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# **Job satisfaction and flexicurity over the business cycle: evidence from Swiss individual-level data**

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## ***1. Introduction***

Over the last couple of decades, because of the intensification of competitiveness due to market globalization together with the spread of new Information and Communication Technologies (ICT), policy makers have been trying to enhance the flexibility and improve the performance of European labour markets through the application of extensive labour market reforms. An aspect of these reforms has been the simplification of the restrictions regulating the use of temporary employment contracts (OECD, 2006) and the wide spreading of temporary work and so-called flexible contracts such as fixed-term contracts, seasonal jobs and temporary agency work. After a first period of increasing feeling of insecurity, during the '90 it decreased, although with important differences between European countries (Auer and Cazes, 2003). In spite of the economic and institutional differences, these countries have the same main problem: how to promote sustainable economic growth, which entails maintaining high competitiveness also through flexibility without harming workers employment and income security, which may cause poverty and social exclusion.

Moreover, the effects on employment of the recent economic crisis have become evident and persistent in many OECD countries, exacerbating on the one hand the demand for more flexibility by the firms – with subsequent frequent transitions between employment and unemployment –, on the other the need to ensure workers security.

During the last years, indeed, the number of non-permanent forms of employment, as fixed-term employment and temporary agency work, has enormously increased resulting in a substantial relative growth in “flexible” employment. In response to the crisis, at the EU level, “Flexicurity”, an institutional frame implementing a progressive flexibility of the labour market and at the same time guaranteeing its stability, has been defined as a popular model.

[Insert Figure 1 and 2 about here]

The objective of this paper is therefore to empirically assess the effect of a micro-level measure of flexicurity on workers' job satisfaction in Switzerland. Job satisfaction will be considered as a cognitive factor, as the extent of the individual's satisfaction with particular aspects of his job: our focus on estimating the joint effect of fixed-term employment and institutional context on job satisfaction is associated with the estimation of different socio-economic variables. We consider both the type of contract (permanent or temporary) and the perceived security, measured by asking individuals about the probability that they assign to losing their jobs.

## ***2. Background***

In principle, temporary employment can have both positive and negative welfare consequences for workers. A flexible scheduling arrangement and other aspects of the daily work experience related to temporary work, indeed, may be valued and preferred by some employees, whereas the insecurity and poorer working conditions associated with these contract types can have a negative impact on workers' welfare (Blanchard and Landier, 2002). Employment stability is instead desirable both for workers, who rank it as one of the most important factors for job satisfaction (European Commission, 2001), and for firms, which dislike high turnover and prefer stable employment relationships in order to retain human capital investment and reduce both workforce screening and selection costs. On the other hand, the recent intensification of competitive pressures has called for more flexibility in labour markets for both firms and workers.

Since the '70s, psychologists and sociologists have been extensively analyzing "job satisfaction" (which can be defined as a subjective measure of how people feel about their job), and starting from Hamermesh (1977) and Freeman (1978) this variable has been also recognized as an important economic variable in order to describe the economic life and the personal behavior in the labour market. According to recent economic literature, job satisfaction, which can be thought as a multidimensional construct involving subjective aspirations and objective opportunities, is important for at least two reasons: it increases the productivity of labour and therefore the productivity of firms and it can improve overall social well-being, being closely related to individual happiness and well-being (Bruno, Caroleo and Dessy, 2013).

A growing number of studies have investigated the determinants and consequences of differences in individuals' reported job satisfaction. Research in psychology and sociology has emphasized that job satisfaction depends not only on the remuneration for the job but also on other workplace characteristics like career prospects, job security, job content, autonomy at work, and interpersonal relationships. Most of the studies in this strand of research show that job security and job content are the most influential determinants when it comes to explaining job satisfaction (D'Addio et al., 2007, De Cuyper et al., 2009).

Seeing the economic dimension of job satisfaction, it should be considered as a utility function, and it should depend on salary or income and then decrease in working hours (Clark and Oswald, 1996), all other things being equal. In this case, the lower wage of temporary workers should imply that they are discounting the cost of filling the job experience or skills gap and the cost of the time needed to gather information in a search for the best match. Therefore, the lower satisfaction of temporary workers, found in most of the empirical research, should be the motivation driving them towards stable employment, which is ranked as one of the most important factors of satisfaction (European Commission, 2001). It could be even linked to occupations and jobs that will ensure the best correspondence between the ability of a worker and professional requirements (Eurofound, 2007).

Several studies have consequently looked at the effect of temporary contracts on job satisfaction examining the relation between job satisfaction of workers with fixed-term contracts; the evidence is instead mixed. Bardasi and Francesconi (2000), De Graaf-Zijl (2012) and De Witte and Naswall (2003) find a negative impact only for specific forms of temporary employment, especially for temporary work and seasonal jobs, or for aspects regarding job stability. To the contrary, they do not find a significant difference in overall job satisfaction between permanent and temporary workers.

While some studies do not show statistically significant differences in job satisfaction between workers in permanent jobs and those with fixed-term contracts (D'Addio et al., 2007, Bardasi and Francesconi, 2004), others find significantly lower job satisfaction among fixed-term workers (Booth et al., 2002, Clark and Oswald, 1996, Petrongolo, 2004). De Graaf-Zijl (2008) and Green and Heywood (2007) in addition look at the job satisfaction of temporary agency workers in the Netherlands and the UK, respectively. Both studies indicate that agency workers are significantly less satisfied with their jobs compared to workers with other types of contracts. Green and Heywood (2007) to some extent confirm the results of De Graaf-Zijl (2008) for the UK, finding that, after controlling for satisfaction with several different job characteristics, flexible workers are more satisfied, and arguing that, although

flexible contracts provide less satisfaction with job security, other aspects of the job compensate so that overall satisfaction appears similar. Interestingly, they find indeed that flexible workers are generally even more satisfied with their remuneration, working time, and work content than permanent workers. However, in contrast to the Dutch findings, they show that satisfaction with job security is the main determinant of overall job satisfaction. Using the Eurobarometer, Origo and Pagani (2009), by measuring flexibility through the type of contract and security through perceived job security, show that, in countries with generous unemployment insurance systems, fixed-term workers are not significantly less satisfied with their jobs.

Beckmann et al. (2007) provide evidence that fixed-term workers in Germany might be even more satisfied with their jobs.

Using the European Community Household Panel (ECHP) for the period 1995-2001, Salvatori (2010) analyzes how changes in restrictions on the use of temporary employment contracts affect job satisfaction identifying a negative effect on the well-being of all workers when regulations on temporary work contracts are tightened. As for fixed-term workers, his results indicate that job satisfaction increases when restrictions on the use of flexible employment forms are loosened. The reason might be that stricter regulations on temporary employment cause the labour market to deteriorate. Consequently, the job-finding rate for workers who are at risk of losing their jobs declines and their job satisfaction decreases. However, as soon as he includes country-specific time trends, the results lose any significance.

Finally, Theodossiou and Vasileiou (2007) study the relationship between job satisfaction and job security measured in terms of unemployment expectations. After controlling for the potential endogeneity of the job satisfaction-job security relationship, they find that higher job security is linked to higher job satisfaction. However, they do not consider the effect of the type of contract.

The main important issue, regarding this strand of the research is therefore to determine what factors influence the perception of security in the workplace and its impact on the welfare of workers. A first hypothesis concern how the macroeconomic environment interact with the implemented policies and the overall functioning of the labour market. Some recent studies have considered the impacts of employment protection legislation (EPL) and unemployment benefit (UB), used alternatively to reduce the risk of unemployment. However, results are diversified. Postel-Vinay and Saint Martin (2007) and European Commission (2007) find that UB work better than EPL in promoting job security, arguing that

stricter EPL for permanent workers encourages the growth of flexibility “at the margin” (Boeri and Garibaldi, 2007; Boeri et al., 2012). In countries with higher EPL workers may feel more insecure because they cannot count on the safety net provided by UB if they lose their jobs. In contrast, in countries with low EPL and high UB active labor market policies (flexicurity scheme), even temporary workers can feel confident and happy with their jobs.

In summary, the economic literature identifies two different relationships between job security and flexibility:

- the “trade-off” theory, which implies a negative relationship between flexibility and security. According to this hypothesis a high level of job security can only be achieved at the cost of poor flexibility and flexible employment patterns are in conflict with job security;
- the “flexicurity” approach, which instead assumes that flexibility and security are not contradictions, but they can be mutually supportive, with the implementation of the right labour market policy.

The flexicurity model has been initially implemented in Denmark and in The Netherlands combining active labour market policies, mainly focused on active job search and training, with low employment protection legislation (numerical flexibility) and a generous system of unemployment benefits (social security). Consequently, the main idea behind flexicurity is to achieve a shift from job security (same job for his-her entire working life) to the employment security, which is having the possibility of permanent employment.

More in general, there are still few micro econometric studies showing the joint effect of perceived job security and the type of contract on job satisfaction.

### ***3. The Swiss case***

In this regard, it is of particular interest to look at the experience of Switzerland, which is a federal republic consisting of 26 regions (cantons). It has currently about 8.036 million inhabitants, corresponding to a population density of about 191 people per km<sup>2</sup> despite the country’s mountainous character; about three quarters of the population live in urban areas. The native language of about 66% of the population is German, 23% French and 8% Italian. Based on the original 1874 Constitution, political institutions have been characterised by considerable stability and consensus-building, with a government coalition traditionally formed by the four biggest parties. The legislative process is largely decentralised, with a strong role given to the cantons and to elements of direct democracy. Switzerland has a long tradition of neutrality, and is one of the few remaining members of the European Free Trade

Association (EFTA), rather than the European Union, although the latter accounts for most of its foreign trade; only in 2002 did the country join the United Nations.

For this reason, there is large regional variation in Switzerland, concerning financial capacity, employment patterns, unemployment levels and welfare dependency. For example, per-capita income in the canton of Basel-City, the highest in Switzerland, is more than twice that of the canton of Obwalden. In general, the southwestern (French and Italian-speaking) cantons show less advantageous labour market outcomes than their German-speaking counterparts.

Over the past three decades, the Swiss labour force has grown from about 3 million to 4.8 million people. In most respects, the labour market has performed above average: compared to other OECD countries the Swiss labour market is characterised by high employment rates, low unemployment and high wage levels. The main factors underlying this good performance are normally considered to be a high degree of labour market flexibility, with decentralised wage bargaining and relatively low employment protection regulations, supported by a strong focus (at least since the mid-1990s) on active labour market policies and employment services characterised by strong “mutual-obligation” principles. Another feature of labour market performance has been the design of immigration policies, which in the past implied the use of immigrant labour as a labour supply reserve that left the country in times of economic hardship (see OECD, 2013; Gerfin, 2007).

However, Switzerland has not escaped the global economic downturn starting in 2008. GDP growth became negative in the second half of the year, and stayed negative in 2009; economic growth then resumed strongly in 2010. The impact of the recession on the labour market, at first relatively modest, nevertheless led to a 30% rise in unemployment, from 3.5% in 2008 to 4.4% in 2009, and only recently it has been starting going down (4.1% in 2013 - last quarter).

Although already at a high level, female employment has kept growing since the mid-1990s, and recent labour force growth is almost entirely due to women. At almost 61.2% in 2012, female employment was a full 6 points above the OECD average (although still behind levels in Nordic countries).

The high share of part time in total employment (26.0% in 2012, compared with an OECD average of 16.9%) plays some role in explaining the high Swiss female employment rate. In fact, adjusted for hours worked, female employment would only be at a mid-field position among OECD countries. The share of temporary among total employment was 13% in 2013, slightly above the OECD average (12%), with high regional heterogeneity.

As can be expected, the evolution of sectoral employment shares reflects the advanced tertiarisation of the economy. The transit from an industrial to a service economy implied an important change of the sector of employment of the working population in the industrial sector. Even if the employment rate in the service sector rose considerably (from 39% to 73,7% in 2011), compared to other European States, Switzerland has still a high employment ratio in different sectors and a high level of employment in manufacturing branches.

#### ***4. Data and descriptive analysis***

Our analysis is based on individual-level data from the longitudinal Swiss Household Panel (SHP)<sup>1</sup>, related to temporary and permanent employees in Switzerland for the period 2005 to 2011. The panel offers information on individuals living in all the Swiss cantons and the SHP questionnaires cover a wide range of subjects (as employment status and working conditions, occupational and family biographies and personality traits, education, training and social security).

A first reason using Swiss figures is the availability of high-quality panel data: 14 waves of the Swiss household panel (SHP, 2000–2013, as described by FORS, 2013). We restrict our sample to respondents who were in paid and dependent employment, from 2005 to 2011: this provides us with a total of around 4'200 person-years for Switzerland.

[Insert Table 1 about here]

Our dependent variable is people's self-reported subjective well-being and is based on the question "How satisfied are you at present with your job as a whole?", with answers ranging from 0 (totally dissatisfied) to 10 (totally satisfied). The variable's distribution is shown in Figure 4.

[Insert Figure 3 about here]

To evaluate the degree of security, we used the probabilistic question asking individuals about the probability that they assign to losing their jobs. The exact question is "How likely or unlikely is that you will lose your job for some reason over the next twelve

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<sup>1</sup> This study has been realized using the data collected by the Swiss Household Panel (SHP), which is based at the Swiss Centre of Expertise in the Social Sciences FORS. The project is financed by the Swiss National Science Foundation.



months?”, with answers ranging from 0 (no risk at all) to 10 (a real risk). In light of the set of possible answers, we considered as “insecure” workers those stating that they were very likely or quite likely to lose their jobs (answer greater than 5) in the twelve months following the survey.

As discussed before, Switzerland provides a particularly appropriate market to examine the potential effects of flexicurity type arrangements.

To this end, following the measure of flexibility and security at the micro-level proposed by Origo and Pagani (2009), the sample of workers is classified into four groups (types) according to their employment contract (permanent or temporary) and their perceived job security: “flexicure workers”, who are on temporary contracts stating that they are not very likely to lose their jobs in the following twelve months, “insecure temporary workers”, declaring they are very or quite likely to lose their jobs in the following year, “permanent-at-risk workers”, who are permanent workers stating that they are very or quite likely to lose their jobs and “permanent workers”, stating that they are not very likely to lose their jobs.

[Insert Figure 5 and 5 about here]

Figures 5 and 6 illustrate the distribution of the sample according to the scores for the degree of job satisfaction by type of worker showing a first perception into what matters for individual job satisfaction in terms of employment protection, as defined by the type of contract, or perceived safety regardless of the type of contract. In Figure 5 the workers are divided only according to their type of contract (permanent or temporary), while in Figure 6 workers are classified according to the categories mixing flexibility and security as discussed above. The first graph shows that it is not possible to indentify the impact of the type of contract alone on the perception of security in the workplace and its impact on the job security of workers. The second graph shows instead that, if we consider the four groups of workers defined by the combination of the type of contract and perceived job security, the distribution of satisfaction is similar, on the one hand, between flexicure secure temporary and permanent employment, on the other hand, between temporary workers and permanent at risk of insecurity.

[Insert Table 2 about here]

We therefore analyse whether workers who are heterogeneous in terms of both the type of labour contract and their perceived security do also differ with regard to life satisfaction and specific aspects of the job satisfaction.

## ***5. Econometric strategy***

Satisfaction variables, given the ordinal nature of the dependent variable, are usually analysed using Ordered Probit models.

In the realm of non-linear models with panel data, Wooldridge (2010) estimates the model parameters by a random effect ordered probit with the components modelled à la Mundlak, through a linear combination of regressors in group means. De Graaf Zijl (2012) uses instead a variant by Ferrer-i-Carbonell and Frijter (2004) of the fixed effect ordered logit minimum distance estimator by Das and Van Soest (1999). However, as discussed by Bruno, Caroleo and Dessy (2013), all such estimators are computationally expensive, the first involving evaluation of multiple integrals and the last two requiring multiple estimation steps. Moreover, Baetschmann et al. (2011) proved that the various ways through which the Ferrer-i-Carbonell and Frijter (2004) method has been implemented leads to inconsistent estimators.

Van Praag and Ferrer-i-Carbonell (2006) developed also a procedure, called Probit OLS or POLS, that consists in transforming an ordinal dependent variable in a “pseudo” continuous one, and allows the application of a linear model. In their work, Van Praag and Ferrer-i-Carbonell show that this linear method yields consistent outcomes with the traditional Ordered Probit. The POLS method replaces the original dependent variable by its conditional mean, which obeys the same trade-off relations as its underlying component, except for a proportionality factor (indeed, Van Praag and Ferrer-i-Carbonell (2006) show that ordered probit and POLS estimates are almost identical upto a proportionality coefficient). Consequently, as in our analysis, the POLS procedure is perfect for the examination of ordinal variables, as job satisfaction. The transformation of the ordinal dependent variable consists of deriving those Z-values of a standard normal distribution that correspond to the cumulated frequencies of the different categories of the ordinal dependent variable.

With longitudinal data, finally, the POLS method permits for the inclusion of individual level fixed or random effects, obtaining consistent estimates with fixed effects. As soon as it must be considered that (RE) POLS has stricter requirements on correlated individual effects than FE POLS (Van Praag and Ferrer-i-Carbonell, 2004), our methodology therefore estimates a linear fixed effects model, thus controlling for unobserved time-invariant

characteristics. We also extend our analysis and seek to identify how insecurity affects temporary workers compared to permanent workers examining the impact of regional labour market conditions in the seven Swiss statistical regions<sup>2</sup>.

The aim of the empirical analysis was therefore to study the determinants of perceived security, paying specific attention to the role of temporary contracts. In order to control for unobserved heterogeneity exploiting the longitudinal nature of the data, our preferred estimator is the FE POLS, whose estimates will be compared with those obtained with the common OLS linear model.

To this end, we estimated the following model that can be expressed in this general form as:

$$JS_{it} = \beta_1 F_{it} + \beta_2 PR_{it} + \beta_3 IT_{it} + \gamma X_{it} + \rho W_{it} + \mu_i + \varepsilon_{it} \quad (1)$$

In the baseline estimation, job satisfaction  $JS_{it}$  of worker  $i$  in year  $t$  is explained by the different contract types, where “Permanent and secure” employment acts as a reference category.  $F_{it}$ ,  $PR_{it}$  and  $IT_{it}$  are, in this way, dummy variables that assume the value one when the worker is “Flexicure”, “Permanent at Risk” and “Insecure temporary” and zero otherwise. The corresponding *Betas* measure the impact of different combinations of contract typologies and perceived security. The individual-specific fixed effect  $\mu_i$  is assumed to capture unobserved time-invariant factors as ability, optimism, motivation, or social background, as well as the baseline satisfaction level. The fixed-effects estimator permits the regressors to be correlated with the time-invariant components of the error  $\mu_i$ , but assumes that they are uncorrelated with the idiosyncratic error  $\varepsilon_{it}$ , for which the usual properties are assumed. The baseline estimation displays the differences in job satisfaction of a worker in different contractual arrangements.

However, since in the baseline specification we do not control for (time variant) differences in personal, firm or job characteristics, the difference in job satisfaction may still be influenced also by these factors. As a consequence, we implement three different specifications starting with the most parsimonious one (Model 1), then we add a set of controls for observed personal and firm characteristics (gender, age, language, education, job

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<sup>2</sup> For statistical purposes, Switzerland is subdivided into seven regions at the NUTS-2 level: Eastern Switzerland: Cantons of St. Gallen, Thurgau, Appenzell Innerrhoden, Appenzell Ausserrhoden, Glarus, Schaffhausen, Graubünden; Zürich: Canton of Zürich; Central Switzerland: Cantons of Uri, Schwyz, Obwalden, Nidwalden, Lucerne, Zug; Northwestern Switzerland: Cantons of Basel-Stadt, Basel-Landschaft, Aargau; Espace Mittelland: Cantons of Bern, Solothurn, Fribourg, Neuchatel, Jura; Région lémanique: Cantons of Geneva, Vaud, Valais; Ticino: Canton of Ticino.

sector, working intensity), described by the vector  $X_{it}$ , (Model 2). In the last specification (Model 3), we include variables that might be proxies for different job-related characteristics, exploiting the richness of the data set and including also a large set of variables on workers' psychological attitudes toward work and life (vector  $W_{it}$ ).

We estimated the three models for the whole sample. The last (Model 3) was our preferred specification, and we used it to obtain the relevant estimates by gender, age and education.

## **6. Results**

Results show that job stability and perceived security are not necessarily associated, and that job satisfaction is relatively low, mainly when perceived job security is low. The relationship between wellbeing and job security also varies according to employment and personal conditions.

In order to highlight the role of unobserved heterogeneity, Table 6 compare OLS and Fixed effects POLS estimates of the most parsimonious model (Model 1) for both on Job and Overall Satisfaction.

[Insert Table 3 about here]

Our results show that the job satisfaction of flexicure workers is greater than those of permanent workers (not statistically significant for overall satisfaction), and by contrast, compared to the latter, the job satisfaction of insecure temporary workers and those on permanent contracts at risk of unemployment is much lower.

Table 7 reports the relevant results from the estimation of Model 1, Model 2 and Model 3 by FE POLS. Estimates with the richest specification show that no statistically significant differences in job satisfaction emerge between permanent and flexicure workers (Model 3) and, by contrast, compared to the first, the job satisfaction of insecure temporary workers and those on permanent contracts at risk of unemployment is much lower. These results are rather robust to model specification, the only exception being that in Model 1 and Model 2 the difference in job satisfaction for flexicure workers is positive and statistically significant.

[Insert Table 4 about here]

Comparing our results with previous studies on the subject our job stability estimate is consistent with the evidence for Germany (Jahn, 2013) and (Beckmann, Binz, and Schauenberg, 2007), Italy (Bruno, Caroleo and Dessy, 2013) and Australia (Wooden et al., 2004; Green and Leeves, 2013). This is also in line with the findings of Origo and Pagani (2009) for the general European context, where job stability has been found strongly linked to workers' well-being.

To the contrary, De Graaf-Zijl (2008) finds that satisfaction with job content is one of the main job domains influencing job satisfaction in the Netherlands and that this is independent of the worker's contract type. One possible explanation for the differences in the results might indeed be explained by the effective flexicurity policies implemented in the Netherlands and by the fact that we observe workers' psychological attitudes toward work and other important dimensions of job satisfaction that instead are not observed in the Dutch data.

### ***6.1 Estimates by groups***

In order to explore the existence of heterogeneous effects of the combination of flexibility and security on job satisfaction, Table 8 reports complete POLS estimates of Model 3 by gender, age and education.

[Insert Table 5 about here]

Our main results discussed above hold for males, while in the case of females we do not find statistically significant differences in job satisfaction for both groups of temporary workers, while permanent at risk workers are still statistically significant dissatisfied with their job compared with "permanent and secure" workers.

Dissatisfaction with working stress has been proven to be an important aspect of job satisfaction (Green et al. 2010); this also holds for Swiss workers and particularly for female workers that appear unhappier with reported stress than men.

Considering age heterogeneity, it can be noted that, if job satisfaction of the permanent contracts at risk of unemployment is significant for all the three age levels, young workers mainly drive the difference in job satisfaction for insecure temporary workers. Job stability is indeed the aspect with the highest negative, and significant, incidence on the job satisfaction of young workers, as proven by (Bruno, Caroleo and Dessy, 2013).

Estimates by education highlight that, after controlling for personal, firm and job characteristics, compared with “permanent and secure workers” job satisfaction of “permanent at risk” workers is lower (and the difference is statistically significant) for workers with a higher education and the coefficient becomes much larger than that in Table 7 for the whole sample. This indicates that different job characteristics should compensate these workers for a presumably adverse contract type.

### ***6.2 Other controls***

Moreover, our estimates show that receiving help from the family partner increases the level of job satisfaction. This holds only for workers with an intermediate education while insecure temporary workers with a higher education are as satisfied with their jobs as their permanent counterparts. This could be due to the so called “FTC effect” (Beckmann et al., 2007) that expects that workers in multitasking jobs, even with a fixed-term contract, are more satisfied.

Turning first to men, results show that they are more satisfied if they receive help in the family life. The pattern for women is quite different, where this coefficient is not significant and interestingly seems that having children (in a couple) affect women’s job satisfaction, while it seems to be a weak job characteristic for all men.

The effect of the political tendency is contradictory, being conflicting for young and older workers. If job satisfaction of young workers is negatively affected by a right tendency, the opposite holds for older workers.

Finally, as soon as regional effects are identified by movers across regions, but transition frequencies are extremely low in our data, coefficients on regional dummies are generally insignificant.

Nevertheless, insecure workers in “poor” regions (regions with a higher unemployment rate or worse economic characteristics) have a relatively lesser job satisfaction compared to workers in “wealthy” regions (those with lower unemployment rates). These results are consistent with the hypothesis as insecure workers in “poor performing” regions should be relatively more concerned about their employment opportunities.

## ***7. Conclusions***

In this study we have analysed the determinants of perceived job satisfaction, a summary measure reflecting how workers value various job characteristics, in

Switzerland, paying specific attention to the role of temporary contracts. More specifically, we have empirically tested whether the negative effect of holding a temporary contract on a subjective measure of job satisfaction is influenced by workers characteristics (such as gender, age and education). We split workers into four groups according to the flexibility/security mix characterising their employment relationship and we analysed the impact of this mix on overall job satisfaction. Using individual data from the Swiss Household Panel (SHP), we have shown that it is not the formal security as defined by the contract type or the working conditions alone that matter for job satisfaction but the subjectively perceived job security. Overall, also after controlling for endogeneity, our results show that the job satisfaction of insecure temporary workers and that of permanent-at-risk workers is much lower from that of permanent workers.

We estimated different specifications of a linear POLS model, starting from a parsimonious specification (controlling only for contract types and excluding personal characteristics) and progressively adding controls for job characteristics (as stress and working conditions), ending with a full specification including all the job-related variables that should produce effects on job satisfaction (as firm sector, occupation and tenure) or controls on psychological characteristics and attitudes towards work and life. Job stability and perceived security are valued in different ways and the lack of job security is a primary source of job dissatisfaction.

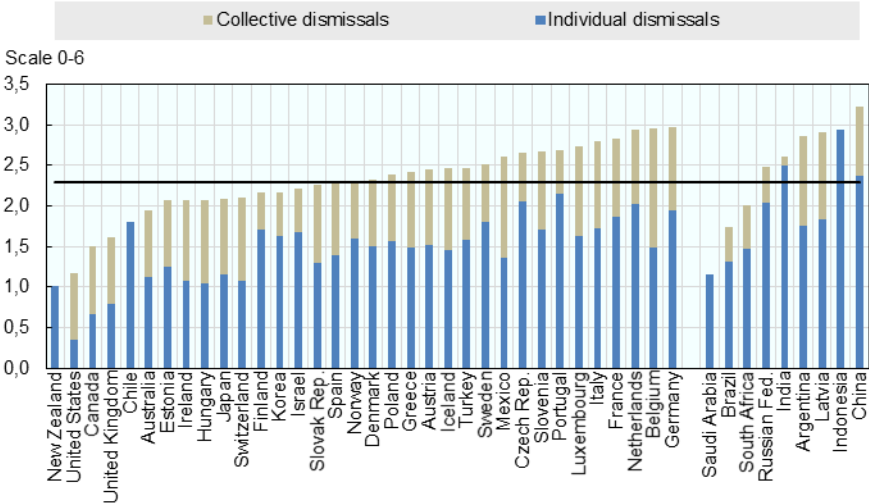
No significant differences emerge on the estimated effect by gender, while some heterogeneity is evident by age and education.

Our results indicate that the duration of the contract may be less important if the worker perceives that he is not at risk of unemployment. In this regard, from a point of view of policy, a greater “flexicurity” can be obtained either directly from employer, adopting changes in work organization, or indirectly by policy makers through an appropriate mix of active labour market policies. The adoption of a proper mix of flexibility and security would also be crucial as its subsequent effects on perceived security. Labour turnover should in fact be higher, but more efficient, in the so-called “flexicure” countries, where perceived security is likely to be less influenced by the current recession.

Perceived security should be instead particularly carefully monitored in the countries where in the past, even during recovery years, labour turnover has been low and highly inefficient owing to the high levels of job insecurity prevailing also among permanent workers. With respect to the “pure flexibility” policy adopted to date by many economies Europe, the “flexicurity” approach may therefore be an alternative.

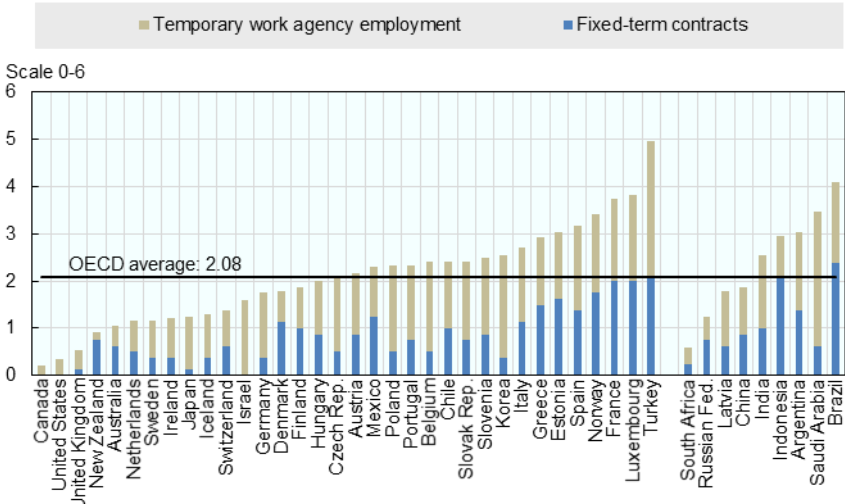
**Figure 1 - Protection of permanent workers against individual and collective dismissals, 2013\*.**  
 \*Data refer to 2013 for OECD countries and Latvia, 2012 for other countries. The figure presents the contribution of employment protection for regular workers against individual dismissal (EPR) and additional provisions for collective dismissal (EPRC) to the indicator of employment protection for regular workers against individual and collective dismissal (EPRC). The height of the bar represents the value of the EPRC indicator.

Source: OECD Employment Protection Database, 2013 update.



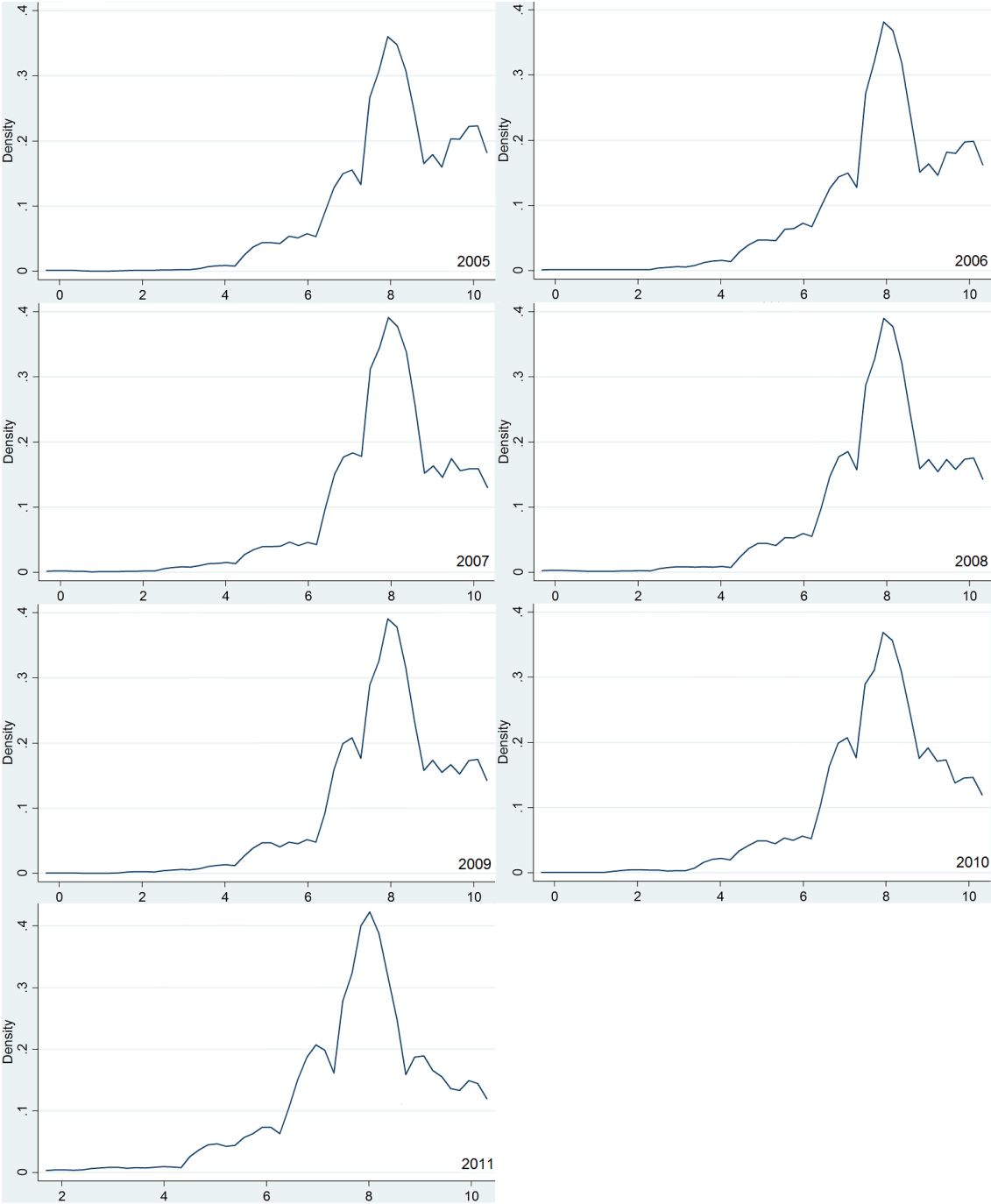
**Figure 2 - Regulation on temporary contracts, 2013\*.**  
 \* Data refer to 2013 for OECD countries and Latvia, 2012 for other countries. The figure presents the contribution of the indicator of regulation for standard fixed-term contracts (EPFTC) and the indicator of regulation for TWA employment (EPTWA) to the indicator of regulation on temporary contracts (EPT). The height of the bar represents the value of the EPT indicator.

Source: OECD Employment Protection Database, 2013 update.

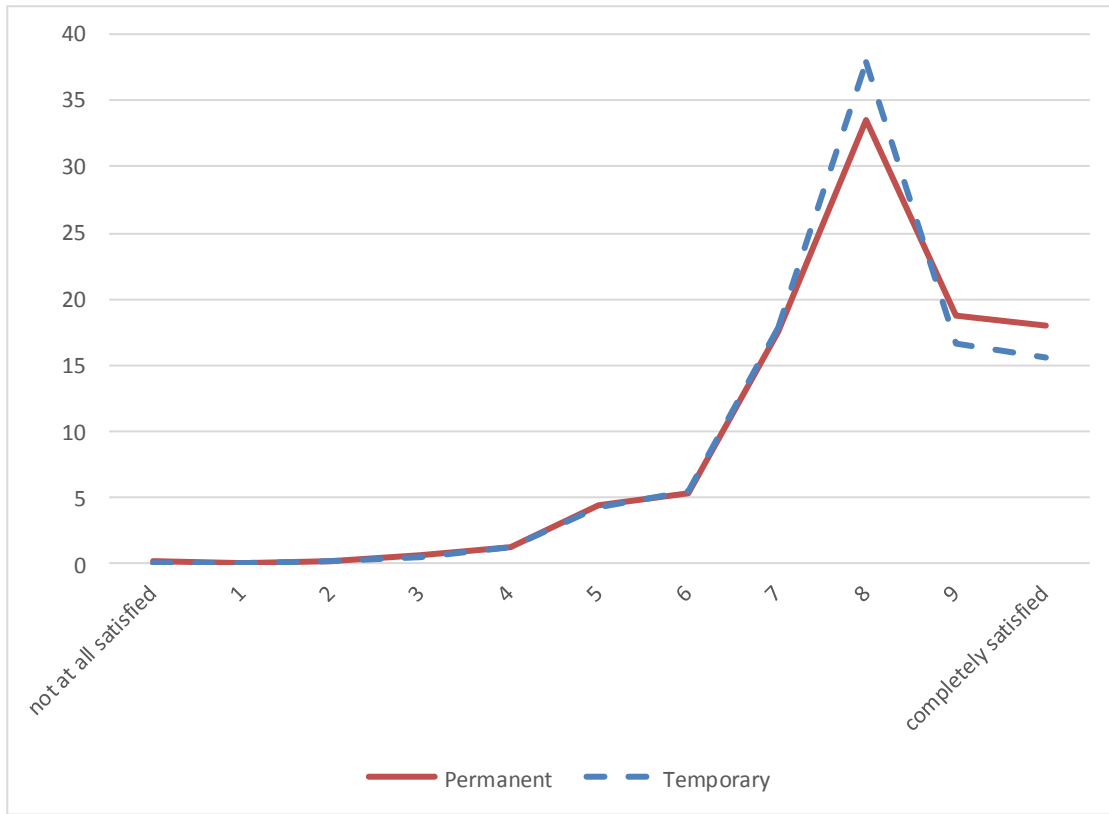




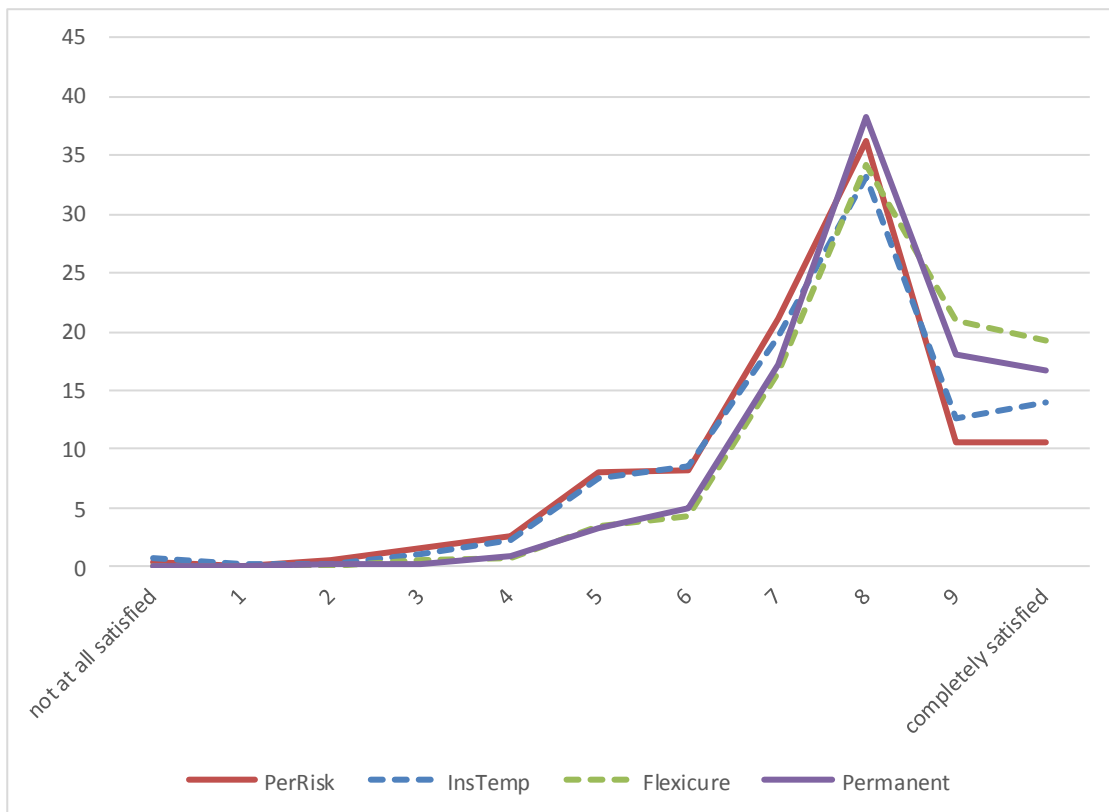
**Figure 3 - Distribution of job satisfaction in Switzerland, by year.**



**Figure 4 - Job satisfaction by types of workers (“Permanent”, “Temporary”).**



**Figure 5 - Job satisfaction by types of workers (“Permanent at Risk”, “Insecure temporary”, “Flexicure”, “Permanent and secure”).**



**Table 1 - Descriptive statistics**

| Variable                                    | Description  | Mean      | Std. Dev. |
|---|--|-----------|-----------|
| <i>Types</i>                                |  |           |           |
| permanent                                   | 1 if permanent worker not very/not at all likely to lose job in the following year   | 0.7055521 | 0.4558025 |
| instemp                                     | 1 if seasonal, temporary or casual job and employees under contract or for fixed time period, very/quite likely to lose job in the following year          | 0.036806  | 0.1882886 |
| flexicure                                   | 1 if seasonal, temporary or casual job and employees under contract or for fixed time period, not very/not at all likely to lose job in the following year | 0.1015376 | 0.3020447 |
| perrisk                                     | 1 if permanent worker very/quite likely to lose job in the following year  | 0.1561044 | 0.3629609 |
| <i>Individual and local characteristics</i> |  |           |           |
| age   | Age (continuous)   | 39.98767  | 22.07502  |
| age2  | Squared age (continuous)   | 2086.314  | 1847.392  |
| female                                      | 1 if female  | 0.5149582 | 0.4997794 |
| married                                     | 1 if married   | 0.4630372 | 0.4986351 |
| children                                    | 1 if not-married couple with children  | 0.0126515 | 0.111766  |
| marchildren                                 | 1 if married couple with children  | 0.504654  | 0.4999816 |
| famhelp                                     | 1 if receives help form partner  | 0.7742639 | 0.418073  |
| young                                       | 1 if age<31  | 0.3603915 | 0.4801171 |
| middleaged                                  | 1 if age>31 & age<50   | 0.2921895 | 0.4547719 |
| older                                       | 1 if age>50  | 0.3474191 | 0.4761533 |
| lang1                                       | 1 if language French   | 0.2576662 | 0.437352  |
| lang2                                       | 1 if language German   | 0.6978513 | 0.4591923 |
| lang3                                       | 1 if language Italian  | 0.0444825 | 0.2061659 |
| eduinf                                      | 1 if primary educaton  | 0.2961684 | 0.4565694 |
| edumid                                      | 1 if apprenticeship, full-time vocational school   | 0.5195185 | 0.4996223 |
| edusup                                      | 1 if high school, university   | 0.1843131 | 0.387742  |
| small_town                                  | 1 if lives in small or middle sized town   | 0.0798875 | 0.2711206 |
| large_town                                  | 1 if lives in large town   | 0.1914589 | 0.3934519 |
| <i>Employment characteristics</i>           |  |           |           |
| lowinc                                      | 1 if low income  | 0.3683553 | 0.4823662 |
| midinc                                      | 1 if medium income   | 0.1984487 | 0.3988379 |
| highinc                                     | 1 if high income   | 0.3666592 | 0.4819001 |
| professional                                | 1 if professionals   | 0.1661706 | 0.3722393 |
| hightech                                    | 1 if higher supervisory/technicians  | 0.2380938 | 0.4259233 |
| desk  | 1 if intermediate occupations  | 0.1969384 | 0.3976914 |
| self  | 1 if self employed   | 0.0693415 | 0.2540378 |

| Variable                   | Description  | Mean      | Std. Dev. |
|----------------------------|--|-----------|-----------|
| lowtech                    | 1 if lower supervisors and technicians                       | 0.0223545 | 0.1478359 |
| routine                    | 1 if routine job   | 0.0916353 | 0.2885148 |
| lowhour                    | 1 if low than 25 work hours/week                             | 0.2434423 | 0.4291671 |
| midhour                    | 1 if between 25 work hours/week and 42 work hours/week       | 0.3748516 | 0.4840923 |
| highhour                   | 1 if more than 42 work hours/week                            | 0.2924402 | 0.4548912 |
| nightwork                  | 1 if night work  | 0.1246501 | 0.3303267 |
| satwork                    | 1 if work on Saturday  | 0.4809949 | 0.4996461 |
| stresswork                 | 1 if stressful job   | 0.3388675 | 0.4733318 |
| lowint                     | 1 if low intensity job                                       | 0.2406824 | 0.4275042 |
| midint                     | 1 if medium intensity job                                    | 0.5364157 | 0.4986796 |
| highint                    | 1 if high intensity job                                      | 0.2229019 | 0.4161993 |
| <i>Region of residence</i> |  |           |           |
| r1                         | 1 if Lake Geneva (VD, VS, GE)                                | 0.1772811 | 0.3819089 |
| r2                         | 1 if Middleland (BE, FR, SO, NE, JU)                         | 0.2458528 | 0.4305945 |
| r3                         | 1 if North-west Switzerland (BS, BL, AG)                     | 0.1404818 | 0.3474885 |
| r4                         | 1 if Zurich  | 0.1719964 | 0.3773798 |
| r5                         | 1 if East Switzerland (GL, SH, AR, AI, SG, GR, TG)           | 0.1287267 | 0.3348993 |
| r6                         | 1 if Central Switzerland (LU, UR, SZ, OW, NW, ZG)            | 0.0982947 | 0.2977147 |
| r7                         | 1 if Ticino  | 0.0373664 | 0.1896593 |
| <i>Political party</i>     |  |           |           |
| left                       | 1 if left  | 0.2412348 | 0.4278374 |
| centre                     | 1 if centre  | 0.559878  | 0.4964075 |
| right                      | 1 if right   | 0.1010383 | 0.301383  |
| <i>Job characteristics</i> |  |           |           |
| noga1                      | 1 if Agriculture, hunting, forestry                          | 0.0294874 | 0.1691711 |
| noga2                      | 1 if Fishing and fish farming                                | 0.0002743 | 0.0165601 |
| noga3                      | 1 if Mining and quarrying                                    | 0.0005829 | 0.0241365 |
| noga4                      | 1 if Manufacturing   | 0.1459626 | 0.3530748 |
| noga5                      | 1 if Electricity, gas and water supply                       | 0.0068232 | 0.0823221 |
| noga6                      | 1 if Construction  | 0.0475227 | 0.2127577 |
| noga7                      | 1 if Wholesale,retail; repair motor vehicles,household goods | 0.1221327 | 0.3274446 |
| noga8                      | 1 if Hotels and restaurants                                  | 0.0271558 | 0.1625402 |
| noga9                      | 1 if Transport, storage and communication                    | 0.0514315 | 0.22088   |
| noga10                     | 1 if Financial intermediation; insurance                     | 0.0603463 | 0.2381314 |
| noga11                     | 1 if Real estate; renting; computer; research                | 0.1244985 | 0.3301551 |

| Variable | Description  | Mean      | Std. Dev. |
|----------|--|-----------|-----------|
| noga12   | 1 if Public admin,national defence; compulsory social security | 0.065558  | 0.2475122 |
| noga15   | 1 if Other community, social and personal service activities   | 0.0662781 | 0.2487718 |
| noga16   | 1 if Private households with employed persons                  | 0.0009943 | 0.0315181 |

**Table 2 - Workers' types**

| types     | Freq.  | Percent | Cum.   |
|-----------|--------|---------|--------|
| InsTemp   | 1.003  | 3,68    | 3,68   |
| PerRisk   | 4.254  | 15.61   | 19.29  |
| Flexicure | 2.767  | 10,15   | 29.44  |
| Permanent | 19.227 | 70.56   | 100.00 |
| Total     | 27.251 | 100.00  |        |

**Table 3 - Job (z) and Overall (y) Satisfaction - OLS and Fixed effects POLS (Model 1)**

| VARIABLES                    | OLS<br>y             | OLS<br>z             | FE POLS<br>y         | FE POLS<br>Z         |
|------------------------------|----------------------|----------------------|----------------------|----------------------|
| Ref. group permanent workers |                      |                      |                      |                      |
| instemp                      | -0.273***<br>[0.029] | -0.287***<br>[0.031] | -0.075***<br>[0.028] | -0.113***<br>[0.032] |
| flexicure                    | 0.118***<br>[0.018]  | 0.074***<br>[0.019]  | 0.028<br>[0.022]     | 0.136***<br>[0.025]  |
| perrisk                      | -0.313***<br>[0.015] | -0.391***<br>[0.016] | -0.081***<br>[0.014] | -0.183***<br>[0.016] |
| Observations                 | 26,466               | 26,450               | 26,466               | 26,450               |
| R-squared                    | 0.022                | 0.026                | 0.002                | 0.009                |
| Number of idpers             |                      |                      | 7,368                | 7,366                |

Standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 4 - Job Satisfaction - Fixed effects POLS (Model 1, Model 2 and Model 3)**

| VARIABLES                            | (1)                  | (2)                  | (3)                  |
|--------------------------------------|----------------------|----------------------|----------------------|
|                                      | z                    | z                    | z                    |
| <hr/>                                |                      |                      |                      |
| Ref. group permanent workers         |                      |                      |                      |
| instemp                              | -0.113***<br>[0.032] | -0.144***<br>[0.053] | -0.169***<br>[0.059] |
| flexicure                            | 0.136***<br>[0.025]  | 0.081*<br>[0.045]    | 0.007<br>[0.049]     |
| perrisk                              | -0.183***<br>[0.016] | -0.211***<br>[0.023] | -0.230***<br>[0.026] |
| <br>                                 |                      |                      |                      |
| <b>Other controls</b>                |                      |                      |                      |
| Individual and local characteristics | NO                   | YES                  | YES                  |
| Employment characteristics           | NO                   | YES                  | YES                  |
| Region of residence                  | NO                   | NO                   | YES                  |
| Political party                      | NO                   | NO                   | YES                  |
| Job characteristics                  | NO                   | NO                   | YES                  |
| Observations                         | 26,450               | 13,269               | 11,093               |
| R-squared                            | 0.009                | 0.026                | 0.034                |
| Number of idpers                     | 7,366                | 4,840                | 4,271                |

Standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



**Table 5 - Job Satisfaction overall and by gender, age, education - Fixed effects POLS (Model 3)**

| VARIABLES                    | (3)                  | (3)                  | (3)                  | (3)                  | (3)                  | (3)                  | (3)                | (3)                  | (3)                  |
|------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------|----------------------|----------------------|
| Ref. group permanent workers | z                    | z                    | z                    | z                    | z                    | z                    | z                  | z                    | z                    |
|                              | Overall              | females              | male                 | young                | mid'aged             | older                | eduinf             | edumid               | edusup               |
| instemp                      | -0.169***<br>[0.059] | -0.118<br>[0.080]    | -0.238***<br>[0.090] | -0.337***<br>[0.114] | -0.033<br>[0.095]    | -0.170<br>[0.132]    | -0.189<br>[0.210]  | -0.277***<br>[0.078] | 0.076<br>[0.119]     |
| flexicure                    | 0.007<br>[0.049]     | -0.045<br>[0.065]    | 0.077<br>[0.076]     | 0.003<br>[0.099]     | 0.007<br>[0.077]     | -0.090<br>[0.101]    | -0.167<br>[0.198]  | -0.048<br>[0.069]    | 0.086<br>[0.088]     |
| perrisk                      | -0.230***<br>[0.026] | -0.250***<br>[0.038] | -0.216***<br>[0.035] | -0.431***<br>[0.084] | -0.229***<br>[0.034] | -0.168***<br>[0.048] | -0.184<br>[0.119]  | -0.219***<br>[0.031] | -0.248***<br>[0.053] |
| age                          | -0.071***<br>[0.022] | -0.066**<br>[0.032]  | -0.073**<br>[0.032]  | -0.126<br>[0.152]    | -0.076<br>[0.056]    | -0.166<br>[0.147]    | -0.080<br>[0.088]  | -0.060**<br>[0.029]  | -0.128***<br>[0.049] |
| age2                         | 0.001***<br>[0.000]  | 0.001*<br>[0.000]    | 0.001**<br>[0.000]   | 0.002<br>[0.003]     | 0.001<br>[0.001]     | 0.002<br>[0.001]     | 0.001<br>[0.001]   | 0.001**<br>[0.000]   | 0.001**<br>[0.001]   |
| married                      | -0.016<br>[0.057]    | -0.004<br>[0.085]    | -0.030<br>[0.077]    | 0.089<br>[0.131]     | -0.082<br>[0.082]    | 0.277<br>[0.223]     | -0.703<br>[0.436]  | 0.015<br>[0.079]     | -0.067<br>[0.091]    |
| children                     | 0.100<br>[0.140]     | 0.158<br>[0.244]     | 0.063<br>[0.168]     | 1.205**<br>[0.569]   | 0.015<br>[0.153]     | -<br>[0.153]         | -0.245<br>[0.868]  | 0.191<br>[0.193]     | -0.095<br>[0.232]    |
| marchildren                  | -0.092**<br>[0.039]  | -0.109**<br>[0.056]  | -0.075<br>[0.054]    | -0.097<br>[0.095]    | -0.036<br>[0.070]    | -0.056<br>[0.065]    | 0.100<br>[0.223]   | -0.074<br>[0.051]    | -0.089<br>[0.071]    |
| famhelp                      | 0.074***<br>[0.025]  | 0.024<br>[0.038]     | 0.129***<br>[0.034]  | 0.069<br>[0.082]     | 0.038<br>[0.034]     | 0.159***<br>[0.043]  | 0.088<br>[0.108]   | 0.090***<br>[0.031]  | 0.027<br>[0.049]     |
| young                        | -0.091<br>[0.066]    | -0.091<br>[0.094]    | -0.103<br>[0.094]    | -<br>[0.094]         | -<br>[0.094]         | -<br>[0.094]         | 0.103<br>[0.539]   | 0.092<br>[0.092]     | -0.377***<br>[0.105] |
| older                        | 0.002<br>[0.048]     | 0.068<br>[0.069]     | -0.066<br>[0.067]    | -<br>[0.067]         | -<br>[0.067]         | -<br>[0.067]         | -0.285<br>[0.227]  | 0.031<br>[0.059]     | 0.028<br>[0.096]     |
| lang1                        | 0.092<br>[0.182]     | 0.193<br>[0.287]     | 0.000<br>[0.233]     | -0.083<br>[0.928]    | 0.031<br>[0.253]     | -0.085<br>[0.330]    | -<br>[0.330]       | -0.118<br>[0.248]    | 0.323<br>[0.293]     |
| lang3                        | 0.134<br>[0.262]     | 0.193<br>[0.443]     | 0.025<br>[0.324]     | 0.371<br>[0.895]     | -0.074<br>[0.313]    | 1.579*<br>[0.850]    | -0.735<br>[0.990]  | -0.158<br>[0.319]    | 0.461<br>[0.932]     |
| eduinf                       | -0.044<br>[0.078]    | 0.065<br>[0.103]     | -0.163<br>[0.125]    | -0.057<br>[0.131]    | 0.065<br>[0.169]     | -0.089<br>[0.181]    | -<br>[0.181]       | -<br>[0.181]         | -<br>[0.181]         |
| edusup                       | 0.109*<br>[0.065]    | 0.141<br>[0.089]     | 0.082<br>[0.100]     | -0.154<br>[0.138]    | 0.328***<br>[0.098]  | 0.004<br>[0.171]     | -<br>[0.171]       | -<br>[0.171]         | -<br>[0.171]         |
| small_town                   | -0.062<br>[0.101]    | -0.030<br>[0.134]    | -0.071<br>[0.160]    | -0.038<br>[0.221]    | -0.133<br>[0.144]    | 0.190<br>[0.277]     | 0.683*<br>[0.402]  | -0.144<br>[0.143]    | -0.110<br>[0.171]    |
| large_town                   | -0.085<br>[0.068]    | 0.005<br>[0.097]     | -0.185*<br>[0.099]   | -0.123<br>[0.140]    | -0.078<br>[0.099]    | 0.049<br>[0.181]     | 0.146<br>[0.482]   | -0.069<br>[0.095]    | -0.193*<br>[0.117]   |
| lowinc                       | 0.107***<br>[0.037]  | 0.120***<br>[0.045]  | 0.070<br>[0.070]     | 0.066<br>[0.091]     | 0.155***<br>[0.051]  | 0.086<br>[0.079]     | 0.349**<br>[0.173] | 0.134***<br>[0.047]  | 0.024<br>[0.073]     |
| highinc                      | -0.013<br>[0.032]    | 0.002<br>[0.049]     | -0.020<br>[0.044]    | 0.177**<br>[0.088]   | -0.022<br>[0.044]    | -0.122*<br>[0.064]   | 0.002<br>[0.187]   | -0.007<br>[0.041]    | -0.017<br>[0.060]    |
| professional                 | 0.194***<br>[0.072]  | 0.250**<br>[0.114]   | 0.105<br>[0.095]     | 0.229<br>[0.165]     | 0.080<br>[0.105]     | -0.028<br>[0.179]    | 0.928**<br>[0.420] | 0.025<br>[0.096]     | 0.491***<br>[0.178]  |
| hightech                     | 0.193***<br>[0.063]  | 0.226**<br>[0.097]   | 0.123<br>[0.085]     | 0.321**<br>[0.154]   | 0.144<br>[0.089]     | -0.064<br>[0.155]    | 0.549*<br>[0.313]  | 0.066<br>[0.078]     | 0.451***<br>[0.171]  |

| VARIABLES                    | (3)                  | (3)                  | (3)                  | (3)                  | (3)                  | (3)                 | (3)                 | (3)                  | (3)                 |
|------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|---------------------|
| Ref. group permanent workers | z                    | z                    | z                    | z                    | z                    | z                   | z                   | z                    | z                   |
|                              | Overall              | females              | male                 | young                | middleaged           | older               | eduinf              | edumid               | edusup              |
| desk                         | 0.176**<br>[0.069]   | 0.168*<br>[0.098]    | 0.154<br>[0.102]     | 0.263*<br>[0.150]    | 0.134<br>[0.098]     | -0.011<br>[0.176]   | 0.925**<br>[0.393]  | 0.114<br>[0.083]     | 0.285<br>[0.181]    |
| lowtech                      | -0.004<br>[0.092]    | -0.006<br>[0.159]    | -0.012<br>[0.110]    | 0.086<br>[0.339]     | -0.048<br>[0.106]    | 0.217<br>[0.242]    | 0.179<br>[0.330]    | -0.057<br>[0.109]    | 0.065<br>[0.241]    |
| lowhour                      | -0.059*<br>[0.035]   | -0.082*<br>[0.042]   | 0.037<br>[0.070]     | -0.199*<br>[0.106]   | -0.092*<br>[0.048]   | 0.045<br>[0.067]    | -0.065<br>[0.160]   | -0.057<br>[0.046]    | -0.002<br>[0.062]   |
| highhour                     | 0.014<br>[0.026]     | 0.021<br>[0.049]     | 0.013<br>[0.030]     | 0.034<br>[0.069]     | 0.019<br>[0.036]     | -0.008<br>[0.049]   | 0.225*<br>[0.123]   | 0.004<br>[0.033]     | 0.046<br>[0.048]    |
| nightwork                    | -0.032<br>[0.038]    | 0.002<br>[0.068]     | -0.050<br>[0.046]    | 0.072<br>[0.110]     | -0.060<br>[0.050]    | -0.051<br>[0.078]   | 0.145<br>[0.163]    | -0.024<br>[0.049]    | -0.093<br>[0.075]   |
| satwork                      | -0.015<br>[0.024]    | 0.010<br>[0.037]     | -0.033<br>[0.032]    | -0.021<br>[0.073]    | -0.018<br>[0.031]    | 0.038<br>[0.048]    | 0.047<br>[0.112]    | -0.018<br>[0.032]    | 0.024<br>[0.042]    |
| stresswork                   | -0.134***<br>[0.023] | -0.162***<br>[0.034] | -0.112***<br>[0.030] | -0.190***<br>[0.064] | -0.134***<br>[0.030] | -0.089**<br>[0.043] | -0.282**<br>[0.113] | -0.138***<br>[0.029] | -0.095**<br>[0.040] |
| lowint                       | 0.040<br>[0.026]     | 0.060<br>[0.038]     | 0.023<br>[0.036]     | 0.052<br>[0.083]     | 0.085**<br>[0.036]   | -0.048<br>[0.045]   | 0.296**<br>[0.117]  | 0.025<br>[0.032]     | 0.042<br>[0.051]    |
| highint                      | -0.038<br>[0.025]    | -0.040<br>[0.036]    | -0.033<br>[0.033]    | -0.180**<br>[0.076]  | -0.003<br>[0.032]    | -0.036<br>[0.048]   | -0.182<br>[0.122]   | -0.041<br>[0.031]    | -0.010<br>[0.046]   |
| r1                           | -0.069<br>[0.349]    | 0.453<br>[0.479]     | -0.602<br>[0.533]    | 1.180*<br>[0.613]    | -1.443**<br>[0.661]  | -<br>-              | -<br>-              | 0.386<br>[0.727]     | -0.218<br>[0.437]   |
| r2                           | -0.136<br>[0.231]    | 0.187<br>[0.292]     | -0.651<br>[0.441]    | 0.437<br>[0.455]     | -0.800**<br>[0.381]  | -0.349<br>[0.896]   | -<br>-              | -0.231<br>[0.467]    | -0.217<br>[0.295]   |
| r3                           | 0.171<br>[0.173]     | 0.407*<br>[0.245]    | -0.133<br>[0.261]    | 0.405<br>[0.337]     | -0.205<br>[0.290]    | 0.035<br>[0.583]    | -<br>-              | 0.009<br>[0.297]     | 0.080<br>[0.249]    |
| r5                           | 0.579***<br>[0.203]  | 0.851***<br>[0.284]  | 0.337<br>[0.299]     | 0.845**<br>[0.331]   | -0.289<br>[0.344]    | 0.985*<br>[0.538]   | -<br>-              | 0.332<br>[0.364]     | 0.201<br>[0.297]    |
| r6                           | 0.240<br>[0.232]     | 0.428<br>[0.359]     | 0.064<br>[0.305]     | 0.626<br>[0.643]     | -0.164<br>[0.280]    | -<br>-              | -<br>-              | 0.268<br>[0.416]     | 0.028<br>[0.305]    |
| r7                           | 0.832<br>[0.536]     | 0.377<br>[0.811]     | 1.078<br>[0.713]     | -<br>-               | 0.412<br>[0.579]     | -<br>-              | -<br>-              | 0.647<br>[0.585]     | -<br>-              |
| left                         | -0.023<br>[0.031]    | 0.011<br>[0.042]     | -0.065<br>[0.044]    | 0.193**<br>[0.091]   | -0.085**<br>[0.041]  | -0.005<br>[0.057]   | -0.005<br>[0.131]   | -0.007<br>[0.039]    | -0.040<br>[0.056]   |
| right                        | 0.046<br>[0.044]     | 0.049<br>[0.074]     | 0.057<br>[0.053]     | -0.281**<br>[0.120]  | 0.028<br>[0.063]     | 0.235***<br>[0.076] | 0.304**<br>[0.154]  | 0.003<br>[0.052]     | 0.171<br>[0.109]    |
| noga1                        | 0.060<br>[0.166]     | 0.266<br>[0.250]     | -0.188<br>[0.223]    | -0.497<br>[0.394]    | 0.358<br>[0.219]     | -0.042<br>[0.366]   | -1.676<br>[1.017]   | 0.121<br>[0.184]     | 0.443<br>[0.455]    |
| noga2                        | 0.899<br>[0.909]     | -<br>-               | 0.792<br>[0.868]     | -<br>-               | -<br>-               | -<br>-              | -<br>-              | 0.897<br>[0.908]     | -<br>-              |
| noga3                        | 1.275*<br>[0.720]    | -<br>-               | 1.175*<br>[0.687]    | -<br>-               | 1.227*<br>[0.720]    | -<br>-              | 1.734**<br>[0.837]  | -<br>-               | -<br>-              |
| noga5                        | 0.144<br>[0.237]     | 0.138<br>[0.585]     | 0.140<br>[0.251]     | -<br>-               | 0.328<br>[0.336]     | 0.394<br>[0.383]    | -<br>-              | 0.224<br>[0.386]     | -0.024<br>[0.314]   |
| noga6                        | 0.251**<br>[0.113]   | 0.726***<br>[0.251]  | 0.141<br>[0.125]     | 0.252<br>[0.234]     | 0.202<br>[0.163]     | 0.961***<br>[0.285] | 0.703*<br>[0.388]   | 0.174<br>[0.141]     | 0.047<br>[0.311]    |

| VARIABLES                    | (3)                 | (3)                 | (3)                | (3)                | (3)                 | (3)                | (3)               | (3)               | (3)                 |
|------------------------------|---------------------|---------------------|--------------------|--------------------|---------------------|--------------------|-------------------|-------------------|---------------------|
| Ref. group permanent workers | z                   | z                   | z                  | z                  | z                   | z                  | z                 | z                 | z                   |
|                              | Overall             | females             | male               | young              | mid'aged            | older              | eduinf            | edumid            | edusup              |
| noga7                        | -0.091<br>[0.063]   | -0.094<br>[0.090]   | -0.087<br>[0.092]  | 0.021<br>[0.155]   | -0.098<br>[0.086]   | -0.220<br>[0.166]  | -0.118<br>[0.250] | -0.007<br>[0.078] | 0.050<br>[0.165]    |
| noga8                        | -0.045<br>[0.114]   | -0.092<br>[0.160]   | 0.050<br>[0.167]   | -0.158<br>[0.260]  | 0.093<br>[0.157]    | 0.243<br>[0.289]   | -0.172<br>[0.365] | 0.103<br>[0.152]  | 0.643**<br>[0.293]  |
| noga9                        | -0.212**<br>[0.088] | -0.262*<br>[0.148]  | -0.200*<br>[0.111] | -0.457*<br>[0.242] | -0.087<br>[0.112]   | 0.022<br>[0.226]   | -0.223<br>[0.523] | -0.093<br>[0.107] | 0.528***<br>[0.195] |
| noga10                       | -0.115<br>[0.105]   | -0.384**<br>[0.162] | 0.073<br>[0.138]   | -0.159<br>[0.242]  | -0.057<br>[0.140]   | 0.293<br>[0.346]   | -0.007<br>[1.157] | 0.004<br>[0.137]  | 0.076<br>[0.193]    |
| noga11                       | -0.114*<br>[0.063]  | -0.185*<br>[0.098]  | -0.055<br>[0.084]  | -0.212<br>[0.174]  | -0.201**<br>[0.084] | 0.355**<br>[0.138] | -0.045<br>[0.305] | -0.011<br>[0.089] | -0.244**<br>[0.101] |
| noga12                       | 0.054<br>[0.075]    | 0.107<br>[0.110]    | -0.001<br>[0.103]  | 0.059<br>[0.284]   | 0.086<br>[0.094]    | 0.382**<br>[0.185] | 0.787<br>[0.478]  | 0.105<br>[0.109]  | 0.048<br>[0.112]    |
| noga15                       | -0.101<br>[0.072]   | -0.072<br>[0.103]   | -0.147<br>[0.104]  | -0.029<br>[0.202]  | -0.184*<br>[0.105]  | -0.019<br>[0.134]  | -0.089<br>[0.301] | -0.089<br>[0.107] | -0.164<br>[0.112]   |
| noga16                       | 0.509<br>[0.431]    | -                   | 0.569<br>[0.413]   | 0.701<br>[0.568]   | -                   | 0.257<br>[0.877]   | -                 | 1.178*<br>[0.641] | 0.126<br>[0.580]    |
| Observations                 | 11,093              | 5,690               | 5,403              | 2,081              | 6,143               | 2,869              | 932               | 7,118             | 3,043               |
| R-squared                    | 0.034               | 0.041               | 0.040              | 0.118              | 0.040               | 0.056              | 0.180             | 0.032             | 0.052               |
| Number of idpers             | 4,271               | 2,213               | 2,058              | 1,146              | 2,326               | 1,152              | 556               | 2,794             | 1,145               |

Standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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