect is even stronger for low-educated workers in training - they paid 1.6 in terms of life satisfaction. High-educated do not show a robust effect.

Identifying assumptions and robustness **Workers sorting**: The policy effect is biased, if workers endogenously choose their EPL regime (i.e. treatment and control group) and if this selection process is driven by SWB relevant variables. I tackle this by including observable controls and estimating fixed-effects. However, the current sample allows that the composition of workers in the treatment and control group to change over time. In order to check, whether compositional changes play a role, I construct a new sample. This new sample is restricted to workers who stayed in the control or treatment group before and after the reform. These sample is called the sample of stayers, restricted sample or only stayers. Table 9.5 and 9.7 (last column) shows that the policy effects for the low- and middle educated workers and low- and middle educated in vocational training between the restricted and the original sample do not differ strongly. Only for the high-educated the differences between stayers and the overall sample are somehow stronger.
Common time trend assumption: Unfortunately, there does not exist a formal test but there are informal tests which help to check whether one should be more or less worried about the common time trend assumption. First, for the placebo-period test, I built a placebo-reform dummy for the 1.1.1997. As no reform took place on this date, there should be no policy effect. Table 9.8, 9.10 shows no significant negative policy effects for

the stayers. Second, the placebo-group test (comparing workers in small versus big firms which are both non-treated) also does not show significant negative effects (Table 9.9, 9.11).

Third, I control for linear trend differences between treatment and control group as proposed by Angrist and Pischke (2009). The estimates with group-specific linear time trends are reported in each Table in columns 4-6. Columns 1-3 do not include this time trend. The group specific time trends change the coefficients slightly but for low-educated in training and not in training the coefficient remains negative and sometimes also significant. Overall, these indirect tests encourage to assume a linear time trend.

Time periods: Even with regard to different time periods, the negative effect on satisfaction of low– and middle educated trainees is robust. Each Table presents the results for the periods ending in January 1998, May 1998 and September 1998 - either without group specific time trend (column 1-3) or with (column 4-6).

5.1.2 Increasing EPP and overall life satisfaction

The reform in 1999 increased EPP in small firms again. I do not find that an increase in the protection of permanent workers has any significant effect on overall life satisfaction of temporary contract workers (Table 10.1). This could be due to the fact that the subgroup effects cancel each other out. But the subgroups do not show any effects, too (Table 10.2-10.4).

5.2 Permanent workers

How does a reform affect newly hired permanent worker's life satisfaction? Again we employ the two reforms in 1996 and 1999 with a DID analysis. We run a regression model with individual fixed effects OLS estimators and control the above mentioned covariates, too.

5.2.1 Decreasing EPP and overall life satisfaction

The effect on overall life satisfaction As in the subsection on temporary workers, this subsection presents overall policy effects when it is not controlled for any channels. Table 11.1 shows that the decrease in EPP in 1996 did not affect newly hired permanent workers overall life satisfaction.However, although there is no effect on the overall sample, subgroups might had been affected differently. Hence, I look on the subsamples of low- and middle educated permanent workers and high educated permanent workers. However, there is no significant policy effect again.

Identifying assumptions and robustness **Workers sorting**: Workers sorting due to the reform might be a problem, since I allow for the composition of the treatment and control group to change. The restricted sample estimations show that coefficients change slightly but that the policy effects remain not significant again (Table 11.4-11.6).

5.2.2 Increasing EPP and overall life satisfaction

The effect on overall life satisfaction Table 12.1 shows that the increase in EPP in 1999 did not affect newly hired permanent workers' overall life satisfaction again also subgroups were not affected significantly (Table 12.1-12.3). This does not change for the restricted sample on stayers (Table 12.4-12.6).

6 Potential channels

6.1 Temporary workers

Why are low-educated trainees on temporary contracts negatively affected by a decrease in EPP? The potential channels of EPP on subjective well-being are via job satisfaction, perceived job security and changes in the wages. Hence, I test for these channels by including these variables step-by-step into the base DiD regression model. An overview of the results is given in Table 9 while Tables in the Appendix show the results in detail.

Table 9: Why does employment protection for permanent workers affect overall life satisfaction for temporary workers?

Sequentielly included potential channels (overall life satisfaction of TEMPs)

	1996 TEMPs stayers				1999 TEMPs stayers			
	1996 stayers	1996 +job-satisfaction	1996 ++log-netwage	1996 +++job-security	1999 stayers	1999 +job-satisfaction	1999 ++log-netwage	1999 +++job-security
Base model ß$_3$	-0.652 (-1.19)				-0.294 (-0.66)			
N	1255				1448			
Low-educated ß$_3$	**-1.380* (-1.87)**	**-1.107 (-1.60)**	-1.123 (-1.61)	-1.229* (-1.75)	-0.917 (-1.30)	-0.956 (-1.36)	-1.001 (-1.43)	**-1.753** (-2.24)**
N	**762**	**740**	740	720	854	803	803	**771**
Low-educ. apprentices ß$_3$	**-1.437* (-1.69)**	**-0.980 (-1.22)**	-0.870 (-1.05)	-0.994 (-1.20)	-0.950 (-1.30)	-0.898 (-1.22)	-0.924 (-1.25)	**-1.475* (-1.71)**
N	**452**	**435**	435	424	551	517	517	**494**
High-educated ß$_3$	2.314* (2.04)	2.051** (2.14)	2.165** (2.24)	3.374*** (3.05)	0.564 (0.53)	0.814 (0.76)	0.813 (0.75)	1.120 (0.94)
N	497	484	484	463	612	*583*	583	558
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occ. & Ind. & Firm Size D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Fixed Effects (FE) estimations, t statistics in parentheses; **stayers** are workers which remain in the TG or CG; * p<0.10, ** p<0.05, *** p<0.01; Controls: Reform, TG, year, income per month, working hours, working hours^2, healthd, tenured, education, female, part time, married, child dummies, age, age^2, dummies for unemployed, inactive or employed in previous employment spell.

The interpretation is as follows: job satisfation, wages as well as job security should have a positive effect on overall life satisfaction. If the policy effect changes (increases) after including one of these potential channels, then EPP had an effect on (decreases) this variable. The interpretation should be done carefully since these variables are endogenouse to the reform and, therefore, bad controls (Angrist and Pischke 2009). Furthermore, job satisfaction in a life satisfaction equation is seldomly included but if it is included via a two step procedure. However, a first interpretation of this exercise is as follows: Table 9.12-9.20 (last column) show the policy effect after including the variables sequentially. First, job satisfaction is included. The negative effect for low-educated workers (and low-educated trainees) becomes smaller in absolut terms and non-significant. Thereby, a potential channel is via job satisfaction. Including wages and perceived job security changes the coefficient to a smaller degree.

Why do we not observe that an increase in EPP had an effect on temporary workers? An explanation for a zero effect is, that the channels cancel each other out. Table 10.10 and Table 10.16 (last column) show that low-educated workers and low-educated trainees seemed to have gained in terms perceived job security when protection for permanent workers increases.

6.2 Permanent workers

- to be completed -

7 Conclusion

- to be completed -

8 References

Angrist and Pischke (2009): Mostly harmless econometrics: an empiricist's companion. Princeton University Press.

Bauer, Bender and Bonin (2007): Dismissal protection and worker flows in small establishments. Economica 74: 804-821.

Boeri (2011): Institutional reforms and dualism in European labor markets, in O Ashenfelter and D Card (eds.), Handbook of Labor Economics, 4B:1173-1236, Amsterdam: Elsevier BV.

Boeri and Jimeno (2005): The effects of employment protection: Learning from variable enforcement. European Economic Review 49: 2057-2077.

Clark and Postel-Vinay (2009): Job Security and Job Protection. Oxford Economic Papers 61 (2009): 207-239.

Di Tella and MacCullock (2005): Partisan Social Happiness. Review of Economic Studies 72: 367-393.

Ferrer-i-Carbonell and Frijters (2004): How important is methodology for the estimates of the determinants of happiness? The Economic Journal 114(July): 641-659.

Frey, Bruno S. and Alois Stutzer (2010): Happiness and Public Choice. Public Choice 14: 557-573.

Kugler and Pica (2008): Effects of employment protection on worker and job flows: Evidence from the 1990 Italian reform. Labour Economics 15: 78-95.

Kuroki, Masanori (2012): The Deregulation of Temporary Employment and Workers' Perceptions of Job Insecurity. Industrial and Labor Relations Review 65(3), 560-577.

Lazaer (1990): Job security provisions and employment. Quarterly Journal of Economics 105(3): 699-726.

Leonardi and Pica (2012): Who pays for it? The heterogeneous wage effects of employment protection legislation. Forthcoming in The Economic Journal.

Lepage-Saucier and Wasmer 2012: Does employment protection raise stress? A cross-country and cross-province analysis. Conference paper Economic Policy (fifty-fifth Panel Meeting).

Lindbeck and Snower (2001): Insider versus Outsider. Journal of Economic Perspectives 15(1): 165-188.

Martins (2009): Dismissals for cause: the difference that just eight paragraphs can make. Journal of Labor Economics 27(2): 257-279.

Rueda (2005): Insider–Outsider Politics in Industrialized Democracies: The Challenge to

Social Democratic Parties. American Political Science Review 99(1): 61-74.

Saint-Paul (1996): Exploring the Political Economy of Labour Market Institutions. Economic Policy 11: 263-315.

Salvatori (2010): Labour Contract Regulations and Workers' Wellbeing: International Longitudinal Evidence. Labour Economics 17, 667-678.

9 Appendix: temporary Workers and decrease in EPP

Note: Fixed Effects estimations; period 1995-1(5/12)1998 Controls: Reform Dummy, TG, time, time*TG, dummies, regional dummies, industry dummies, health, educ, female, pattime, married, child dummies, age dummies, occupation, dummies for unemployed, inactive or employed in previous employment spell.

9.1 Subgroups

Table 9.1: happy of FTCs allallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-0.501	-0.490	-0.490	-0.701	-0.720	-0.720
	(-1.61)	(-1.58)	(-1.58)	(-1.44)	(-1.48)	(-1.48)
N	1351	1378	1381	1351	1378	1381
R^2	0.3728	0.3588	0.3588	0.3735	0.3597	0.3597

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.2: happy of FTCs loweducallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-0.747	-0.763*	-0.763*	-1.180*	-1.177*	-1.177*
	(-1.65)	(-1.68)	(-1.68)	(-1.79)	(-1.78)	(-1.78)
N	815	831	833	815	831	833
R^2	0.4868	0.4743	0.4743	0.4899	0.4770	0.4770

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.3: happy of FTCs higheducallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	0.493	0.487	0.487	1.072	1.154	1.154
	(0.61)	(0.65)	(0.65)	(0.95)	(1.08)	(1.08)
N	539	552	553	539	552	553
R^2	0.6290	0.6254	0.6254	0.6332	0.6311	0.6311

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.4: happy of FTCs loweducvocallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-1.027*	-1.024*	-1.024*	-1.644**	-1.641**	-1.641**
	(-1.82)	(-1.83)	(-1.83)	(-2.09)	(-2.10)	(-2.10)
N	489	498	500	489	498	500
R^2	0.4042	0.4055	0.4055	0.4113	0.4126	0.4126

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

9.2 Restricted sample stayers

Note: Stayers are workers which remain the TG or CG over their period in the sample.

Table 9.5: happy of FTCs loweduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-0.811	-0.793	-0.793	-1.371*	-1.380*	-1.380*
	(-1.55)	(-1.52)	(-1.52)	(-1.85)	(-1.87)	(-1.87)
N	746	760	762	746	760	762
R^2	0.5571	0.5514	0.5514	0.5618	0.5566	0.5566

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.6: happy of FTCs higheduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	1.934*	1.973**	1.973**	2.407*	2.314*	2.314*
	(2.04)	(2.22)	(2.22)	(2.00)	(2.04)	(2.04)
N	484	496	497	484	496	497
R^2	0.8091	0.8090	0.8090	0.8122	0.8106	0.8106

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.7: happy of FTCs loweducvoconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-0.842	-0.850	-0.850	-1.429*	-1.437*	-1.437*
	(-1.30)	(-1.33)	(-1.33)	(-1.67)	(-1.69)	(-1.69)
N	442	450	452	442	450	452
R^2	0.4872	0.4883	0.4883	0.4939	0.4951	0.4951

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

9.3 Placebo tests

Note: First, there is a placebo reform with R defined to be one after the 1.1.1998. Second, there is a placebo treatment group, i.e. TG3 and CG4 means that TG = 1 if 20-199 and TG = 0 if 200-1999.

Table 9.8: happy of FTCs loweducallall: placebo reform 1998 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51999	81999	121999	51999 trend	81999 trend	121999 trend
TGxReform	0.189	0.0330	0.0330	-0.262	-0.231	-0.231
	(0.46)	(0.08)	(0.08)	(-0.47)	(-0.41)	(-0.41)
N	929	941	942	929	941	942
R^2	0.3264	0.3150	0.3150	0.3321	0.3169	0.3169

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.9: happy of FTCs loweducallall: reform 1996 (TG=3, CG=4)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	0.420	0.302	0.265	0.0342	-0.0424	-0.0703
	(0.99)	(0.73)	(0.64)	(0.05)	(-0.07)	(-0.11)
N	962	979	987	962	979	987
R^2	0.4099	0.4046	0.4076	0.4121	0.4063	0.4092

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.10: happy of FTCs loweducvocallall: placebo reform 1998 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51999	81999	121999	51999 trend	81999 trend	121999 trend
TGxReform	0.226	0.211	0.211	-0.0348	-0.0166	-0.0166
	(0.51)	(0.48)	(0.48)	(-0.06)	(-0.03)	(-0.03)
N	606	612	613	606	612	613
R^2	0.3473	0.3493	0.3493	0.3492	0.3508	0.3508

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.11: happy of FTCs loweducvocallall: reform 1996 (TG=3, CG=4)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	0.441	0.347	0.295	-0.104	-0.187	-0.245
	(0.72)	(0.58)	(0.50)	(-0.11)	(-0.21)	(-0.28)
N	489	500	502	489	500	502
R^2	0.3744	0.3726	0.3810	0.3785	0.3765	0.3850

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

9.4 Potential channels

Note: In the DiD regression equation, the potential channels (job satisfaction, lognethourlywage, dummies of worries on job security). The sequence is as follows: 1. job satisfaction; 2. lognethourlywages, 3. dummies of worries on job security (reference: not secure).

Table 9.12: happy of FTCs loweduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-1.223**	-1.211**	-1.211**	-1.039	-1.107	-1.107
	(-2.47)	(-2.44)	(-2.44)	(-1.50)	(-1.60)	(-1.60)
N	725	738	740	725	738	740
R^2	0.6477	0.6386	0.6386	0.6482	0.6388	0.6388

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.13: happy of FTCs loweduconlyall: reform 1996 (TG=2, CG=3)

	(1) 51998	(2) 81998	(3) 121998	(4) 51998 trend	(5) 81998 trend	(6) 121998 trend
TGxReform	-1.232**	-1.229**	-1.229**	-1.048	-1.123	-1.123
	(-2.46)	(-2.45)	(-2.45)	(-1.50)	(-1.61)	(-1.61)
N	725	738	740	725	738	740
R^2	0.6477	0.6389	0.6389	0.6483	0.6391	0.6391

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.14: happy of FTCs loweduconlyall: reform 1996 (TG=2, CG=3)

	(1) 51998	(2) 81998	(3) 121998	(4) 51998 trend	(5) 81998 trend	(6) 121998 trend
TGxReform	-1.281**	-1.304**	-1.304**	-1.108	-1.224*	-1.224*
	(-2.54)	(-2.59)	(-2.59)	(-1.58)	(-1.75)	(-1.75)
N	705	718	720	705	718	720
R^2	0.6649	0.6586	0.6586	0.6654	0.6587	0.6587

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.15: happy of FTCs higheduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	1.380	1.351*	1.351*	2.256**	2.051**	2.051**
	(1.65)	(1.71)	(1.71)	(2.25)	(2.14)	(2.14)
N	473	483	484	473	483	484
R^2	0.8630	0.8620	0.8620	0.8744	0.8697	0.8697

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.16: happy of FTCs higheduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	1.451*	1.439*	1.439*	2.455**	2.165**	2.165**
	(1.73)	(1.80)	(1.80)	(2.45)	(2.24)	(2.24)
N	473	483	484	473	483	484
R^2	0.8682	0.8666	0.8666	0.8823	0.8748	0.8748

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.17: happy of FTCs higheduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	1.728*	1.682*	1.682*	3.461***	3.374***	3.374***
	(1.76)	(1.75)	(1.75)	(3.01)	(3.05)	(3.05)
N	453	462	463	453	462	463
R^2	0.8800	0.8786	0.8786	0.9074	0.9067	0.9067

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.18: happy of FTCs loweducvoconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-1.069*	-1.121*	-1.121*	-0.918	-0.980	-0.980
	(-1.74)	(-1.85)	(-1.85)	(-1.13)	(-1.22)	(-1.22)
N	426	433	435	426	433	435
R^2	0.5990	0.5977	0.5977	0.5994	0.5981	0.5981

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.19: happy of FTCs loweducvoconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-0.966	-1.031	-1.031	-0.790	-0.870	-0.870
	(-1.52)	(-1.65)	(-1.65)	(-0.95)	(-1.05)	(-1.05)
N	426	433	435	426	433	435
R^2	0.6015	0.5998	0.5998	0.6021	0.6003	0.6003

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9.20: happy of FTCs loweducvoconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TGxReform	-1.053	-1.129*	-1.129*	-0.901	-0.994	-0.994
	(-1.65)	(-1.79)	(-1.79)	(-1.07)	(-1.20)	(-1.20)
N	415	422	424	415	422	424
R^2	0.6226	0.6204	0.6204	0.6230	0.6207	0.6207

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

10 Appendix: temporary Workers and increase in EPP

Note:OLS fixed effects estimations; period 1995-1(5/12)1998, t statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01; controls: reform, TG, year, income per month, working hours, working hours^2, healthd, tenured, education, female, part time, married, child dummies, age, age^2, dummies for unemployed, inactive or employed in previous employment spell.

10.1 Subgroups

Table 10.1: happy of FTCs allallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0602	-0.00435	-0.00435	-0.313	-0.298	-0.298
	(0.24)	(-0.02)	(-0.02)	(-0.74)	(-0.71)	(-0.71)
N	1569	1586	1587	1569	1586	1587
R^2	0.2074	0.2107	0.2107	0.2105	0.2125	0.2125

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.2: happy of FTCs loweducallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.160	-0.0413	-0.0413	-0.514	-0.560	-0.560
	(0.42)	(-0.11)	(-0.11)	(-0.84)	(-0.91)	(-0.91)
N	929	941	942	929	941	942
R^2	0.3263	0.3151	0.3151	0.3341	0.3195	0.3195

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.3: happy of FTCs higheducallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0131	0.00679	0.00679	0.711	0.703	0.703
	(0.02)	(0.01)	(0.01)	(0.71)	(0.71)	(0.71)
N	644	649	649	644	649	649
R^2	0.5412	0.5410	0.5410	0.5489	0.5488	0.5488

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.4: happy of FTCs loweducvocallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0126	-0.0189	-0.0189	-0.693	-0.717	-0.717
	(0.03)	(-0.05)	(-0.05)	(-1.01)	(-1.05)	(-1.05)
N	606	612	613	606	612	613
R^2	0.3460	0.3482	0.3482	0.3542	0.3561	0.3561

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

10.2 Restricted sample stayers

Note: Stayers are workers which remain the TG or CG over their period in the sample.

Table 10.5: happy of FTCs loweduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.320	-0.514	-0.514	-0.940	-0.917	-0.917
	(-0.70)	(-1.15)	(-1.15)	(-1.34)	(-1.30)	(-1.30)
N	842	853	854	842	853	854
R^2	0.3757	0.3700	0.3700	0.3822	0.3726	0.3726

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.6: happy of FTCs higheduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.111	0.120	0.120	0.557	0.564	0.564
	(0.14)	(0.15)	(0.15)	(0.52)	(0.53)	(0.53)
N	607	612	612	607	612	612
R^2	0.5848	0.5845	0.5845	0.5887	0.5884	0.5884

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.7: happy of FTCs loweducvoconlyall: reform 1999 (TG=2, CG=3)

	(1) 52000	(2) 82000	(3) 122000	(4) 52000 trend	(5) 82000 trend	(6) 122000 trend
TGxReform	-0.299	-0.391	-0.391	-0.877	-0.950	-0.950
	(-0.58)	(-0.79)	(-0.79)	(-1.18)	(-1.30)	(-1.30)
N	545	550	551	545	550	551
R^2	0.3856	0.3846	0.3846	0.3924	0.3907	0.3907

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

10.3 Potential channels

Note: In the DiD regression equation, the potential channels (job satisfaction, lognethourlywage, dummies of worries on job security). The sequence is as follows: 1. job satisfaction; 2. lognethourlywages, 3. dummies of worries on job security (reference: not secure).

Table 10.8: happy of FTCs loweduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.509	-0.698	-0.698	-0.969	-0.956	-0.956
	(-1.12)	(-1.57)	(-1.57)	(-1.38)	(-1.36)	(-1.36)
N	794	803	804	794	803	804
R^2	0.4629	0.4645	0.4645	0.4663	0.4656	0.4656

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.9: happy of FTCs loweduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.496	-0.668	-0.668	-1.020	-1.001	-1.001
	(-1.09)	(-1.50)	(-1.50)	(-1.46)	(-1.43)	(-1.43)
N	794	803	804	794	803	804
R^2	0.4693	0.4727	0.4727	0.4737	0.4743	0.4743

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.10: happy of FTCs loweduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-1.020*	-1.180**	-1.180**	-1.800**	-1.753**	-1.753**
	(-1.94)	(-2.28)	(-2.28)	(-2.31)	(-2.24)	(-2.24)
N	761	770	771	761	770	771
R^2	0.4962	0.4979	0.4979	0.5048	0.5024	0.5024

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.11: happy of FTCs higheduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.0395	0.0120	0.0120	0.771	0.814	0.814
	(-0.05)	(0.01)	(0.01)	(0.71)	(0.76)	(0.76)
N	580	583	583	580	583	583
R^2	0.6387	0.6369	0.6369	0.6521	0.6499	0.6499

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.12: happy of FTCs higheduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.0396	0.0112	0.0112	0.770	0.813	0.813
	(-0.05)	(0.01)	(0.01)	(0.70)	(0.75)	(0.75)
N	580	583	583	580	583	583
R^2	0.6388	0.6370	0.6370	0.6522	0.6499	0.6499

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.13: happy of FTCs higheduconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0202	0.0662	0.0662	1.087	1.120	1.120
	(0.02)	(0.07)	(0.07)	(0.90)	(0.94)	(0.94)
N	555	558	558	555	558	558
R^2	0.6552	0.6543	0.6543	0.6739	0.6720	0.6720

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.14: happy of FTCs loweducvoconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.323	-0.394	-0.394	-0.843	-0.898	-0.898
	(-0.63)	(-0.79)	(-0.79)	(-1.14)	(-1.22)	(-1.22)
N	512	516	517	512	516	517
R^2	0.4616	0.4614	0.4614	0.4669	0.4662	0.4662

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.15: happy of FTCs loweducvoconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.322	-0.396	-0.396	-0.869	-0.924	-0.924
	(-0.62)	(-0.79)	(-0.79)	(-1.16)	(-1.25)	(-1.25)
N	512	516	517	512	516	517
R^2	0.4625	0.4622	0.4622	0.4683	0.4673	0.4673

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10.16: happy of FTCs loweducvoconlyall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	-0.667	-0.667	-0.667	-1.475*	-1.475*	-1.475*
	(-1.10)	(-1.10)	(-1.10)	(-1.71)	(-1.71)	(-1.71)
N	489	493	494	489	493	494
R^2	0.4658	0.4674	0.4674	0.4764	0.4780	0.4780

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

11 Appendix: Permanent Workers and decrease in EPP

Note:OLS fixed effects estimations; period 1995-1(5/12)1998, t statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01; controls: reform, TG, year, income per month, working hours, working hours^2, healthd, tenured, education, female, part time, married, child dummies, age, age^2, dummies for unemployed, inactive or employed in previous employment spell.

11.1 Subgroups

Table 11.1: happy of PERMs allallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	-0.0801	-0.182	-0.123	-0.446	-0.476	-0.438
	(-0.22)	(-0.52)	(-0.36)	(-0.69)	(-0.76)	(-0.70)
N	1363	1407	1425	1363	1407	1425
R^2	0.4862	0.4795	0.4867	0.4876	0.4804	0.4877

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11.2: happy of PERMs loweducallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	0.336	0.109	0.109	1.062	1.249	1.249
	(0.38)	(0.12)	(0.12)	(0.67)	(0.79)	(0.79)
N	610	629	637	610	629	637
R^2	0.6734	0.6430	0.6430	0.6760	0.6497	0.6497

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11.3: happy of PERMs higheducallall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	-0.273	-0.284	-0.147	-0.869	-0.916	-0.753
	(-0.57)	(-0.62)	(-0.33)	(-1.05)	(-1.14)	(-0.95)
N	757	782	792	757	782	792
R^2	0.6965	0.6898	0.7001	0.6996	0.6933	0.7031

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

11.2 Restricted sample stayers

Note: Stayers are workers which remain the TG or CG over their period in the sample.

Table 11.4: happy of PERMs allonlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	-0.341	-0.118	-0.0961	-0.966	-0.896	-0.891
	(-0.44)	(-0.16)	(-0.14)	(-0.98)	(-0.94)	(-0.95)
N	1128	1166	1182	1128	1166	1182
R^2	0.5942	0.5708	0.5910	0.5995	0.5788	0.5987

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11.5: happy of PERMs loweduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	-0.588	-0.588	-0.588	-0.893	-0.893	-0.893
	(-0.29)	(-0.29)	(-0.29)	(-0.42)	(-0.42)	(-0.42)
N	513	530	538	513	530	538
R^2	0.9705	0.9705	0.9705	0.9727	0.9727	0.9727

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11.6: happy of PERMs higheduconlyall: reform 1996 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	51998	81998	121998	51998 trend	81998 trend	121998 trend
TG3_ref	-0.612	-0.739	-0.595	-1.271	-1.444	-1.406
	(-0.51)	(-0.68)	(-0.57)	(-0.91)	(-1.10)	(-1.08)
N	621	642	650	621	642	650
R^2	0.7866	0.7754	0.7949	0.7927	0.7816	0.8018

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

12 Appendix: Permanent Workers and increase in EPP

Note:OLS fixed effects estimations; period 1995-1(5/12)1998, t statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01; controls: reform, TG, year, income per month, working hours, working hours^2, healthd, tenured, education, female, part time, married, child dummies, age, age^2, dummies for unemployed, inactive or employed in previous employment spell.

12.1 Subgroups

Table 12.1: happy of PERMs allallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0809	0.108	0.118	-0.0427	0.0711	0.0754
	(0.22)	(0.30)	(0.32)	(-0.07)	(0.11)	(0.12)
N	1404	1432	1445	1404	1432	1445
R^2	0.4606	0.4507	0.4528	0.4607	0.4507	0.4528

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12.2: happy of PERMs loweducallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	0.0901	0.255	0.255	0.575	0.720	0.720
	(0.15)	(0.41)	(0.41)	(0.58)	(0.72)	(0.72)
N	630	644	648	630	644	648
R^2	0.7780	0.7369	0.7376	0.7800	0.7388	0.7396

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12.3: happy of PERMs higheducallall: reform 1999 (TG=2, CG=3)

	(1)	(2)	(3)	(4)	(5)	(6)
	52000	82000	122000	52000 trend	82000 trend	122000 trend
TGxReform	1.391*	1.497**	1.492**	0.230	0.402	0.466
	(1.86)	(2.06)	(2.07)	(0.18)	(0.32)	(0.38)
N	775	789	798	775	789	798
R^2	0.7291	0.7206	0.7232	0.7359	0.7272	0.7290

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

12.2 Restricted sample stayers

Note: Stayers are workers which remain the TG or CG over their period in the sample.

Table 12.4: happy of PERMs allonlyall: reform 1999 (TG=2, CG=3)

	(1) 52000	(2) 82000	(3) 122000	(4) 52000 trend	(5) 82000 trend	(6) 122000 trend
TGxReform	0.0279	0.186	0.189	-0.212	-0.0266	-0.0160
	(0.04)	(0.28)	(0.29)	(-0.24)	(-0.03)	(-0.02)
N	1204	1227	1239	1204	1227	1239
R^2	0.5370	0.5267	0.5315	0.5378	0.5273	0.5321

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12.5: happy of PERMs loweduconlyall: reform 1999 (TG=2, CG=3)

	(1) 52000	(2) 82000	(3) 122000	(4) 52000 trend	(5) 82000 trend	(6) 122000 trend
TGxReform	0.288	-1.121	-1.121	0.266	-1.337	-1.337
	(0.13)	(-0.44)	(-0.44)	(0.11)	(-0.50)	(-0.50)
N	545	557	561	545	557	561
R^2	0.8443	0.7500	0.7512	0.8443	0.7521	0.7534

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12.6: happy of PERMs higheduconlyall: reform 1999 (TG=2, CG=3)

	(1) 52000	(2) 82000	(3) 122000	(4) 52000 trend	(5) 82000 trend	(6) 122000 trend
TGxReform	0.887	0.887	0.887	-0.0802	-0.0802	-0.0802
	(0.48)	(0.48)	(0.48)	(-0.03)	(-0.03)	(-0.03)
N	672	683	691	672	683	691
R^2	0.9156	0.9156	0.9170	0.9177	0.9177	0.9190

t statistics in parentheses

TG=2, i.e. 5-20 employees; CG=5(4), i.e. above 20(20-199) employees

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$