

Employment flexibility, job security and job satisfaction of knowledge workers in Poland.

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Abstract

A number of empirical studies have shown a positive influence of employment stability on job satisfaction. Employment stability, usually measured by a proxy, "type of contract", may affect one's job satisfaction directly, as well as through an impact on other relative variables, such as job security, as a stable position seem to bring individuals a sense of security. The aim of the research is to investigate the relationships between job security, employment stability and job satisfaction of workers in Poland. In the study, we strive to show how these factors impact differently the groups of knowledge workers and routine task workers. In order to conduct analysis, we propose a logistic model, with job satisfaction as a dependent variable and type of

contract, job security, job character character as independent variables. Our main finding shows that job security is a major factor determining job satisfaction, rather than a by-product of employment working arrangements. We also discovered that job satisfaction of knowledge workers is more influenced by job security.

Keywords

Knowledge workers; job satisfaction; employment flexibility; job security; flexicurity; Poland

1. Literature Review

1.1. Significance of job satisfaction analysis

Contrary to a common view, still reproduced in many sources – including journal articles – the numerously replicated empirical studies, show no direct influence of job satisfaction on productivity (Judge et al, 2001; Locke, 1976; Wright and Croponzano, 2000). However, job satisfaction remains an important and influential factor that needs to be studied and analysed.

First of all, job satisfaction is related to life satisfaction. Although some studies show otherwise (Rode, 2004), there seems to be a reciprocal relationship between job satisfaction and life satisfaction (Judge and Watanabe, 1993; Rain, 1991). That is to say that individuals with higher life satisfaction are more satisfied with their jobs, and persons satisfied with their jobs will be in turn more satisfied with life in general. The causal relationship between those two variables goes in both directions.

Life satisfaction is a significant aspect of well-being. Although the views on whether it should be maximised or not vary, e.g. (Engelbrecht, 2007; Sen, 1993), it is definitely an important subject that shouldn't be neglected.

Apart from that, job satisfaction, or more precisely job dissatisfaction, may have adverse impacts on individuals' physical and mental health and attitudes. Its consequence may also include absenteeism and grievances (Locke, 1976). Some studies suggest that residual of job satisfaction equation represents individuals' propensity to quit present job position (Lévy-Garboua, Montmarquette and Simonnet, 2007). This suggests that analysis of this variable may help to get insights in workers' behaviour.

1.2. Job satisfaction - overview

Job satisfaction has been widely studied for many years. Although tradition of analysing job satisfaction as such has begun in the 1930s, the study of attitudes and their influence on productivity goes back to the beginning of the 20th century (Locke, 1976). Since then various theories concerning the meaning of job satisfaction as well as different groups of factors influencing it have been developed.

The trends in the literature varied throughout the years, giving the superiority to different determinants of job satisfaction. Many types of factors, from physical working

conditions, such as noise level, or illumination, through social relations between co-workers and management, and finally to work itself (i.e. the challenge and achievement it brings) have been thought to be the most significant determinants of job satisfaction.

An appealing view on job satisfaction is the discrepancy theory proposed by Edwin Locke (1976). According to his definition, job satisfaction is a: "pleasurable emotional state resulting from the perception of one's job as fulfilling or allowing the fulfilment of one's important job values, providing these values are compatible with one's needs. (Values refer to what one consider beneficial, whereas needs are conditions actually required for one's well-being.)" (Locke, 1976, p. 1342). This theory treats job satisfaction as a measure of the gap between an individual's ideal job, where all his or her values and needs are fulfilled, and the actual job position that he or she has. The bigger the discrepancy between the reference and the real job is, the less job satisfaction an individual achieves.

An important aspect of this theory is that individuals differ in valuing various job facets, giving them different importance (Locke, 1969). The effect of the discrepancy between the ideal level of a certain job aspect (e.g. number of working hours) and its actual level on job satisfaction is larger if this aspect is more important for an individual. Also, the influence of job facets discrepancies on job satisfaction may differ in nature. The relationship between some values and job satisfaction can be linear. A good example of this kind of value is pay. Usually, the bigger is one's salary, *ceteris paribus*, the more satisfied he or she gets. On the other hand, it is claimed that for some job facets the relationship with job satisfaction is bell-shaped. The bigger is the discrepancy between ideal scenario and reality, no matter if it is a deficit or surplus, the lower is the job satisfaction (Locke, 1969). Some empirical studies have shown it to be true for job characteristics such as challenging job, time for leisure (Kucel and Vilalta-Bufí, 2011) and the length of the work week (Locke, 1969).

In the discrepancy theory, the values are explicitly separated from expectations. Expectations are what one thinks will occur in the future. It might, but not necessarily does coincide with what is wanted (Locke, 1969). A concept similar to the discrepancy theory, but one that focuses rather on expectations, is the experienced preference theory (Lévy-Garboua and Montmarquette, 2004). It takes past employment as a job of reference rather than ideal job. The empirical study conducted by the authors, using wage gaps between past and present employment as the variable of reference, has produced empirical evidence in favour of the theory.

In this paper combine the two approaches. As in the experienced preference theory, we use expectations, not job values as reference levels. However, we don't require expectation to be shaped by past job experience. Our approach coincides with discrepancy theory, in the sense that the level of reference is an theoretical concept. In the discrepancy theory however, it refers to an ideal job, whereas we refer to an *expected* job. For simplicity, we will refer to our approach as the discrepancy theory.

1.3. Job satisfaction and employment flexibility – job security mix

An interesting factor that draws growing attention in the analysis of job satisfaction is employment stability. This variable, usually measured by a proxy, i.e. type of contract, may affect one's job satisfaction directly, as well as through its impact on other relative variables, for example by decreasing job security. However, some macro-level research show that in fact lack of flexibility of contracts (e.g. part-time employment, temporary employment) on a labour market is related to high levels of job insecurity, which is especially prominent among post-socialist EU member states (Fullerton, Robertson and Dixon, 2011). It could be interpreted as an evidence in favour of the "flexicurity" hypothesis (Origo and Pagani, 2009).

Flexicurity is an open concept with not strictly designated boundaries (Burrone and Keune, 2011). According to the most commonly used definition, flexicurity is a "policy strategy that attempts, synchronically and in a deliberate way, to enhance the flexibility of labour markets, work organization and labour relations on the one hand, and to enhance security of employment and social security - notably for weaker groups in and outside the labour market, on the other hand" (Burrone and Keune, 2011).

There are a number of academic works taking the flexicurity approach, many of them measuring different types of flexibility and security. For academic purposes, the flexicurity concept should be used to untangle the merits of the various types of flexibility and security nexuses (Burrone and Keune, 2011). One of the interesting examples of flexibility-security mix is the interplay between employment flexibility and job security. Job security can be defined as probability that an individual will keep his or her job. Usually, job security is measured by subjective self-perception of individuals about their probability of keeping the job. For that reason some other symptoms of job being at risk (e.g. stress at work, overwhelming amounts of work, etc.) can also be useful, as they can serve as additional indicators of job security.

It is significant to understand whether these seemingly contradictory job characteristics may coexist and how they jointly affect job satisfaction. The literature about the direct influence of employment stability on job satisfaction shows that indeed, the lack of employment stability (seasonal contracts) affects adversely workers' job satisfaction, (Bardasi and Francesconi, 2004; Booth, Francesconi and Frank, 2002). Job security on the other hand has been proven to be a significant factor, strongly determining job satisfaction of workers (Silla et al, 2008). The joint effect of those variables is ambiguous and interesting to investigate.

The microeconomic studies on the joint effect of employment flexibility and job security bring empirical evidence proving the significance of self-perceived flexicurity. It has been shown that the negative impact of instability, which is implied by flexible employment, can be compensated by the high level of job security. Flexible employment-secure job has been proved to be a favoured over permanent insecure job, while no significant differences have been shown between job-secure permanent and job-secure temporary workers (Origo and Pagani, 2009).

It has been shown that the influence of employment stability, is not equal among different groups of individuals. For instance, in the empirical study conducted on Spanish workers, although type of contract turned out to be a significant explanatory variable in the regression of job satisfaction, the results lost their significance, when the regression was run only for women (Burón, 2007). This finding raises the question about differences between individuals divided in a different manner. Working individuals may be distinguished by individual characteristics (such as age, place of living, marital status), by job characteristics (such as economic sector, industry classification), and many others.

In modern economies the knowledge sector is constantly expanding and the post-industrial model of knowledge economy is becoming a norm within the more developed countries. Thus, it seems reasonable to divide the analysis of job satisfaction and its determinants between the workers of the relatively new, yet dynamically expanding sector and individuals working in more traditional occupations.

1.4. Job satisfaction and individual differences. Case of knowledge workers

Previous research on job satisfaction in the context of gender showed that women in general are more satisfied with their objectively worse job positions. A possible explanation for this phenomenon, proposed by the authors, is that women have lower expectations about their jobs, which may be coming from their past experiences or be embedded in the social norms. Interestingly, the gender differential disappears for younger individuals, women with higher education, persons on professional and managerial positions, ones working in male-dominated workplaces and those whose mothers had a professional job. These groups of women may have higher expectations towards a job position, equal to the expectations of males (Clark, 1997).

Two conclusions may be drawn from these findings. Firstly, showing that individuals' expectations about the job (their reference level) shape job satisfaction, they bring an evidence in favour of the discrepancy theory (Locke, 1969). Secondly, they show how levels of job satisfaction and the influence of various determinants, in particular job stability, can vary for different groups.

In the light of evidence, it is worthwhile to disaggregate the analysis of job satisfaction and have a closer look at a specific workforce group. The group discussed in this paper are knowledge workers. The differences encountered in the analysis of job satisfaction of men and women, seem to evanesce in case of females with attributes matching the characteristics of knowledge workers. It suggests that this particular group of individuals has specific expectations diverging from the expectations of other workers. In terms of the discrepancy theory, we assume that the importance knowledge workers give to different aspects of work doesn't vary within this group, but differs substantially from the values of routine-task workers.

To analyze the job satisfaction in the context of knowledge economy, it is crucial to establish a definition of a knowledge worker. However, the term is often taken as self-evident, thus not explicitly defined. A unique or straightforward definition of a knowledge worker does not exist. Yet, a certain specification is required. An occupational approach defines knowledge workers as "professional, managerial and technical people" (Drucker, 1993). Another way to define knowledge workers is to specify the content of their job: "characterized by an emphasis on theoretical knowledge, creativity and use of analytical and social skills" (Frenkel et al, 1995). Leaning towards the latter approach, we define a knowledge worker as someone whose work requires high levels of creativity, intellectual skills and theoretical rather than purely contextual knowledge (Warhurst and Thompson, 2006). However, this type of conceptualization is difficult to operationalize due to scarcity of the data about the actual character of the activities individuals carry out at work. For that reason the occupational-based approach, closer to Drucker's definition of knowledge workers, is often used to operationalize this concept. According to this classification, knowledge workers are persons who:

- work in the top three occupational classifications (managers, professionals, associate professionals),
- have high level skills indicated by higher education or equivalent qualifications,
- perform tasks that require expert thinking and complex communication skills with the assistance of computers (Brinkley, 2006).

The categories are not exclusive and may overlap. This occupation-based classification, as well as education-based classification is vulnerable to mistakes, as many of the workers that would be included in these categories usually would not be regarded as knowledge workers (i.e. managers of small firms, higher education graduates not working in the knowledge sector etc.). The way to minimise the error margin is to classify persons as knowledge workers if and only if they fulfil all three of the above-mentioned classification conditions.

There is a significant semantic difference between conceptualization and operationalization of knowledge workers, caused by limited availability of the data. The advantage of this way of using the occupation-based approach together with the education-based approach is that it is a standard, used in most of the studies, as well as in the macro-level accounts. Thus, applying the three above-mentioned conditions in the study will allow its results to be comparable with outcomes of other studies of similar interest. This is why we have decided to use this standard for defining knowledge workers group.

1.5. Employment structure in Poland

The structure of employment in Poland in terms of type of contract differs considerably from other European countries. As we can observe in Table 1, Poland is a European country with the largest percentage of temporary workers. Almost 27% of all the

employed individuals work under a temporary contract. The EU average is almost twice as low, summing up to a bit over 14%. This statistic seems even more surprising if we take into account that in other Central and Eastern European (CEE) countries temporary employment constitutes a significantly lower part of total employment.

Table 1. Measures of employment flexibility, employment security and job security in EU.

Country	Temporary Employment ^{AB}	Self - Employment ^{CD}	LMP ^{EF}	Perceived job insecurity ^{GH}
Austria	9.6%	11.3%	63.3%	6.7%
Belgium	8.9%	12.8%	122.0%	7.4%
Bulgaria	4.0%	10.8%	14.7%	27.2%
Cyprus	14.2%	14.7%	25.0%	12.9%
Czech Republic	8.0%	17.2%	18.7%	8.5%
Denmark	8.9%	8.4%	142.3%	7.8%
Estonia	4.5%	8.1%	14.7%	15.9%
EU27	14.1%	14.4%	54.0%	15.8%
Finland	15.5%	12.2%	81.7%	10.2%
France	15.2%	10.9%	78.0%	18.3%
Germany	14.8%	10.5%	54.7%	10.9%
Greece	11.6%	30.4%	22.0%	22.0%
Hungary	8.9%	11.4%	45.0%	31.1%
Ireland	10.2%	14.7%	69.5%	6.5%
Italy	13.4%	22.5%	33.0%	15.3%
Latvia	6.7%	10.1%	37.0%	10.2%
Lithuania	2.8%	9.1%	20.3%	27.3%
Luxembourg	7.1%	7.7%	40.0%	7.9%
Malta	6.5%	13.1%	3.5%	11.7%
Netherlands	18.3%	13.7%	76.3%	9.9%
Norway	8.0%	6.5%	50.0%	.
Poland	26.9%	18.5%	56.5%	28.7%
Portugal	22.2%	16.5%	55.7%	14.9%
Romania	1.6%	17.9%	3.0%	25.2%
Slovakia	6.5%	15.8%	19.0%	50.1%
Slovenia	18.0%	11.9%	30.3%	13.9%
Spain	25.4%	15.5%	67.0%	10.7%
Sweden	16.5%	9.3%	76.0%	6.6%
UK	6.0%	13.1%	4.0%	8.1%

Source: Own elaboration based on (European Commission, 2011b) and (Fullerton, Robertson and Dixon, 2011)

Poland has also a high percentage of self-employed individuals. With 18.5% of self-employed, it exceeds European average by 4% and is the state with the fourth

^A Number of workers with temporary contracts as a percentage of labour force

^B Data from 2011

^C Number of self-employed as a percentage of labour force

^D Data from 2011

^E Labour Market Policy spending as a percentage of GDP

^F Data from period 2009-2011

^G Number of insecure workers as a percentage of all respondents

^H Data from 2006

highest percentage of self-employed in Europe, after Greece, Turkey and Italy, as presented in Table 1. From this two observations, we can conclude, that Poland is a country with relatively low percentage of permanent workers, despite its history.

The macro level data show the Polish labour market is structured in a very flexible way. For that reason a postulate regarding flexicurity of the labour markets, promoted by European Commission is very relevant in the Polish milieu. In particular, in case of high employment flexibility it is vocal to ensure job security, and, in more general terms, employment security, including ease of transition between jobs. There are various macroeconomic measures that can potentially serve as a proxy to estimate the level of employment security. One of them is state expenditure on Labour Market Policy expenditure (LMP) as percentage of GDP. Labour market policy expenditure refers to government spendings that are public interventions that are supposed to equilibrate the labour market. The measure is limited only to the public interventions towards people with difficulties on the labour market, i.e. unemployed, at risk of involuntary job loss, etc. (European Commission, 2011a). Table 1 presents the expenditure on LMP of European countries for years 2009-2011. The average from that period shows that in Poland considerably more is spent on LMP than on average in the European Union. However it seems to be a small difference in comparison with the differences in the employment structure.

Macroeconomic measures are informative, however they do not accurately reflect the actual state of the labour market in terms of flexibility, security and above all their coexistence. The study of the flexibility and security nexus, or, in other words, flexicurity, needs to be complemented by the microeconomic level analysis. Table 1 also presents the statistics of perceived job security in European countries. According to the statistics, Poland, despite the macroeconomic measures presented in column 3 of Table 1, figures as the third least job secure country in Europe.

The aggregated measures presented in Table 1 suggest a failure to meet flexicurity conditions in Poland. However, little is known about the flexibility-security mix on individual level in this country. Investigating flexicurity and its effect on job satisfaction at microeconomic level in a CEE country gives a new contribution to already existing literature, which has so far focused mainly on the Western European countries. Poland is especially interesting CEE country to study flexibility of employment as, in contrast to the other post-communist countries, it is characterized by a very high level of temporary contracts. It makes the discussion about the possibility of flexicurity especially relevant in this state.

2. Hypotheses

In this paper we strive to determine if the following hypotheses hold:

H1: Job security is a factor determining job satisfaction, independently from the type of employment contract.

H2: Job satisfaction of knowledge workers is higher with a more flexible employment arrangement.

H3: Job satisfaction of knowledge workers is less influenced by job security than the job satisfaction of routine-task workers.

One of our goals is to analyse the popular idea of *flexicurity* and its practical application in the labour market in Poland. In the 2000's, one of Polish objectives in terms of job market development was to introduce the flexicurity model, as a part of the Lisbon Strategy (European Commission, 2007). Flexicurity combines the regulations concerning employment flexibility and the social security system that would be a warranty of employment security. As shown before, Poland is a country with a high, comparing to other European countries, percentage of temporary contracts. There is even a greater difference between Poland and other transition economies. An interesting question in regard to these macroeconomic statistics is whether the high percentage of temporary workers is a result of effective implementation of flexicurity model or if it is a manifestation of high rate of precarious work in Poland. Some sources suggest that the temporary employment intrinsically implies job insecurity and that the flexicurity model strives to compensate this insecurity by increased employment security (Green and Leeves, 2010). However, existing empirical evidence undermines this statement, showing that employment flexibility and job security may coexist (Origo and Pagani, 2009). In the same study, authors show that job security rather than the type of contract is the determining factor of job satisfaction. They have shown there are no statistically significant differences between flexicure workers and permanent (secure) workers. At the same time, they found that the permanent workers at risk – the ones feeling insecure about their job, are less satisfied than workers with temporary workers who feel secure about their positions. In this paper we want to replicate that outcome on data from Polish survey, and to show that in the flexibility-security nexus, the security ingredient is determinant. We hypothesise there is no difference in job satisfaction between permanent secure workers and temporary secure workers (**H1:** Job security is a factor determining job satisfaction, independently from the type of employment contract)

Another objective of the paper is to compare the influence of employment flexibility on job satisfaction of two analysed groups. We want to show how these two job facets influence workers' satisfaction differently, dependently on the type of work they are involved in. We assume that knowledge workers value the possibility of mobility more than routine task workers. Thus, we believe that flexible employment will be more satisfying for the knowledge workers than stable employment (**H2:** Job satisfaction of knowledge workers is higher with a more flexible employment arrangement).

The last hypothesis (**H3:** Job satisfaction of knowledge workers is less influenced by job security than the job satisfaction of routine-task workers) concerns

the job security and its influence on job satisfaction of the analysed groups. According to the discrepancy theory, job satisfaction reveals difference between the expectations based on the different job facets and their actual values. Yet, these differences matter only if the given job characteristic is valued by an individual (Locke, 1976). In the context of job security, a recent study on job insecurity and employment of entry-position workers in creative industry shows that young creative workers do not feel less satisfied with their jobs due to low job security, as it matches their expectations associated with the chosen job. Also, even more significantly, some young creative workers see low job security as an advantage, as they value job mobility and want to depart from the fordist job-for-life paradigm (Morgan, Wood and Nelligan, 2013). We assume that similarly to young creative workers, established knowledge workers value more mobility than job stability and have a sense of high employment security on job market. Thus, they do not value security in a certain job as highly, hence it has little impact on their job satisfaction. On the contrary, even though other workers might not have great expectations in regard to their job security, they value it more, therefore even small discrepancies between the expectations and actual security have great influence on their job satisfaction.

3. Data and descriptive statistics

3.1. Dataset

The analysis employs secondary data from the project Social Diagnosis 2011¹ (Czapiński and Panek, 2011). The Social Diagnosis project, initiated in the year 2000, is a diagnosis of the conditions and quality of life of the Poles. The dataset from year 2011 is a part of the panel comprising seven waves. The wide range of variables available in the dataset (i.e. over 500 variables in wave from year 2011) minimizes the validity issues in the model. That is to say that having a big number of variables at disposal minimizes the risk of using a questionable proxy.

The Social Diagnosis dataset contains vast amounts of data, coming from a large and representative sample. The data have been collected by Polish Central Statistical Office. The two-stage stratified sampling has been applied to find households that took part in the survey. Firstly, households have been stratified by voivodeships and then within voivodships, by the size of agglomeration. The first stage sampling units were statistical regions (covering at least 250 apartments), and rural

¹ The dataset with the documentation, results and reports is available at the website of the project: <http://diagnoza.com>

strata statistic circuits. In the second stage two flats were drawn systematically from a randomly ordered list of apartments, independently within each of the layers formed in the first stage of sampling. The wave from year 2011 comprises data from 12,383 households and 26,445 individuals (Czapiński and Panek, 2011). After reducing the dataset by the observations not appropriate for the analysis and removing incomplete cases 8,642 observations were used in the analysis. This drastic reduction of number of observations is related to selecting the target group of our research. As we are interested in job satisfaction of both knowledge workers and routine-task workers and its determinants, we have excluded from the analysis unemployed persons and people outside the labour market. In consequence 12,677 cases remained. Additionally we eliminated farmers from the analysis, as we believe that work performed by this group has a completely different rhythm and nature than the kind of work relevant to our research. Including farmers in the group of other workers would lead to a bias and unsatisfactory results. Analysing farmers as a separate group is beyond the scope of this paper. In this process 1,249 observations have been removed. Finally, incomplete cases have been excluded from the analysis. There were 2,786 incomplete cases. This large number is mostly due to the variable income which had over 1,400 missing values. We intended to omit this variable in the model, however the results were highly unsatisfactory. Apart from the fact that income is one of the crucial factors of job satisfaction and there is a need of a control factor measuring it. For that reason we have decided to keep the variable income in the analysis at the cost of sample shrinkage

3.2. Dependent Variable – Job Satisfaction

Originally, the variable concerning job satisfaction consisted of 6 levels: Very satisfied, Satisfied, Quite satisfied, Quite unsatisfied, Unsatisfied and Very unsatisfied, presented in Table 2. However, the distribution of this variable was significantly positively skewed, that is to say that most of the answers were accumulated around the answer Satisfied and Quite Satisfied. For that reason we have decided to aggregate the levels to group the responses equally between the two levels.

Table 2. Job Satisfaction (6 levels) - distribution

	Job Satisfaction		
	Frequency	Percentage	Cumulative %
Very Satisfied	662	7.7	7.7
Satisfied	3359	38.9	46.5
Quite Satisfied	3140	36.3	82.9
Quite Unsatisfied	801	9.3	92.1
Unsatisfied	499	5.8	97.9
Very Unsatisfied	181	2.1	100.0
Total	8642	100.0	

Source: Own elaboration based on (Rada Monitoringu Społecznego, 2011)

As a result, the levels Very Satisfied and Satisfied that constitute over 46% of the responds were accumulated into one level: Very Satisfied and Satisfied, whereas remaining four levels of the original variable, Quite satisfied, Quite unsatisfied, Unsatisfied and Very unsatisfied, were accumulated into Unsatisfied level.

Another attempt at reorganizing the variable was to divide it into three levels, making Quite Satisfied - the most common answer among the repondents – a separate level. However, the results were unsatisfactory, as no significant differences between the second (Quite Satisfied) and the third (Unsatisfied) groups were detected. Thus, we believe it is more advantageous for the analysis to aggregate these levels.

3.3. Job Security - Mokken Scale Analysis

An index of job security used in the analysis is composed of three indicators that could take one of the three values "Never", "Sometimes" and "Often": Source of income uncertain and insecure, Too many duties one cannot cope with, Treated unjustly at work.

Each of the items has a slightly different dimension and strength. Also distances between the levels of these variables are not equal. Therefore, creating a parametric index could result in loss of some information. On the other hand, keeping three dimensions in the analysis, each one with three levels, would greatly increase its complexity and make the results hard to interpret, especially that the indicators are intercorrelated. To address this issue, we have used an ordinal, nonparametric IRT (Item Reponse Theory) model, also called the Mokken scaling method (Mokken, 1997), to create the job security index.

There are three basic assumptions in the IRT. Firstly, items are discrete, ordinal variables with small amount (2-5) of answer categories. Secondly, the questionnaire items can be only observed with random error. Finally, items should be locally independent, meaning that they should be independent from each other given the latent trait's, values (Van Der Gaag and Snijders, 2005).

Goodness of fit of the model is measured by Loevinger's H-coefficient of scalability (Mokken, 1997). H-coefficient is a ratio of observed between-item correlation and maximum correlation between items. It is interpreted as a homogeneity measure. It is accepted that scales with coefficient $0.3 \leq H \leq 0.4$ are weak (useful) scales, $0.4 \leq H \leq 0.5$ - medium scales and $0.5 \leq H$ - strong scales. The reliability of the scale is assessed with the reliability coefficient ϕ . By the convention, scales with the ϕ coefficient greater than 0.6 are sufficiently reliable (Van Der Gaag and Snijders, 2005).

The procedure of scale construction consists of two stages: choosing a certain set of items and than testing them on empirical data. The testing may result in splitting into subsets - creating more than one scale, or omitting some of the items. The analysis confirmed that all the items belong to one scale. The created job security

index has a range from 1.14 to 3.41. The mean of the measure, as well as its median is equal to 2.71, which means that on average the respondents have a job security of 2.71 and at least 50 percent of respondents have a job security score equal to 2.71 or lower. Its Loevinger's H-coefficients equals to 0.377, which is considered as a useful scale. No violations of the monotonicity were found. The scale is reliable with the ϕ coefficient equal to 0.59.

The tests results indicate that the scale is not perfectly fitted. However, we argue that using the scale is preferable to using three separate dimensions or only some of them. None of the three variables measures perceived job security per se, but three different aspects of it. First item concerns financial security. It refers to the source of income, which is not necessarily a job. It can also refer to, for instance, the financial continuity after losing a job, provided by unemployment benefits. In that sense this variable is semantically the closest to the notion of employment security. Two other variables selected for the job security scale represent psychological aspects of job insecurity, which can be regarded as intangible symptoms of job loss threat. We believe the three variables are complementary and add a new angle to the concept of job security.

3.4. Employment flexibility – type of contract

Employment flexibility is measured by the *type of contract* proxy variable. In the analysis we distinguish three types of contracts: Permanent Contract, Temporary Contract, Self-employment. The second category includes: fix-term contracts for a period over one year, part-time job, short-term contract, work trial contract, hired work with a written contract and hired work with a spoken contract or without a contract. In the third category, self-employed with and without hired employees are included. The first category applies solely to persons with permanent contracts. However, the group of permanent workers is much more sizeable than the other categories, representing over 60% of the sample.

The percentage of individuals with temporary contract equals to 27% and self-employed to around 9%. The distribution of the sample reflects the macro-level data described in the previous section. Thus, we can conclude that the sample concerning the flexibility of the employment is representative.

3.5. Type of Worker

The *type of worker* variable has been constructed in two steps. First, all the individuals that have a job were selected with help of four variables:

- Any paid work or a helper without pay in the family business performed during the last 7 days
- An employee, a self-employed person or a helper without pay in the family business, but has temporarily not performed his/her work during last 7 days
- Main source of income
- Secondary source of income

The first two variables determine if an individual performs any job (paid or unpaid). The latter two help restraining the dataset to the observations from respondents that gain any profit from their work activities. In the second stage the dataset is divided into two groups: knowledge workers and other workers. Knowledge workers are found by their educational level, ISCO occupational classification and by the usage of the Internet for collecting materials necessary for education or work. According to the used operationalization of the concept of knowledge workers and given the mentioned variable-setting criteria, the persons that belong to the group of main interest are individuals with higher education (Bachelor's degree or higher), working in the top three occupational classifications (according to the ISCO classification) - Managers, Professionals or Associate Professionals and have collected or regularly collect materials necessary for education or work via the Internet. With the described criteria 1791 (21% of the all workers) knowledge workers were selected from the whole sample.

3.6. Type of Worker - Characteristics

One of the main focuses of the paper is to recognize the differences in job satisfaction between two groups - knowledge workers and routine-task workers. In particular, to recognize how various factors influence job satisfaction of workers from these two groups differently.

Table 3 presents means and frequencies of the variables used in the model for the two groups of workers. One of the biggest differences between these two groups is their income. Routine task workers on average earn only over 60% of the average knowledge workers' salary. The first group earns on average 3038 zlotys per month, while the monthly wage of the latter group equals to 1889 zlotys.

Knowledge workers on average study for 17 years, whereas the other group spent on average 5 years less on education. This outcome is not surprising, because of the design of the category *knowledge worker*. As explained before, one of the conditions to be classified as a member of this category was higher education. As a result all knowledge workers have a higher education, while among other workers it is not a must.

Table 3. Characteristics of Knowledge Workers and Routine-task workers

		Type of Worker			
		Other Worker		Knowledge Worker	
		Mean	Column %	Mean	Column %
Income		1888.59		3037.93	
Age		42		40	
Years of Study		12		17	
Job Security		2.70		2.75	
Sex	Female		44.3%		62.3%
	Male		55.7%		37.7%
Full Time Worker	No		8.0%		6.2%
	Yes		92.0%		93.8%
Manager	No		90.6%		73.9%
	Yes		9.4%		26.1%
Employment Flexibility	Permanent		60.9%		75.9%
	Temporary		29.9%		16.5%
	Self-employed		9.2%		7.5%
Job Satisfaction	Unsatisfied		55.5%		45.8%
	Very Satisfied or Satisfied		44.5%		54.2%

Source: Own elaboration based on (Rada Monitoringu Społecznego, 2011)

Knowledge workers feel slightly, but significantly more secure about their job than the other group of workers. Although in general the majority of employed are males, this proportion is reversed in the case of knowledge workers. In this group females constitute over 62% of the whole group. In both groups, vast majority of workers work full time. However, there are slightly more routine-task workers with part-time positions. The percentage of individuals with supervisor positions is much higher among knowledge workers. Over one quarter of them are managers, whereas just under 10 percent of other workers have a managerial position. This great difference is also a result of the design of the variable *type of worker*.

Surprisingly, there are relatively more other workers with high employment flexibility (i.e. workers with temporary contracts or self-employed). This finding seems to be counter-intuitive as one of our assumptions is that knowledge workers value job flexibility and the mobility possibilities. Yet, almost 76% of knowledge workers have a permanent contract, which is a very high rate, especially comparing to only 55.5% of routine-task workers with permanent contracts.

Finally, we can see that, in relative terms, almost 10% more knowledge workers are very satisfied or satisfied with their job than other workers (54.2% and 44.5%, respectively).

4. Estimation and Results

4.1. Theoretical model

The formal notation of discrepancy theory is as follows^J. Let us assume that employment e of individual i (e_i) can be described by K job characteristics:

$$e_i = \{z_{ik}\}, \quad k = 1, \dots, K$$

Similarly, the job expectations of individual i (e_i^*) can be characterized by expected values of K job facets:

$$e_i^* = \{z_{ik}^*\}, \quad k = 1, \dots, K$$

As explained before, according to the discrepancy theory, job satisfaction is the function of *expected* job and *actual* job,

$$JS_i = f(e_i, e_i^*)$$

In particular, it can be presented as a difference between utility an individual gets (or expects to get) from real and hypothetical jobs:

$$JS_i = U(e_i) - U(e_i^*)$$

Let's denote the difference in utilities between particular job facets v_{ik} , where

$$v_{ik} = U_k(z_{ik}) - U_k(z_{ik}^*)$$

Then, we can present job satisfaction as a weighted sum:

$$JS_i = \beta_1 v_{i1} + \beta_2 v_{i2} + \dots + \beta_K v_{iK} + \varepsilon_i, \quad \varepsilon_i \sim \text{Logistic}(0,1)$$

$$JS_i = \beta \mathbf{v}_i + \varepsilon_i,$$

where ε_i is normally distributed random error with expected value 0, independently and identically distributed (*iid*) between individuals. We treat job satisfaction as a latent continuous value, that we cannot measure directly. Instead, we use binary variable js_i that takes value 0 if the utility from the actual job of an individual is lower than the utility from the hypothetical, expected job and value 1 otherwise:

$$js_i = \begin{cases} 1 & \text{if } JS_i > 0 \\ 0 & \text{if } JS_i \leq 0 \end{cases}$$

According to the model we report job satisfaction if the job meets our expectations or the difference between expectations and reality produces surplus of utility. For example, if the salary is higher than expected, the utility from the job will

^J The model based on (Búron, 2007)

exceed the salary from the expected employment. Thus value of the latent variable JS_i will be higher.

4.2. Logit model estimation

Out of all the independent variables initially used in the model, full-time employment and hours worked in the week have been removed due to their insignificance. On the other hand the AGE^2 variable has been added to the model^K. The final model is presented in Table 4.

Table 4. Logit Model

	Estimate	z value	Pr(> z)	Odds	Lower CI	Upper CI
(Intercept)	-5.787	-12.39	0.000	0.00	0.00	0.01
LOG ₂ INC	0.296	8.75	0.000	1.34	1.26	1.44
AGE	-0.041	-2.94	0.003	0.96	0.93	0.99
AGE ²	0.0004	2.66	0.008	1.00	1.00	1.00
MALE	-0.216	-4.61	0.000	0.81	0.74	0.88
YSTUDY	-0.019	-1.82	0.067	0.98	0.96	1.00
KW	-1.138	-3.47	0.001	0.32	0.17	0.61
MANAGER	0.461	6.54	0.000	1.59	1.38	1.82
TEMP	0.205	0.70	0.485	1.23	0.69	2.18
SELFEMPL	0.038	0.08	0.933	1.04	0.40	2.70
JOBSEC	1.320	20.80	0.000	3.74	3.31	4.24
KW*TEMP	0.276	2.04	0.042	1.32	1.01	1.72
KW*SELFEMPL	0.109	0.56	0.579	1.12	0.76	1.64
JOBSEC*TEMP	0.124	-1.19	0.236	0.88	0.72	1.08
JOBSEC*SELFEMPL	0.083	0.48	0.632	1.09	0.77	1.53
KW*JOBSEC	0.450	3.92	0.000	1.57	1.25	1.96
Log-Lik Int. Only	8148.74	Log-Lik Full	-5963.70	BIC	12072.43	
D(8626)	12115.61	LR(15)	4370.08	AIC	11959.40	
HL Test	0.36	Prob > LR	0.00	Count R2	0.66	
McFadden's R2	0.27	McFadden's Adj	0.27	Adj Count R2	0.26	
McKelvey & Zavoina R2	0.18	Efron's R2	0.13			

$$\begin{aligned}
 JS_i = & -5.787 + 0.296 \log_2 INC_i - 0.041 AGE_i + 0.0004 AGE_i^2 - 0.216 MALE_i - 0.019 YSTUDY_i - 1.138 KW_i \\
 & + 0.461 MANAGER_i + 0.205 TEMP_i + 0.038 SELFEMPL_i + 1.320 JOBSEC_i + 0.276 KW_i \\
 & * TEMP_i + 0.109 KW_i * SELFEMPL_i + 0.124 TEMP_i * JOBSEC_i + 0.083 SELFEMPL_i \\
 & * JOBSEC_i + 0.450 KW_i * JOBSEC_i + \varepsilon_i
 \end{aligned}$$

Source: Own elaboration based on data from (Rada Monitoringu Społecznego, 2011)

^K The nonlinear relationship between age and job satisfaction has been empirically proven (Clark, Oswald and Warr, 1996). In particular it has been shown that job satisfaction is U-shaped in age. This result has been also widely replicated by other empirical research, e.g. (Lange, 2009; Lévy-Garboua and Montmarquette, 2004; Millán, et al, 2011).

As a result, the model comprises a number of sociodemographical variables: income (LOG_2INC), age (AGE and AGE^2), sex (MALE), years of study (YSTUDY). Other group of factors are work related variables: knowledge work (KW), managerial position (MANAGER), temporary contract (TEMP), self-employment (SELFEMPL) and Mokken scale of job security (JOBSEC). Finally, included in the model are a number of interactions between variables which will help verify the research hypotheses: interactions between type of work and employment flexibility ($\text{KW}*\text{TEMP}$) and ($\text{KW}*\text{SELFEMPL}$); interaction between employment flexibility and job security ($\text{JOBSEC}*\text{TEMP}$) and ($\text{JOBSEC}*\text{SELFEMPL}$); interaction between type of work and job security ($\text{KW}*\text{JOBSEC}$).

All used variables, except for some of the variables that are parts of interaction terms, turned out to be significant. Overall fit of the model, as showed in Table 4, varies between 0.13 and 0.27, depending on a Pseudo- R^2 measure. The Hosmer-Lomeshow (HL) test with p-value 0.367 shows that the model is well fitted and the chosen model form is appropriate.

Two separate models for the knowledge workers and other workers have been considered in the analysis. However, they have been disregarded as their tests of goodness of fit have been rejected.

The odds ratios presented in Table 4 are the easiest way to interpret partial effects of the regressors on the dependent variable in logistic models, as, unlike marginal effects, they do not depend on values of other factors.

As expected, income (LOG_2INC) has a positive impact on job satisfaction, meaning that the more someone earns the more probable is to be satisfied from job. According to the model, doubling the income (as variable LOG_2INC is a logarithm to base two) would result in the 1.34 effect on odds ratio. That is to say that it would rise the odds of being satisfied versus being not satisfied by 1.34.

Age (AGE) has been proven to be a significant variable and the U-shaped function of job satisfaction in age has been confirmed, as the age squared (AGE^2) is significant in the model. However, the influence of this variable is very low, almost equal to 0. Nevertheless, we have decided to keep the variable in the present form as an important control factor.

Another finding replicates the results of many previous studies, e.g. (Clark, 1997; Burón, 2007). Namely, according to the estimated model, men (MALE) are less satisfied with their jobs than women. The odds of being satisfied with a job are 19% lower for male workers than for female workers. The discrepancy theory brings a plausible explanation for this result. As men have higher expectations towards their job, the difference between the expectations and reality is greater than in case of less demanding women.

Surprisingly, the time devoted to education, measured by the years individuals have spent on studying (YSTUDY) affects adversely the probability of achieving job satisfaction. According to the model, the odds of being very satisfied or satisfied with one's work decrease by 2% with each additional year of study. This finding can also be explained by the discrepancy theory. A person who spent more years on education would most probably have more expectations towards their job. However the

expectations exceed the labour market offers, thus creating bigger gap between "dream job" and the actual job.

Having a managerial position (MANAGER) significantly increases chances of being satisfied with a job. In the purposed model odds of being satisfied for persons with managerial positions are 59% higher than for rest of workers. This relation has already been shown in hitherto research (Clark, 1997). Feeling of being in charge and having a certain amount of power may be desirable in a job. Thus, once achieved, may increase probability of job satisfaction.

Out of all observations, 66% were correctly classified. The specificity of the model (the percentage of correctly classified negative answers) equaling to 71%, is higher than its sensitivity (the percentage of correctly classified positive answers), which equals to 59%.

The fact that the knowledge workers (KW) variable has a negative sign, indicating lower job satisfaction than satisfaction of other workers, might seem to be a surprising and counterintuitive outcome. However, it is crucial to take into account the fact that the variable is included also in interaction terms of the model, analysed further in the paper. The result shows that knowledge workers with permanent contract and no job security are less likely to be satisfied from jobs than other workers with the same characteristics. Figure 2, analysed further in the paper, depicts the function of job security on job satisfaction for the two types of workers. At the minimum level of job security, other workers are the group that is more likely to be satisfied.

The variables denoting employment flexibility – temporary contracts (TEMP) and self-employment (SELFEMPL) – turned out to be insignificant. However, the influence of employment flexibility cannot be disregarded without taking account of the interaction terms.

Job security (JOBSEC) is the most influential determinant of job satisfaction in the model. For permanent other workers, the increase of job security index by 0.1 of a unit increases the odds of being satisfied by 27.4%.

In the model, variables $JOBSEC*TEMP$ and $JOBSEC*SELFEMPL$ show how job security influences workers with different types of contracts. Neither of these interaction terms turned out to be significant. We can conclude that the influence of job security on job satisfaction does not change depending on the type of contract. Together with the finding that the employment flexibility variables are insignificant, this result might be in favour of the flexicurity concept. If workers don't feel less satisfied just by the fact of having temporary employment contract and the influence of job security does not change between individuals with more and less flexible contracts, they should be indifferent between choosing flexible and stable employment, provided they would guarantee the same level of job security.

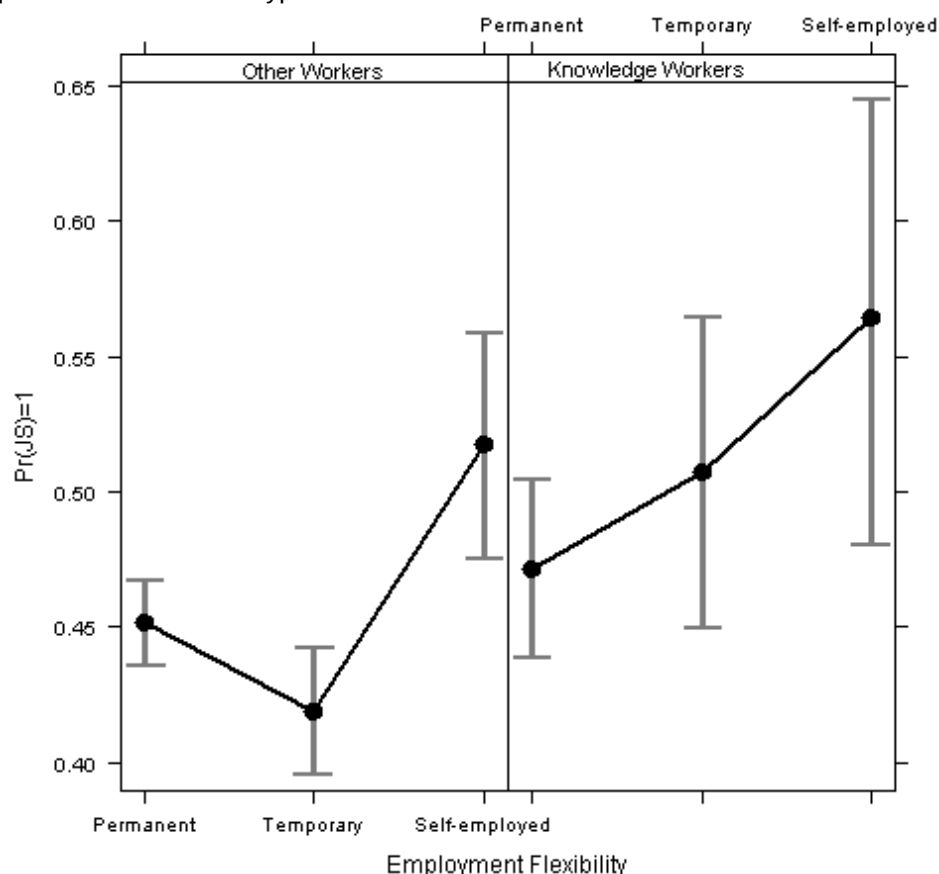
The variables $KW*TEMP$ and $KW*SELFEMPL$ represent the relation between job satisfaction and employment flexibility for two groups: knowledge workers and other workers, depicted in Figure 1. From the graphs we can draw a few conclusions, concerning the comparison between the groups and within them. In case of other workers, the self-employed individuals group has a significantly higher probability of being satisfied from work than two remaining groups. This difference however is not

observed in case of knowledge workers. The confidence intervals for permanent, temporary and self-employed knowledge workers are highly overlapping, thus we conclude that there is no significant influence of type of employment contract on job satisfaction within group of knowledge workers.

We can also observe that temporary knowledge workers are more likely to be satisfied from job than temporary other workers. Self-employed knowledge workers are more likely to attain job satisfaction than permanent and temporary other workers, and at least as likely to attain job satisfaction as self-employed other workers.

The hypothesis H2, saying that knowledge workers value flexibility over stability has been rejected, as no significant difference between stable and flexible employment, with regard to job satisfaction, has been found. Yet, we could conclude, that for that group job flexibility is more satisfying than for the group of other workers.

Figure 1. Probability of job satisfaction as a function of employment flexibility for persons with different type of work



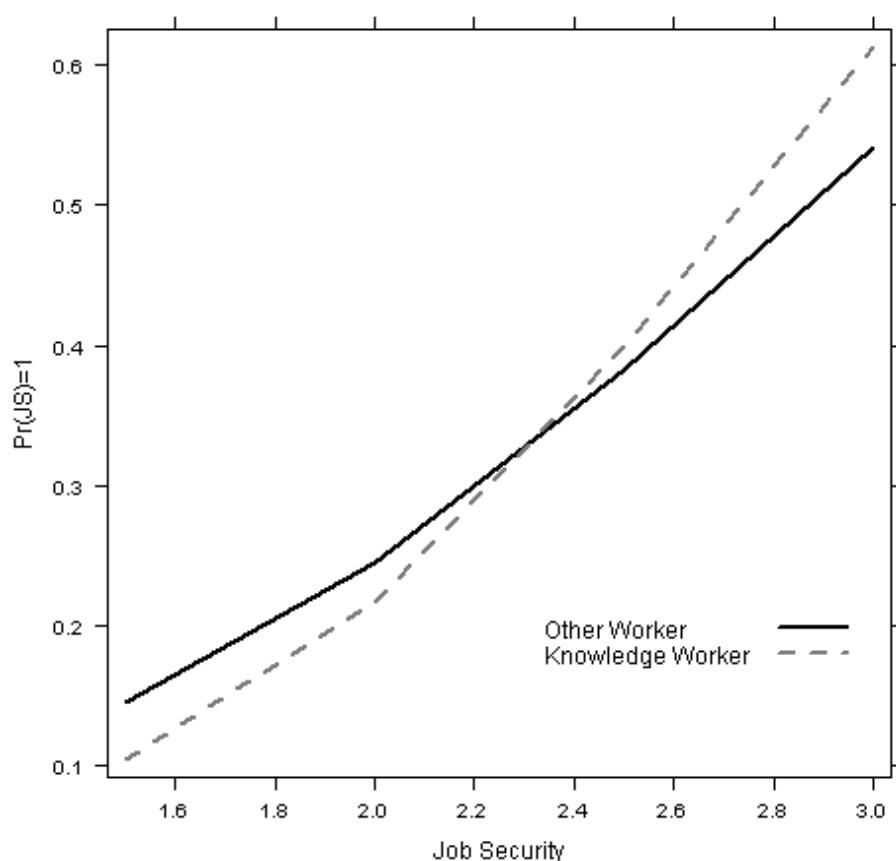
Source: Own elaboration based on data from based on (Rada Monitoringu Społecznego, 2011)

Figure 2 presents function of job security and probability of job satisfaction for two analysed groups: knowledge workers and other workers. We can observe that the probability of reaching the state of job satisfaction in different groups is influenced in a

distinct way by job security. Insecure knowledge workers are *less* likely to be satisfied than insecure routine task workers. However from a certain point (an elbow on the dotted line), the marginal growth in job security of knowledge workers increases this probability to relatively great extend. The probability of job satisfaction in case of routine-task workers also grows together with job security, but at a lower "pace". Therefore, knowledge workers with high levels of job security are more likely to be satisfied than very secure other workers.

The finding rejects H3, which suggested lower influence of job security on knowledge workers' job satisfaction. It is other workers that are more likely to be satisfied under condition of job insecurity. However, with higher job security, knowledge workers are more probable to be happy with their jobs. Knowledge workers' security line gets steeper with the growth of job security, whereas the angle of job security line of other workers doesn't change.

Figure 2. Probability of job satisfaction as a function of job security for persons with different type of work



Source: Own elaboration based on data from based on (Rada Monitoringu Społecznego, 2011)

5. Conclusions

The analysis has confirmed hypothesis H1. The type of contract itself does not determine the job satisfaction of workers. It is the job security that is crucial for attaining job satisfaction. The result suggests that flexicurity approach is feasible, as long as flexible employment will be supported by legislative and job security. The austerity measures on the other hand, aiming at limiting security of flexible employment arrangements would come against the idea of flexicurity and would make flexible employment inevitably inferior from the permanent positions. For that reason an important aspect of government policy with respect to labour market is to keep the legislative security at a satisfying level.

The derived model rejects hypothesis H2 concerning higher job satisfaction of knowledge workers coming from more flexible job contracts. Knowledge workers are not more likely to attain job satisfaction by having a temporary contract or being self-employed instead of having a permanent contract. However, what has been shown is that knowledge workers with temporary contracts are more satisfied than other workers with similar employment arrangements. A plausible explanation for this occurrence is that in the case of knowledge workers, temporary contract is associated with desired possibility of mobility and smooth changes between the jobs, while for other workers, it is related with the precarity of work. This finding proves that, despite the common view, flexible employment is not necessarily worse from the permanent contract. Therefore temporary contracts and self-employment play an important role in the employment policy and should not be disregarded as inferior. More detailed analysis on subgroups of workers could possibly show which occupational groups are in fact more comfortable with more flexible arrangements and which are facing the problem of precarity. It is an important idea for future research as it would help the policy-makers tailor their employment policy.

Self-employed, both routine-task and knowledge, workers have been proved to be more likely to be satisfied than other temporary and permanent other workers. Self-employment, both as an entrepreneur and as a freelancer, gives more liberty and job flexibility. Realization of one's goal is easier than under other employment arrangements. If one has more freedom to determine various aspects of his or her job, the gap between their job expectations and the reality may be smaller, than in the case of other employed individuals.

Hypothesis H3 has also been rejected by the model. Job security positively influences the probability of getting job satisfaction for both knowledge workers and other workers. However, it is a stronger determinant of job satisfaction for knowledge workers than for the other group. The explanation behind this relation may be sought in the discrepancy theory. We can interpret the result as the difference in expectations with regards to the job security among the analysed groups. Routine task workers, especially precarious temporary workers expect their work to be insecure, so this factor does not change the difference between their job expectations and the actual job. Knowledge workers on the other hand may have higher expectations towards their

security. According to discrepancy theory, a factor highly valued by an individual to affect his or her job satisfaction. Hence the result shows that knowledge workers not only expect their job security to be higher but also greatly value a psychological comfort at work. The lack of it affects their job satisfaction to a great extent. Also in this case an analysis of disaggregated data could give an interesting insight into the issue. It is possible that the importance of job security concerns only some subgroups of knowledge workers, whereas others, likely the ones that appreciate mobility more, do not give much attention to it.

The analysis has shown that job security is a crucial factor determining job satisfaction for both knowledge workers and other workers. It is also the key ingredient in the flexicurity mix. The type of contract should not change the job satisfaction of an individual, provided he or she does not feel that their position is at risk. Job security is also very important for seemingly indifferent knowledge workers, who, one would assume, can easily find alternative employment. Thus, providing employees with a basis for feeling secure is vital for reassuring their satisfaction. In this case "sticks" in the form of threats and warnings will work much worse for employees' job satisfaction than "carrots" in form of providing secure and fair work environment. Although job satisfaction has not been proved to improve workers performance, it brings a number of other benefits (e.g. lower rates of grievances, absenteeism and quits) that are surely valuable for the employers.

A fruitful area for the future research would be to investigate other types of flexibility-security nexuses. In particular, the employment flexibility and employment stability nexus should be an important consideration for future research, as it is a factor that may be influenced by government policies. Another significant factor in the context of knowledge workers is the job flexibility and its influence on job and life satisfaction. It would be an interesting development of the topic to investigate how flexible working hours and other work arrangements impact job satisfaction of different types of workers.

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Resumen

La evidencia empírica disponible ha contrastado la influencia positiva de la estabilidad del empleo sobre la satisfacción de los trabajadores. La estabilidad del empleo, que generalmente se mide a través de los tipos de contrato, puede incidir sobre la satisfacción de los trabajadores de una forma directa, así como a través del efecto indirecto sobre otras variables del empleo, como la seguridad laboral en el sentido que una posición estable del puesto de trabajo puede conducir a los trabajadores hacia una mayor sensación de seguridad. El objetivo de esta investigación es el análisis de las relaciones entre la seguridad laboral, la estabilidad del empleo y la satisfacción de los trabajadores en Polonia. La investigación también incorpora el análisis de los efectos diferenciales sobre distintos grupos de trabajadores, en especial entre los trabajadores del conocimiento y los trabajadores ubicados en actividades menos intensivas en conocimiento. A partir de una muestra representativa de 8642 trabajadores en 2011, la investigación utiliza un modelo logístico con la satisfacción laboral como variable dependiente, y el tipo de contrato, la seguridad laboral y las características de los trabajadores como variables independientes. Su principal resultado evidencia que la seguridad laboral es un factor determinante en la explicación de la satisfacción de los trabajadores en Polonia, en lugar de una consecuencia de la negociación y los convenios colectivos. La investigación también pone de relieve que la satisfacción de los trabajadores del conocimiento está más influenciada por la seguridad en el empleo.

Palabras clave

Trabajadores del Conocimiento, Satisfacción Laboral, Flexibilidad del Empleo, Seguridad Laboral, Polonia

Resum

L'evidència empírica disponible ha contrasta la influència positiva de l'estabilitat del treball sobre la satisfacció dels treballadors. L'estabilitat del treball, que generalment es mesura a través dels tipus de contracte, pot incidir sobre la satisfacció dels treballadors de manera directa, però també a través d'un efecte indirecte sobre altres variables del treball, com la seguretat laboral en el sentit que una posició estable en el lloc de treball pot conduir als treballadors cap a una major sensació de seguretat. L'objectiu d'aquesta investigació és l'anàlisi de les relacions entre la seguretat laboral, l'estabilitat del treball i la satisfacció dels treballadors a Polònia. La investigació també incorpora l'anàlisi dels efectes diferencials entre els treballadors del coneixement i els treballadors ubicats en activitats menys intensives en coneixement. A partir d'una mostra representativa de 8642 el 2011, la investigació utilitza un model logístic amb la satisfacció laboral com a variable dependent, i el tipus de contracte, la seguretat laboral i les característiques dels treballadors com a variables independents. El seu principal resultat evidencia que la seguretat laboral és un factor determinant en l'explicació de la satisfacció dels treballadors a Polònia, enlloc d'un resultat de la negociació i dels convenis col·lectius. La investigació també posa de relleu que la satisfacció dels treballadors del coneixement està més influenciada per la seguretat laboral.

Paraules clau:

Treballadors del coneixement, Satisfacció laboral, Flexibilitat del treball, Seguretat laboral, Polònia

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