

The relationship between job satisfaction and contingent-employment

Marloes de Graaf-Zijl*

november 2008

Abstract:

This paper analyses job satisfaction as an aggregate of satisfaction with several job aspects, with special focus on the influence of contingent-employment contracts. Fixed-effect analysis is applied on a longitudinal sample of Dutch employees in four work arrangements: regular, fixed-term, on-call and temporary agency work. Our results indicate that temporary agency work is the only contingent employment relation that is associated with lower job satisfaction compared to regular workers. Decomposition of this gap indicates that the major part is due to the low satisfaction experienced by agency workers regarding the content of their jobs. A lack of job security is also responsible for part of the gap. For fixed-term and on-call workers the negative satisfaction effect originating from the lack of job security and lower wages is compensated by other job aspects and a variant relationship between total job satisfaction and its components.

JEL codes: J28, J40, C23

Keywords: temporary employment, job satisfaction

* University of Amsterdam, Amsterdam Institute for Advanced Labour Studies, Plantage Muidergracht 12, 1018 TV, Amsterdam, The Netherlands, tel: 0031-205257140, e-mail: m.degraaf-zijl@uva.nl

INTRODUCTION

The increased use of contingent employment contracts in most western societies has led to both a political and scientific debate about the potential detrimental effects on workers. Contingent employment refers to job situations in which an individual does not have an explicit or implicit contract for long-term employment or to jobs in which the minimum hours worked can vary in a non-systematic manner (Polivka and Nardone, 1989). Concerns were raised about the lack of job security, lower wages, detrimental working conditions, higher numbers of work accidents, lack of training opportunities and higher job strain.¹ On the other hand it has been acknowledged that contingent work enables workers to better combine their work and family life and also serves as a potential stepping-stone towards regular employment. All these factors together influence the extent to which workers are satisfied with their jobs. Job satisfaction in contingent employment has been analysed by e.g. Kaiser (2002), Booth et al. (2002), Bardasi and Francesconi (2004) and D’Addio et al. (2007). In general a negative association is observed between contingent work arrangements and job satisfaction. Bardasi and Francesconi (2004) and D’Addio et al. (2007) find that after allowing for individuals to have different baseline satisfaction levels the negative relation between fixed-term employment and job satisfaction disappears. According to Bardasi and Francesconi (2004) this does not hold for seasonal/casual jobs, implying that it is important to distinguish between several types of contingent employment relationships.

In order to better understand the connection between contingent employment and job satisfaction, this paper analyses the relation between total job satisfaction and satisfaction with several aspects of the job, and the way these are associated with several work arrangements. We use data extracted from the Dutch Socio Economic Panel (SEP) for the years 1995-2002.² These data include a refined definition of employment contracts, allowing us to distinguish between regular, fixed-term, temporary agency and on-call work. We determine the job aspects with which

¹ For a recent overview of studies on these issues see Zijl (2006, chapter 2).

² 2002 is the last year these data were collected. Although this restriction is unfortunate, the period 1995-2002 covers the most relevant period for studying the contingent work phenomenon. It includes the major policy change that took place in 1999, which is described in section II and affected the use of contingent work arrangements. Furthermore, the main influence on the use of contingent work comes from business cycle movements (see e.g. De Graaf-Zijl and Berkhout, 2007). Our data period covers a full business cycle. Since 2002 no major changes in the regulation and number of contingent work arrangements took place.

contingent workers are less satisfied. Furthermore we allow for differences between work arrangements in the importance of job aspects, such as job security, job content and wages for overall job satisfaction. Theoretically there are many reasons why the weights of job aspects in overall satisfaction could differ between contingent and regular work arrangements. Psychologists Gallagher and McLean Parks (2001) question the transferability of attitude research and theories from regular work to various forms of contingent employment contracts. They argue that temporary workers are motivated by different factors than regular employees, because of the absence of an assumed ongoing employer-employee relationship and, in the case of agency workers, because of the triangular relationship between employee, employer and client firm. Torka and Schyns (2007) study satisfaction of temporary agency workers and find that temporary agency workers indeed attach different values to the same job aspects. Furthermore, one might argue that the bundle of characteristics associated with contingent workers' jobs may appeal to them sufficiently to overcome the satisfaction lost from their lack of job security. For instance it may be the case that workers view a fixed-term job as a stepping-stone to a regular job. In this case, they might consider issues such as a lower wage to be less of a problem. Similarly, women with a working spouse who occupy an on-call job in order to combine their work and family life might not find the lack of security an important downside.

Knowledge about the relationship between job satisfaction and contingent work arrangements is of great value for policy makers deciding on the social and political acceptability of these work arrangements. To date, attempts to determine the relationship between contingent work and job satisfaction have been unable to provide a clear-cut indication of the reason behind observed differences. The present paper attempts to fill this gap by determining which are the job aspects to which workers attach most value, and which of these aspects lead to inequalities in satisfaction between regular and contingent contracts. Our results indicate that temporary agency work is the only contingent employment relationship that is associated with lower job satisfaction. Decomposition of this gap indicates that the major part is due to the low satisfaction experienced by agency workers regarding the content of their jobs. This can in turn be explained from the low function level generally occupied by these workers and the high incidence of overeducated agency workers. Nevertheless, the lack of job security is also responsible for part of the gap in job satisfaction between regular and agency workers. Unlike the case of fixed-term and on-call workers, the

negative satisfaction effect originating from the lack of job security experienced by agency workers is not compensated by other job aspects or a distinct relation between total job satisfaction and its components.

The outline of the paper is as follows. Section II starts by providing a taxonomy of contingent work arrangements and presents the case of contingent employment in the Netherlands. Section III discusses the data used in this paper, the model and the estimation method. Section IV presents estimation results. Here we decompose the observed gap in total job satisfaction between contingent and regular work arrangements into those parts due to personal effects, those due to coefficients and those due to the structure of aspect satisfactions. Section V concludes.

II. CONTINGENT EMPLOYMENT IN THE NETHERLANDS

In this paper we distinguish four types of employment contracts: regular open-ended contracts, fixed-term contracts, on-call contracts and temporary agency work. Table 1 provides a characterisation of the four employment relations. They differ in three aspects. First, when employed on a regular contract, employees work at the employer's workplace and on the employer's premises, under his or her supervision. In contrast, in case of temporary agency workers the *de facto* employer differs from the *de jure* employer, resulting in a three-cornered relationship, which complicates human resource management. Second, a regular contract is characterized by continuity of employment, whereas the notion of ongoing employment is absent in the other employment arrangements. Third, working hours in regular employment relations are fixed, which is not the case in on-call or temporary work agency arrangements. Unlike many other countries, the atypical work arrangements in the Netherlands are associated with entitlements such as minimum wage, unemployment insurance, health insurance and protection against unfair dismissal during the contract period. Self-employment is not included in this paper.

- Table 1 -

The Netherlands is an interesting case study for studying the effects of contingent employment. Already for decades, the Netherlands is a forerunner in the use of temporary agency work, with few restrictions on its use (Grubb and Wells, 1993;

OECD, 1999; CIETT, 2000; Eurociett, 2007). In 1999 the last restrictions on the use of agency work in transportation and construction were removed. Only for seaman does a restriction remain in place. The share of agency work in overall employment is approximately 5 percent (CIETT, 2000).

Regarding fixed-term employment, the Netherlands is not very strictly regulated either (Grubb and Wells, 1993; OECD 1999; OECD 2004). Employers in the Netherlands have been allowed to use such contracts without many restrictions for many years. The main restriction concerns the number of subsequent fixed-term contracts allowed per employer-employee match. Until 1999 only one subsequent fixed-term contract was allowed; since 1999 three consecutive fixed-term contracts can be used per employer-employee match. The share of fixed-term employment in the overall employment rate is approximately 15 percent. In the beginning of the 1990s this was about 9 percent (Grubb and Wells, 1993). Approximately 60 percent of new jobs are fixed-term (Avo-data, Arbeidsinspectie). A special case is the fixed-term contract concluded with an explicit agreement to convert into an open-ended contract in case of good performance. This agreement can be legally enforced, irrespective of whether the intention is made on paper or verbally. More than half of all fixed-term contracts are concluded on this basis (Fouarge et al, 2006).

Since the 1980s, on-call contracts in the Netherlands were used on a rather large scale. In 1997, 13 percent of private sector employment was on an on-call basis, which by 2003 was reduced to 5 percent (source: AVO-data, Arbeidsinspectie). Until 1999 there were no conditions on the maximum duration of zero-hour contracts and min-max contracts³, and the minimum number of hours paid per call. Since 1999, when the Flexibility and Security Act was enacted, there has been a minimum number of hours paid and the maximum duration of the fully flexible contract is restricted to the first six months.

III. DATA AND METHODOLOGY

This paper uses a subset of the Dutch Socio-Economic Panel (SEP) for the years 1995-2002. We limit the sample to individuals for whom work is the main daily activity. This results in a total of 6,952 individuals with 25,883 job observations. 16

³ In this type of contract the minimum and sometimes maximum number of hours worked per week are put down in the contract.

percent of the respondents change their type of employment contract during the observation period. The fact that individuals shift between types of contracts enables us to identify the effects of contingent work arrangements using panel data analysis.

The SEP-data include yearly information on the respondents' socio-economic situation - education, labour force participation, income, wealth and satisfaction. According to Statistics Netherlands, a certain degree of selectivity was caused by non-response (48%) at the start of the survey, and later by panel attrition. To correct for this selectivity, weights based on demographic statistics (size of municipality, age, sex and marital status) were used in our analysis and when calculating descriptives. We corrected all monetary variables in the dataset for inflation to ensure proper comparison over the years.

The SEP data provide a six-point scale of overall job satisfaction and satisfaction with job content, working conditions, wages, working hours, working times, job security and commuting distance. In this paper we model the relation between contingent employment contracts and job satisfaction by analyzing overall job satisfaction as an amalgam of satisfaction with the aforementioned job aspects. We use a model in which overall job satisfaction (JS) is a construct of job-aspect satisfactions (JAS):

$$JS_{it} = \sum_{j=1}^J \gamma_j JAS_{it} + \alpha_i + \varepsilon_{it} \quad (1)$$

In this equation i is an individual, t is time and ε is the error term. The α -term in equation (1) reflects a latent component of unobserved personality traits that influence general job satisfaction. There is substantial psychological evidence on the relationship between personality and satisfaction (e.g. Diener and Lucas, 1999; Argyle, 1999; Ilies and Judge, 2003) and the heritability of satisfaction (e.g. Arvey et al, 1989). Recently this has led to applications of these phenomena in economics (e.g. Winkelmann, 2003). Ferrer-i-Carbonell and Frijters (2004) show the importance of taking these personality traits, or more generally unobserved personal fixed effects, into account when analysing satisfaction. Unobserved personality traits account for a major portion of differences between individuals in reported satisfaction. In the present setup this might be of lesser importance, because we may assume that these personality traits influence both total job satisfaction and job aspect satisfaction in the same degree. Still, the *relationship* between aspect satisfaction and total satisfaction

might be related to these unobserved factors. This happens when the correlation between overall job satisfaction and (e.g.) wage satisfaction is stronger for some persons than for others - for instance, because they are more motivated by extrinsic rewards, while others are more sensitive to intrinsic rewards, such as job content. Not taking into account these fixed unobserved factors would lead to biased results. Therefore we apply fixed effect ordered logit estimation using the method of Ferrer-i- Carbonell and Frijters (2004).

Table 2 provides descriptive statistics and indicates major differences between personal and job characteristics between the contract types. Age, gender, education level and having been unemployed before the start of the job are the personal characteristics that vary substantially between regular workers, agency workers, on-call workers and fixed-term workers. Regarding job characteristics, tenure, hourly wages and firm provided training and pension schemes represent main differences between the employment contracts. Also the job level, executive functions and the level of fringe benefits differ between the contracts. These differences may be the source of diverging job satisfaction patterns observed in the respective employment arrangements.

- Table 2 -

IV. RESULTS

Table 3 provides an overview of the job-satisfaction responses per contract type. In the SEP-data, satisfaction questions are asked on a six point Likert scale, where 1 means very dissatisfied and 6, very satisfied. Average job satisfaction is lower in contingent work arrangements compared to regular jobs, but only agency work is associated with statistically significant lower overall job satisfaction. As table 3 makes clear, it is not only overall job satisfaction that differs between the contracts. The most pronounced difference concerns job security. All three contingent work arrangements are associated with statistically significant lower satisfaction with job security, indicating that indeed most workers prefer the higher job security provided by regular work arrangements. Also, satisfaction with wages is lower for all contingent work arrangements agency workers, whereas satisfaction with working

conditions is higher. In addition agency workers are less satisfied with the job content, but on the other hand satisfaction with working hours is higher for agency workers.

- Table 3 -

These observations raise the question of how important the differences in the aspect satisfactions are for the overall job satisfaction in the contingent and regular work arrangements. What makes contingent workers, and especially agency workers, less satisfied? To answer this question, we estimated equation 1 using fixed effect ordered logit estimation. Table 4 presents the results.⁴ In Model 1 no distinction is made between employment contracts. Clearly, general job satisfaction is determined mainly by happiness with job content. The weight of this aspect is more than twice as high as that of working conditions, working hours, wage and working times. In turn, the weight of job security and commuting distance is again half as high as these four items.

Model 2 is an extended version of model 1 with interaction terms by employment contract. Regarding fixed-term contracts, we find no different weights of the job aspects in overall satisfaction compared to regular contracts. However, temporary agency work and on-call work show signs of distinct job satisfaction structures. The only job aspect that shows statistically significant interactions with contract dummies is the wage. For temporary agency workers and on-call workers, wage satisfaction receives a lower weight in overall job satisfaction than for regular workers. Interestingly, the contract dummies themselves are statistically significant, indicating that there must be unobserved job aspects that are more important for agency workers and on-call workers than for regular workers. Earlier research in other disciplines (e.g. Kalleberg, 1977) reveals six dimensions of work that together explain a major part of the variance in satisfaction: intrinsic (job content), convenience (working hours, working times, working conditions, commuting distance), financial (wage), relationships with co-workers, career opportunities and resource adequacy. The first three items are present in the current analysis; the last three are absent in our data. This indicates that these last three items may be responsible for the positive

⁴ Robustness checks have shown that results are not sensitive to selection of the sample (such as limiting the sample to job switchers or to private-sector employees).

contract dummies. Also, a recent contribution by Mohr and Zoghi (2008) shows that high-involvement work design, such as participation in quality circles, self-directed workgroups and being informed about workplace changes lead to higher job satisfaction. As was shown by Felstead and Gallie (2004) temporary workers have a lot to gain in this respect.

An entire stream of literature, started by Clark (1997), is devoted to explaining the gender gap in job satisfaction. The original explanation was that women have lower expectations about labour market outcomes. More recent evidence suggests that the gender differences are eliminated after taking flexibility between work and home into account (Bender et al., 2005). This is, of course, highly related to contingent work arrangements. The ability to combine work and family life is better for temporary agency work and on-call work than for regular or fixed-term contracts, hence it is a major reason why some women choose to work in these arrangements (Ciett, 2000). Therefore we may expect that men and women value job-amenities attached to the specific work arrangements differently. For instance, it may be the case that women who occupy an on-call job in order to combine their work and family life might not find the lack of security an important downside. To test for these possibilities, models 3 and 4 provide estimates separately for men and women. We find little evidence for the hypothesis that men and women attach different values to job aspects related to contingent work arrangements.⁵ Table 4 does indicate that the model provides more explanation for the job satisfaction of men compared to women. For women practically all coefficients are lower, indicating that a higher portion is absorbed by the personal fixed effect. Again, this might be related to the absence of some job aspect satisfaction that might be especially important for women. For example, the relationship to co-workers might be more important for women than for men.

- Table 4 -

As we have shown, overall job satisfaction is lower in contingent work arrangements compared to regular contracts. Table 5 shows the decomposition of the total difference in overall job satisfaction between the contingent work arrangements and regular jobs. As was already found by Bardasi and Francesconi (2004) and D'Addio

⁵ This conclusion is not sensitive to including all women, only married women or women with children in the analysis.

et al. (2007), fixed-term contracts show no different relation with job satisfaction compared to regular contracts, especially after taking account of the personal fixed effect. Temporary agency work is associated with lower overall job satisfaction. Even though the personal fixed effect does absorb part of the negative differential, the gap remains after the personal fixed effect is taken into account. This is mainly due to the lower satisfaction with job content. Also the low satisfaction with job security is responsible for a substantial part of the gap in overall job satisfaction between agency workers and regular workers. The low satisfaction of agency workers with respect to job content might be the result of the lower function level and higher incidence of over-education among temporary agency workers (see Table 2). As was already shown by Allen and Van der Velden (2001), over-education, and especially skill mismatch, has a negative influence on the job occupant's satisfaction. Zijl (2006, chapter 5) has shown that low function levels lead to lower satisfaction with job content, even after controlling for individual fixed effects.

With respect to on-call work, the gap in overall job satisfaction with regular workers is fully absorbed by the personal fixed effect. Nevertheless the lower satisfaction with job security is responsible for a substantial negative influence on overall job satisfaction. This is in turn compensated by the distinct weights applied by workers in on-call jobs. For this group, we clearly see that a lower satisfaction with some aspects of the job can be compensated by other factors and the weight attached to the several job aspects.

- Table 5 -

V. SUMMARY AND CONCLUSIONS

In this paper we have explored the relationship between contingent work arrangements and job satisfaction. Earlier research has established a negative relationship between contingent work arrangements and job satisfaction, which for some arrangements persist after controlling for a range of personal and job characteristics, and even after allowing for unobserved heterogeneity. In order to better understand the relationship between contingent work arrangements and job satisfaction, we have analysed satisfaction with a number of job aspects in four employment arrangements: regular, fixed-term, on-call and temporary agency work. We have determined the job aspects with which contingent workers are less satisfied

and allowed for differences between work arrangements in the importance of these job aspects for overall job satisfaction. In doing so we allowed for the possibility that the bundle of characteristics associated with contingent workers' jobs appeals to them sufficiently to overcome the satisfaction lost from their lack of job security. Data were used from the Dutch Socio-Economic Panel for the years 1995-2001.

Based on simple cross tabulations we find that workers employed on contingent work arrangements experience less job satisfaction compared to regular workers. This holds especially for temporary agency workers and to a lesser extent also for on-call workers. All three contingent work arrangements are associated with lower satisfaction with job security and wages. Agency work is also associated with lower satisfaction with job content.

Our fixed effects ordered logit results indicate that overall job satisfaction is mainly determined by happiness with job content. The way total job satisfaction is built up from the various job aspects differs somewhat between work arrangement, but not spectacularly so. Also, we find no evidence for difference between men and women in this respect. The decomposition of the gap in total job satisfaction between regular workers and contingent workers indicates that fixed-term contracts show no different relationship with job satisfaction compared to regular contracts, especially after taking account of the personal fixed effect. The gap in total job satisfaction between regular workers and temporary agency work remains after the personal fixed effect is taken into account and is mainly due to the lower satisfaction experienced by agency workers with the content of their jobs. Also the low satisfaction with job security is responsible for a substantial part of the gap in overall job satisfaction between agency workers and regular workers. In contrast, for fixed-term and on-call workers the negative satisfaction effect originating from the lack of job security is compensated by other job aspects or a distinct relationship between total job satisfaction and its components.

Our findings in this paper have important implications for the political debate with respect to the acceptability of contingent work arrangements as a regular part of the labour market. The results suggest that policy concern over temporary agency work is at least partially justified, since temporary agency work is associated with lower overall job security. For fixed-term and on-call workers, the negative satisfaction effect originating from the lack of job security and lower wages is compensated by other job aspects or a variant relationship between total job

satisfaction and its components, but not for temporary agency workers. These workers experience a strong negative influence originating from a lack of interesting job content, which can be related to the high amount of over-education among agency workers. In itself, this is not a major concern, as long as temporary agency work is not a dead-end position on the labour market and does not create a segmented labour market where some groups have little or no alternative to working as temporary agency workers. Fortunately, for many people temporary agency work is a temporary phase, an intermediate position between unemployment and regular work. In many countries a substantial number of workers currently occupied in temporary work arrangements find regular employment within the next year. According to Ciett (2000) these number amount to 30 to 40 percent in countries such as Germany, France, Italy, the UK and the Netherlands. As Ichino et al. (2008) have shown, temporary agency work can even be an effective stepping-stone to permanent employment, increasing future employment probabilities compared to a situation without temporary agency work. Against this background the lower job satisfaction of temporary agency workers due to lack of job security and relatively uninteresting work below their level may be regarded as an investment in future labour market opportunities.

LITERATURE

- Allen, J. and R. Van der Velden (2001), Educational mismatches versus skill mismatches: effects on wages, job satisfaction, and on the job search, *Oxford Economic Papers*, vol. 53, no. 3, pp. 434-452.
- Arbeidsinspectie, Avodata: J, Hoeben, A. Faas, M. Bos and J. Samadhan (2007), *Arbeidsvoorwaardenontwikkeling in 2006*, Den Haag: Arbeidsinspectie, Ministerie voor Sociale Zaken en Werkgelegenheid.
- Argyle, M. (1999), *Causes and correlates of happiness*, in: Kahneman, D., E. Diener, and N. Schwarz, (eds) (1999). *Foundations of Hedonic Psychology: Scientific perspectives on enjoyment and suffering*, New York: Russel Sage Foundation, chapter 18.

- Arvey, R.D., T.J. Bouchard, N.L. Segal and L.M. Abraham (1989), Job satisfaction: Environmental and genetic components, *Journal of Applied Psychology*, vol. 74, pp. 187-192.
- Bardasi, E. and M. Francesconi (2004), The impact of atypical employment on individual wellbeing: Evidence from a panel of British workers, *Social Science & Medicine*, vol. 58, no 9, pp. 1671-1688.
- Bender, K.A., S.M. Donohuey and J.S. Heywood (2005), Job satisfaction and gender segregation, *Oxford Economic Papers*, vol. 57, pp. 479–496
- Booth, A.L., M. Francesconi and J. Frank (2002), Temporary jobs: Stepping stones or dead ends?, *Economic Journal*, 112: F189-F213.
- Ciett (2000), *Orchestrating the Evolution of Private Employment Agencies towards a stronger society*, Brussels, International Confederation of Private Employment Agencies.
- Clark, A.E. (1997), Why are women so happy at work?, *Labour Economics*, vol. 4, pp. 341-372.
- D’Addio, A.C., T. Eriksson and P. Frijters (2007), An analysis of the determinants of job satisfaction when individuals' baseline satisfaction levels may differ, *Applied Economics*, vol. 39, no 19, pages 2413-2423.
- De Graaf-Zijl, M. and E.E. Berkhout (2007), Temporary agency work and the business cycle, *International Journal of Manpower*, vol. 28, no. 7, pp. 539-556.
- Diener, E. and Lucas, R.E. (1999), *Personality and subjective well-being*, in: Kahneman, D., E. Diener, and N. Schwarz, (eds) (1999). *Foundations of Hedonic Psychology: Scientific perspectives on enjoyment and suffering*, New York: Russel Sage Foundation, chapter 11.
- Eurociett (2007), *More work opportunities for more people; Unlocking the private employment agency industry’s contribution to a better functioning labour market*, Brussels: International Confederation of Private Employment Agencies.
- Felstead, A. and D. Gallie (2004), For better or worse? Non-standard jobs and high involvement work systems, *International Journal of Human Resource Management*, vol. 15, no. 7, pp. 1293-1316.
- Ferrer-i-Carbonell, A. and P. Frijters (2004), How important is methodology for the estimates of the determinants of happiness?, *Economic Journal*, vol. 114, no. 7, 641-659.

- Fouarge, D., A. Gielen, R. Grim, M. Kerkhofs, A. Roman, J. Schippers, T. Wilthagen (2006), *Tendrapport aanbod van arbeid 2005*, OSA Rapport A220, Tilburg: Organisatie voor Strategisch Arbeidsmarktonderzoek.
- Galagher, D.G. and J. McLean Parks (2001), I pledge thee my troth ... contingently; Commitment and the contingent work relationship, *Human Resource Management Review*, vol. 11, pp. 181-208.
- Grubb, D. and W. Wells (1993), Employment regulation patterns of work in EC countries, *OECD Economic Studies*, no. 21, Winter 1993, pp. 7-58.
- Ichino, A., F. Mealli and T. Nannicini (2008), From temporary help jobs to permanent employment: What can we learn from matching estimators and their sensitivity? *Journal of Applied Econometrics*, vol 23, no. 3, pp. 305-327.
- Ilies, R. and T.A. Judge (2003), On the heritability of job satisfaction: The mediating role of personality, *Journal of Applied psychology*, vol. 88, no. 4, pp. 750-759.
- Kaiser, L. (2002), *Job satisfaction: a comparison of standard, non-standard and self-employed patterns across Europe with a special note to the gender/job paradox*, EPAG Working Paper 27, Colchester: University of Essex.
- Kalleberg, A.L. (1977), Work values and job rewards: A theory of job satisfaction, *American Sociological Review*, vol. 42, no. 1, pp. 124-143.
- Kalleberg, A.L., B.F. Reskin and K. Hudson (2000), Bad jobs in America: Standard and nonstandard employment relations and job quality in the United States, *American Sociological Review*, vol. 65, pp. 256-278.
- Mohr, R.D. and C. Zoghi, (2008), High-involvement work design and job satisfaction, *Industrial and Labor Relations Review*, vol. 61, no. 3, pp. 275-296.
- OECD (2004), *Employment Protection Regulation and Labour Market Performance*, Employment Outlook 2004, Chapter 2, Paris: Organisation for Economic Co-operation and Development.
- OECD (1999), *Employment protection and labour market performance*, Employment Outlook 1999 Chapter 2, Paris: Organisation for Economic Co-operation and Development.
- Polivka, A.E. and T. Nardone, On the definition of contingent work, *Monthly Labor Review*, vol. 112, no. 12, pp. 9-16.
- Torka, N. and B. Schyns (2001), On the transferability of "traditional" satisfaction theory to non-traditional employment relationships: temp agency work satisfaction, *Employee Relations*, vol.29, no.5, pp. 440-457.

Zijl, M. (2006), *Economic and social consequences of temporary employment*,
Academic thesis, Thela Thesis Publising

Table 1 Characteristics of work arrangements

Work arrangement	<i>De Jure</i> employer	<i>De Facto</i> employer	Assumption of continued employment by <i>de Jure</i> employer	Assumption of continued employment by <i>de Facto</i> employer	Working hours
Regular	Org. A	Org. A	Yes	Yes	Fixed
Direct-hire fixed term	Org. A	Org. A	Sometimes	Sometimes	Fixed
On-call labour	Org. A	Org. A	Sometimes	Sometimes	Flexible
Temp agency work	Agency	Org. A	Sometimes	No/Sometimes	Fixed/Flexible

Note: Based on Kalleberg (2000)

Table 2 Descriptive statistics by employment contract (years 1995-2001, pooled data)

	TAW	on-call	fixed term	regular
Age	30.522	36.073	30.797	38.416
Female	0.485	0.723	0.458	0.347
Single	0.254	0.246	0.243	0.176
Number of children	1.002	0.955	0.788	0.983
Low educated	0.309	0.246	0.225	0.201
Medium educated	0.440	0.468	0.409	0.493
High educated	0.251	0.286	0.367	0.306
Unemployed before start of job	0.449	0.241	0.306	0.159
Tenure	0.804	3.096	1.307	10.420
Number of working hours	35.923	25.970	36.744	37.850
Function level low	0.531	0.529	0.386	0.320
Function level medium	0.368	0.419	0.443	0.558
Function level high	0.101	0.052	0.171	0.122
Overeducated	0.525	0.490	0.404	0.380
Administrative	0.330	0.248	0.327	0.331
Technical	0.211	0.031	0.184	0.222
Agricultural	0.017	0.038	0.025	0.020
Education	0.005	0.149	0.041	0.059
Medical	0.090	0.306	0.144	0.121
Transport	0.031	0.052	0.032	0.037
Legal	0.020	0.008	0.030	0.039
Social/cultural services	0.224	0.136	0.132	0.104
Executive function	0.069	0.081	0.142	0.322
Hourly wage	11.534	14.519	16.100	27.379
Firm provided training	0.257	0.285	0.540	0.627
Firm provided car	0.014	0.007	0.054	0.118
Firm provided pension scheme	0.119	0.493	0.510	0.825
Profit sharing	0.012	0.018	0.026	0.070
Shares/options	0.002	0.000	0.009	0.026
Number of observations	594	305	1529	23458

Table 3 Average overall job satisfaction and satisfaction with job aspects by employment contract

	TAW	on-call	fixed term	regular
Job satisfaction	4.544*	4.675	4.747	4.759
Satisfaction - job content	4.333*	4.777	4.812	4.849
Satisfaction - working conditions	4.441*	4.469*	4.526*	4.327
Satisfaction - working hours	4.749*	4.479	4.708*	4.600
Satisfaction - wage	4.020*	4.131*	4.245*	4.411
Satisfaction - working times	4.887	4.790	4.874	4.832
Satisfaction - job security	3.162*	3.570*	3.766*	4.848
Satisfaction - commuting distance	4.732	4.826	4.716*	4.816

* Statistically significant difference with regular work at the 5% level

Table 4 Fixed effect ordered logit estimates overall job satisfaction

	Model 1		Model 2		Model 3		Model 4	
	Full sample		Full sample		Men		Women	
Satisfaction - job content	0.568*	(0.025)	0.568*	(0.026)	0.643*	(0.034)	0.452*	(0.043)
TAW * sat. job content			0.166	(0.141)	0.130	(0.199)	0.302	(0.207)
OCW * sat. job content			-0.043	(0.209)	0.045	(0.633)	0.041	(0.226)
FTC * sat. job content			-0.008	(0.085)	0.085	(0.128)	-0.037	(0.117)
Satisfaction - working conditions	0.233*	(0.02)	0.235*	(0.021)	0.268*	(0.027)	0.194*	(0.033)
TAW * sat. working cond.			-0.155	(0.119)	-0.281	(0.17)	0.038	(0.174)
OCW * sat. working cond.			-0.054	(0.191)	-0.527	(0.528)	0.087	(0.222)
FTC * sat. working cond.			-0.058	(0.076)	-0.005	(0.111)	-0.066	(0.108)
Satisfaction - working hours	0.248*	(0.022)	0.258*	(0.023)	0.243*	(0.03)	0.277*	(0.036)
TAW * sat. working hours			-0.129	(0.133)	-0.143	(0.195)	-0.146	(0.188)
OCW * sat. working hours			0.018	(0.167)	-0.432	(0.374)	0.192	(0.206)
FTC * sat. working hours			-0.044	(0.083)	-0.005	(0.119)	-0.056	(0.119)
Satisfaction - wage	0.211*	(0.023)	0.230*	(0.025)	0.270*	(0.032)	0.166*	(0.039)
TAW * sat. wage			-0.270*	(0.122)	-0.235	(0.163)	-0.358	(0.196)
OCW * sat. wage			-0.430*	(0.187)	-0.028	(0.45)	-0.592*	(0.224)
FTC * sat. wage			-0.050	(0.073)	-0.254*	(0.104)	0.171	(0.109)
Satisfaction - working times	0.198*	(0.024)	0.198*	(0.025)	0.251*	(0.031)	0.117*	(0.041)
TAW * sat. working times			-0.153	(0.152)	-0.073	(0.211)	-0.285	(0.229)
OCW * sat. working times			-0.122	(0.203)	-0.121	(0.497)	-0.131	(0.224)
FTC * sat. working times			0.014	(0.091)	0.028	(0.129)	-0.020	(0.132)
Satisfaction - job security	0.107*	(0.018)	0.117*	(0.02)	0.136*	(0.026)	0.081*	(0.033)
TAW * sat. job security			-0.069	(0.089)	-0.071	(0.125)	-0.090	(0.132)
OCW * sat. job security			0.130	(0.126)	0.278	(0.276)	0.074	(0.152)
FTC * sat. job security			0.022	(0.057)	0.018	(0.076)	0.046	(0.088)
Satisfaction - commuting distance	0.129*	(0.02)	0.125*	(0.021)	0.136*	(0.027)	0.101*	(0.036)
TAW * sat. commuting			0.082	(0.115)	0.117	(0.158)	0.085	(0.166)
OCW * sat. commuting			-0.050	(0.165)	-0.166	(0.436)	0.013	(0.182)
FTC * sat. commuting			0.036	(0.062)	0.012	(0.084)	0.061	(0.091)
TAW (temporary agency work)			2.276*	(0.898)	2.478*	(1.212)	1.778	(1.379)
OCW (on-call work)			3.190*	(1.353)	4.929	(3.256)	1.932	(1.526)
FTC (fixed term contract)			0.597	(0.565)	0.792	(0.764)	-0.333	(0.878)

Note: The regressions include year dummies that are not reported in the table. TAW=temporary agency work, OCW=on-call work, FTC=fixed term contract.

* Statistically significant at the 5% level

Table 5 Decomposition of the gap in overall job satisfaction between regular and contingent employment contracts according to Model 2

	TAW	OCW	FTC
Difference with regular workers	-0.215	-0.084	-0.012
Due to personal fixed effects	-0.046	-0.114	-0.007
Due to coefficients	0.014	0.112	0.005
Due to satisfaction with job content	-0.134	-0.010	-0.001
Due to satisfaction with working conditions	0.007	0.002	0.002
Due to satisfaction with working hours	0.005	-0.007	0.001
Due to satisfaction with wages	-0.002	0.010	-0.002
Due to satisfaction with working times	0.003	0.000	0.000
Due to satisfaction with job security	-0.057	-0.076	-0.010
Due to satisfaction with commuting distance	-0.005	0.000	-0.001