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ABSTRACT

This study attempts to estimate the 'utility cost' of temporary employment contracts purged of the psychological effects of adaptation. A conjoint analysis experiment is used that examines the *ex-ante* contract preferences of a unique sample of low-skilled employees from 7 European countries. It is shown that permanent contract holders request a significant wage premium to move to a temporary job. In contrast, temporary workers are indifferent between permanent and temporary contracts, *ceteris paribus*. The evidence suggests that individuals have a *psychological immune system* which neutralises events that challenge their sense of well-being, such as job insecurity.

INTRODUCTION

A thoroughly deprived person, leading a very reduced life, might not appear to be badly off in terms of the mental metric of utility, if the hardship is accepted with non-grumbling resignation. In situations of longstanding deprivation, the victims do not go on weeping all the time, and very often make great efforts to take pleasure in small mercies and cut down personal desires to modest – 'realistic' – proportions. The person's deprivation then, may not at all show up in the metrics of pleasure, desire fulfilment, etc., even though he or she may be quite unable to be adequately nourished, decently clothed, minimally educated and so on" (Amartya Sen, 1990, p. 45).

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In recent times there has been an increasing focus of public policy on the use of 'flexible' labour markets practices as a means of safeguarding employers from global competitive pressures (Harrison, 1998). As this initiative has frequently encouraged the widespread use of 'atypical' forms of employment (e.g. part-time work, temporary contracts, non-standard working hours), it has come into conflict with previous existing social norms of the workplace, such as the reliance on long-term employer-employee relationships. For this reason it has often been argued that the shift to non-standard employment contracts has had adverse repercussions on job security and individual well-being. For instance, it has been shown that individuals in the labour market now experience more unstable working lives, with those in part-time and temporary jobs facing far shorted job durations and greater job instability compared to those in full-time/permanent contracts (Gregg and Wadsworth, 1995; 1996).

Economists and policymakers have also become increasingly interested in investigating the impact of precarious employment on individuals' well-being and quality of life. It is now customary in the literature to utilize subjective measures of well-being in order to estimate the utility loss of moving to non-standard forms of employment (Booth et al., 2002; Kaiser, 2002; Pouliakas and Theodossiou, 2005[a],[b]; Ferrer-i-Carbonell and van-Praag, 2006). Such studies have generally found ambiguous effects of atypical contracts on individual job satisfaction, which usually vary depending on the countries that are examined.

In this paper it is argued that drawing conclusions about the effect of economic and policy changes on the basis of *ex post* subjective evaluations of individual well-being is likely to be misleading. It has for a long time been acknowledged that satisfaction questions suffer from a number of weaknesses, most notably that they are affected by a process of *adaptation* and *coping*[i] (Brickman and Campbell, 1971; Easterlin, 1974, 2001; Frederick and Loewenstein, 1999) and are contaminated by *cognitive dissonance*[ii] (Festinger, 1957) or *rationalization* (Gilbert, 2006). In light of the above psychological processes, the evaluation of the effect of any job characteristic on individual satisfaction is a particularly troublesome issue. Due to adaptation, coping and cognitive dissonance, the long-term impact on well-being of a change in the situation of an individual is expected to be smaller than one would have anticipated *a priori* or at the instant moment of change (Brickmen and Campbell, 1971; Frederick and Loewenstein, 1999; Helson, 1947; Kahneman *et al.,* 1999). Casual empiricism would nevertheless suggest that there is still a significant welfare cost that human beings experience in the period of transition from a favourable to an unfavourable state (e.g. from employment to unemployment). Thus, even though individuals might eventually adapt to unfortunate circumstances of life, mitigating the unhappiness and disruption that they experience for months, even years, in the interim certainly

seems like a worthwhile objective for policy. However, in order to investigate the transitional impact of any economic or policy change (such as a shift towards insecure contracts) on individual well-being, it is necessary to purge the effects of adaptation and cognitive dissonance.

This is the focus of the present study, which attempts to control for the inevitability of adaptation by resorting to a stated preferences technique known as *conjoint analysis* (Green *et al*., 2001; Hair *et al*., 1998). The novelty of this technique is that it ultimately allows the researcher to uncover the *ex ante* preferences of workers over a number of hypothetical jobs that have not yet been realized, that is prior to any psychological adaptation phenomena coming into play. Using a newly developed sample of homogenous workers from seven European countries, it is thus shown that once adaptation is controlled for a significantly large wage premium is required to induce workers on permanent contracts to move to temporary employment. This finding becomes more striking when it is contrasted to the preferences of observationally equivalent temporary employees, as the latter are found to be indifferent between the permanent and temporary contractual options.

Given that current temporary contract holders have presumably adjusted their perceptions to the circumstances surrounding an insecure contract, the paper further examines whether their indifference is likely to be the outcome of the workings of adaptation, rather than of other plausible economic reasons (e.g. career prospects, imperfect information, differential unobserved risk preferences). Overall, the empirical evidence is supportive of arguments that individuals have a *psychological immune system* (Wilson and Gilbert, 2003; Gilbert, 2006, p. 162) which detects and neutralises events that challenge our sense of well-being (such as job insecurity). Nonetheless, the fact that the empirical results confirm the well-documented disutility associated with joblessness (Clark and Oswald, 1994; Winkelmann & Winkelmann, 1998; Theodossiou, 1998) suggests that adaptation may be of a different intensity for different states (Clark et al., 2004; Dolan and Kahneman, 2008, p. 216). Finally, and in accordance with the practice of a number of psychological experiments (Gilbert, 2006, p. 223-228), this paper attempts to obtain a monetary estimate of the extent of the utility loss associated with a move to non-permanent employment, by comparing the wage premiums of permanent employees with those of their temporary surrogates.

The present paper is structured as follows. Section I briefly reviews some of the existing studies examining the impact of temporary contracts on employee well-being. In Section II the conjoint analysis methodology is outlined, while Section III describes the data collection procedure. In Section IV the econometric technique is explained. Sections V and VI contain an extensive discussion of the empirical

results, while Section VII engages in sensitivity analysis that scrutinizes the various economic interpretations of the findings. Finally, Section VIII advocates the adaptation hypothesis of this paper, while Section IX concludes with some criticisms and suggestions for future research.

I. LITERATURE REVIEW

Economists have recently estimated the utility cost of precarious forms of work by examining the difference in the stated job satisfaction of individuals who are employed in non-permanent jobs with those who occupy permanent positions. Booth *et al*. (2002) have shown that temporary jobs in the UK are not desirable as a means of long-term careers. They typically pay less than corresponding permanent jobs, and are associated with lower levels of job satisfaction and poorer work-related training.[iii] The strong dissatisfaction of temporary and part-time workers is also highlighted by Pouliakas and Theodossiou (2005[a]) in the case of Greece. On a different note, Green and Tsitsianis (2005) have argued that rising job insecurity in Britain and Germany, following the trend towards atypical contracts, cannot explain the fall in job satisfaction in either country, while factors such as the intensification of work effort and declining task discretion are more appropriate culprits. Finally, Pouliakas and Theodossiou (2005[b]) and Ferrer-i-Carbonell and van-Praag (2006) have embarked on cross-country comparisons to show that the ultimate effect of the type of contract on job satisfaction seems to depend on institutional features of the countries under investigation, which determine the extent to which individuals who work on non-permanent contracts do so by choice rather than compulsion.

Drawing conclusions about the effect of economic and policy changes on the basis of differences in the *ex post* subjective evaluation of individual well-being is, nevertheless, likely to be misleading, due to the phenomenon of *hedonic adaptation* (Frederick and Loewenstein, 1999). One of the most remarkable traits of human beings is their ability to adapt to changing situations, such as an income increase or devastating health events (Brickman *et al*., 1978), by changing their aspirations with the passage of time. The Easterlin paradox (2001), whereby no time-series relationship is found between income and happiness in advanced Western economies, has typically been attributed to the offsetting workings of adaptation (Frey and Stutzer, 2002). Gilbert (2006, p. 152-152) and Dolan and Kahneman (2008) also discuss the implications of adaptation in the context of the evaluation of different states of health by able-bodied people, who tend to underestimate how surprisingly resilient people are in the face of trauma. It follows that if human beings rationalize their state of

affairs in such a manner, job satisfaction scores are not likely to be constant neither immutable. Instead, due to the impact of the psychological processes of *adaptation, coping* and *cognitive dissonance*, the long-run impact of changing conditions on individual well-being should be smaller than one would have anticipated *a priori*.

Of course, one way of avoiding this complication is to uncover the level of satisfaction that the individual experiences *at the instant moment* of change in his/her circumstances. It is in this spirit that Leontaridi and Theodossiou (2004) used the BHPS to evaluate the effect of employment status on individual well-being in the period straight after a labour market transition has occurred. The authors argued that in the first period of transition it may be expected that the process of adaptation has not yet worked itself out to its full extent. With this assumption, they showed that transitions from full-time employment to joblessness or part-time work are associated with a significant reduction in individual utility.

The present study takes an alternative approach to overcoming the aforementioned psychological difficulties. It attempts to control for the inevitability of *ex post* adaptation and coping by resorting to a stated or revealed preference technique known as *conjoint analysis* (*EPICURUS* project, 2005; Pouliakas, 2007). The novelty of this methodology is that it ultimately allows the researcher to uncover the *ex ante* preferences of a sample of workers over a given number of attributes that are typical of most jobs. Given the evidence of numerous psychological studies suggesting that 'the intuitive forecasts of lay people generally fail to [take due account of adaptation]' (Dolan and Kahneman, 2008, p. 217), this technique enables the detection of the "uncontaminated" by adaptation effect of a change in labour market events on individual well-being. In the next section a description of this methodology is provided.

II. THE CONJOINT ANALYSIS METHODOLOGY

Inspired by previous research that has sought to reveal individual preferences for health care or a nature area (Adamowicz *et al*. 1994; Ryan and Farrar, 2000), this study is one of the first to use the stated preferences methodology of *conjoint analysis* in order to identify how individuals value the various attributes of a job.[iv] Conjoint analysis is a data collection method that is rooted in random utility theory (McFadden, 1973; Hanemann, 1984; van Beek *et al*., 1997) and which allows researchers to disentangle the preferences of individuals based on information that they state in a questionnaire. In the context of this paper, respondents are presented with and are then asked to make choices between alternative hypothetical job scenarios

involving different levels of attributes that have been identified as important for influencing the quality of work. Assume that a job may be adequately described by *a* attributes. Hence, one may describe a job by a vector $q_{1a} = (q_{11}, q_{12}, q_{13}...)$, the so called '*job vignette*'. Individuals are then offered a finite number of vignettes (e.g. q_{1a}, q_{2a}, q_{3a} ...) and are asked to evaluate them. In this manner, the respondents are forced to trade-off some characteristics for others and to incorporate opportunity cost in their decision-making process, akin to the way that they make decisions in the real world. The vignettes are eventually analysed in terms of how sensitive the answers are with respect to changes in the vignette descriptions.

Given the traditional reliance of economists on *market*, or *revealed*, preference (RP) data, there may be doubts as to what is the predictive value of stated preference (SP) estimation based on reactions to vignettes. Yet, a significant number of studies over the last thirty years have now indicated that "practically speaking, SP and RP seem to match up surprising well in different choice contexts, cultures and time periods" (Louviere *et al*., 2000, p. 12), and that one can make valid and reliable predictions about real market behaviour using SP data (Louviere *et al*., 2000, p. 21). Importantly, the ability of the vignette approach to substantially widen the range of hypothetical contract alternatives faced by respondents is particularly fitting for the specific purposes of this study. The reason is that it allows the inference of the impact of a temporary contract on employees' perceptions prior to them actually taking up the said contract, which, of course, is unfeasible with observational data alone. It hence becomes possible in this manner to control for the impact of the psychological processes of adaptation, coping and cognitive dissonance on individual preferences.

III. CONSTRUCTION OF THE VIGNETTE DATASET

The data for this study are derived from a survey of workers in lower- and middle-skilled occupations that was undertaken as part of the EU-funded EPICURUS project in August and September 2004 in seven European countries (Denmark, Finland, France, Greece, the Netherlands, Spain and the UK). For the purpose of comparability, individuals from all countries responded to an (appropriately translated) identical questionnaire. A specialized survey company was used to ensure that appropriate dissemination and data collection procedures were followed. Moreover, due to time and budget considerations it was decided that a homogenous group of individuals should be chosen. The final sample therefore includes salaried workers whose employment is the main activity (excluding students), employed in all industries except agriculture and

fishery, between the age of 18 to 65, with a maximum educational level of 4 in the ISCED International Classification of 1997.

The data was administered online via the Internet, except for Greece where face-to-face interviews were organized instead, since the degree of Internet penetration at the time of the survey was relatively low in that country. The eventual size of the sample varied in each country as follows: 1,011 observations in Denmark, 1,008 in France, 1,007 in the Netherlands, 1,002 in the United Kingdom, 800 in Greece, 331 in Finland and 304 in Spain.

In addition to the usual question modules regarding personal and job characteristics, a considerable part of the questionnaire was used for offering vignettes to the respondents. A typical vignette is shown in Figure 1.

[INSERT FIGURE 1 HERE]

Every individual was offered a set of five vignettes at random, each one of them consisting of the following set of ten *attributes* relating to a hypothetical job: Type of contract, net wages (described as a percentage of current wages)[v], working hours, working times, access to training opportunities, whether team work is involved, possibilities of control over own work, working tempo in terms of high speed and tight deadlines, age of retirement and labour disability, and the loyalty between employer/employee (Akerlof, 1982). Details of the attributes and of the specific *levels* they take are presented in Table 1. Respondents were finally asked to 'evaluate' the five vignettes by grading them on a numerical scale from 0 to 10. A full description of the procedural issues surrounding the design of the conjoint questionnaire can be found in Appendix 1.

[INSERT TABLE 1 HERE]

IV. ECONOMETRIC METHODOLOGY

Following the pioneering work of Lancaster (1966, 1971) and Rosen (1974), it is assumed that the utility that a worker derives from his/her job stems from the characteristics (attributes) that describe the job, rather than from the job *per se*. In the context of this paper, a 'job', j, is defined as a function of ten attributes, a = 1,…,10, as specified in the vignette experiment, plus the other characteristics describing the respondents' present jobs, X_{wn}. Each individual, n, is offered a set of five vignettes $q_{ja} = q_{1a},...,q_{5a}$, where each vignette is described by the vector $q_{ja} = (q_{j1},...q_{j10}; X_{wn})$. It is thus assumed that an individual's latent evaluation,

U^*_{jn}, of a vignette depends on the attribute values of the vignette, on his/her personal traits, X_n, and on the current work characteristics, X_{wn}. Hence:

(1) $$U^*_{jn} = U_n(q_{ja}, X_n, X_{wn})$$

If it is further postulated that the evaluation of a job (vignette) is a *linear* function of the attributes, the individual and job characteristics of the respondent and a random error term, ε_n, then the following latent regression model is implied:

(2) $$U^*_{jn} = \beta' q_{jan} + \gamma' X_n + \delta' X_{wn} + \varepsilon_{jn}$$

where the vectors $\boldsymbol{\beta, \gamma, \delta}$ capture the marginal effects of the explanatory variables on the individual's stated preference.

The variable U^*_{jn} is a latent variable as the answers to the vignette questions are measured on a discrete scale 0, 1…, 10. Traditionally in the literature such discrete choice models are analyzed by means of Ordered Probit/Logit techniques. However, a feature of conjoint analysis is that multiple evaluation responses are collected per individual, which violates the assumption of independent errors. Hence, panel econometric techniques are used in order to take the potential unobserved heterogeneity into account. In addition, given that the study also seeks to correct for selectivity bias it has been necessary to facilitate the estimation of the model by adopting an appropriate linearization of the ordinal variable U_{jn}. The linearization used in the context of this study is the Cardinal OLS (COLS) approach (van Praag and Ferrer-i-Carbonell, 2004), which replaces the inexactly known value U_{jn} by its conditional expectation $\overline{U}_{jn}$ (Maddala, 1983, p. 366).[vi] In this manner, OLS can be applied to the linear model:

(3) $$\overline{U}_{jn} = \beta' q_{jan} + \gamma' X_n + \delta' X_{wn} + \varepsilon_{jn}$$

where ε_{jn} is a symmetric error term with mean zero.

Furthermore, in order to take the probable correlation structure between the multiple individual vignette evaluations into account, a random effects model is employed (Wooldridge, 2002).[vii] Thus, the basic econometric procedure that is utilized in this paper is to estimate the following valuation equation:

$$\overline{U}_{jn} = \beta' q_{jan} + \gamma' X_n + \delta' X_{wn} + \varepsilon_n + \eta_{jn} \quad (4)$$

where ε_n is the individual term that is invariant to the alternative vignettes, and η_{jn} is a pure random error term with $E(\eta_{jn}) = 0$ and $E(\varepsilon_n|\eta_{jn}) = 0$.

Finally, in order to correct for the fact that a non-random allocation of individual workers into different types of contractual arrangements may lead to inconsistent estimates (Heckman, 1979), a Heckman-type model has also been estimated (see Appendix 2 for details). For this reason, regression estimates based on a standard "switching regression model with endogenous switching" (Lee, 1978) are also reported in the main tables below.

V. THE ESTIMATION SAMPLE AND DESCRIPTIVE STATISTICS

For the estimation of equation (4) a pooled sample of workers from seven European countries (Denmark, Finland, Netherlands, France, Greece, Spain, UK) is used.[viii] Among a total of 5463 individuals, 4507 (82.52%) reported that their job involved a permanent contract (with no fixed ending time), while 494 (9.05%) were on fixed-term employment.[ix] Given that with the vignette experiment five responses were amassed on average per individual, the total sample includes 26755 observations, with 22075 of those referring to individuals on permanent employment, and 2430 to fixed-term employees.

Tables 2 and 3 show some representative descriptive statistics for these two groups of workers. From Table 2, in particular, it can be seen that a larger proportion of temporary workers comprises of young, single females who were unemployed in the previous year and who currently moonlight or work in unskilled jobs involving a fixed routine and/or lack of training opportunities. Importantly, it can also be seen that fixed-term workers have a lower average (*ex post*) job satisfaction score compared to their permanent counterparts, though a Student's t-test reveals that this difference is not statistically significant (t = 0.19). One could

therefore conclude on the basis of satisfaction ratings that there is no (or a small) utility cost between permanent and temporary employment.

[INSERT TABLE 2 HERE]

Nevertheless, Table 3 indicates a significant fall in the average job evaluation of permanent workers when exposed to vignettes involving a temporary contract option (relative to the option of a no-risk permanent contract). In contrast, workers who are presently in temporary posts are generally found to be less critical of their vignette sequences (including those with the temporary contract options).

[INSERT TABLE 3 HERE]

Finally, it is noted that in general there is a reasonable degree of cross-country consistency in the vignette evaluations.[x]

VI. EMPIRICAL RESULTS

The empirical results for the separate samples of permanent and temporary workers are displayed in Table 4. They are generated from the estimation of the job evaluation equation (4) for each sub-sample, initially correcting for individual and current job characteristics and, subsequently, also correcting for the possibility of endogenous choice among alternative contract types. Based on these estimates, Table 5 reports the trade-offs between the various attributes and changes in percentage of the wage (w). These indicate the extent of monetary compensation that an average individual requires when a particular job dimension deteriorates, in order to keep him/her on the same indifference curve as before. Known as the *marginal willingness to pay*, they are given by the following ratio:

$$\frac{\partial q_{ja}}{\partial q_{jw}} = -\frac{\beta_a}{\beta_w} \tag{5}$$

In the context of this paper the focus is on the amount of compensation that an individual would require to switch from a riskless permanent contract to a temporary contract with varying future prospects.

Ex ante preferences of permanent workers

Table 4 indicates that, after controlling for a set of vignette, personal and current job characteristics, European employees enjoying the stability of a permanent contract consider that a move to temporary employment is associated with significant disutility. In particular, it is found that in order to induce permanent workers to accept a temporary contract with prospects of continuation to another permanent or temporary contract, they would require a 15.5% and a 14% wage premium over their current wages, respectively. The well-documented distress associated with joblessness (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998; Theodossiou, 1998) is also confirmed, as it is found that permanent employees would require a 37% wage premium in order to take up a temporary job that would eventually lead to unemployment.

Furthermore, the results show that permanent contract holders believe that the second most inferior contract following a temporary contract leading to unemployment is a risky permanent contract that offers no severance pay. This indicates a strong preference for unemployment insurance by the workers in the sample. As the hypothesis of the equality of the coefficients between the latter two contract types is rejected (χ^2 (2) = 368.07), this also confirms the significant disutility that permanent workers expect to receive from unemployment. In addition, the similar magnitude between the coefficients of the 'temporary to temporary' and 'temporary to permanent' contract options imply that permanent workers 'dislike' temporary contracts in general regardless of their future prospects.

What is important for the purposes of this study is that these figures should be 'uncontaminated' from any adaptation effects and, thus, reflect the immediate impact of a potential change in employment status on individual well-being. As suggested by numerous psychological studies, "people underestimate the extent to which they and others will adapt to changed circumstances" (Dolan and Kahneman, 2008, p. 217), although they "can generally predict the valence and type of emotion from events reasonably well" (Dolan and Kahneman, 2008, p. 222). The reason for this apparent failure to take account of adaptation is because of the way in which current emotions intrude on assessments of the future (Gilbert, 2006, p. 109). This directs people to focus on the immediate affective reactions to changed states ('*presentism*'), thereby consistently underestimating how differently they will feel *ex post*. So from the estimated wage premiums of Table 5 one can draw the conclusion that the *anticipated* "utility loss" of moving from a riskless permanent contract to the insecurity of a temporary job or no work at all is quite notable.

[INSERT TABLE 4 HERE]

Ex ante preferences of temporary workers

Although the elicitation of utilities from current permanent employees should be purged of any psychological adaptation effects, this should not be the case for those individuals who already hold non-permanent positions. For this latter group of workers it is expected that their evaluation of different hypothetical jobs is already affected by their current experience with precarious employment. The effects of adaptation and the attempt to rationalize the dissonance associated with insecure contractual agreements should therefore be ingrained in their answers. It is thus expected that the trade-offs of individuals who are currently in temporary employment should be smaller than those of their permanent counterparts, as the former have already adjusted their perceptions to the conditions surrounding a temporary contract.

Indeed, Tables 4 and 5 confirm this *a priori* expectation as the regression coefficients and monetary trade-offs of temporary workers are smaller than the ones that were derived for the observationally equivalent permanent contract holders. Specifically, based on the temporary workers' responses, a 5% wage premium is required to equalize the value of permanent employment with a temporary job leading to a permanent one, while 2-3% compensation over current wages is sought after by those on temporary contracts who are likely to continue on a similar arrangement. This is notably smaller than the 14-15.5% trade-offs that were previously obtained in the case of permanent contract workers. Importantly, it is also found that for those who are currently in temporary work the option of being in temporary employment with prospects of continuation does not yield (statistically) significant disutility in comparison to a riskless permanent contract. This is in stark contrast to the significant preference for secure employment arrangements by permanent workers.

Despite the above differences in utilities, it is nevertheless notable that *both groups* express a significant distaste for "dead-end contracts" (i.e. temporary jobs with no prospects of continuation). As in the case of permanent contract workers, Table 5 illustrates that temporary workers would still demand a significant 25% wage premium over their current wages in order to be indifferent between a dead-end contract and a permanent contract with no risk of layoff. This finding implies that the utility cost of unemployment can be substantial for all types of workers.

[INSERT TABLE 5 HERE]

VII. SENSITIVITY ANALYSIS

The empirical evidence reported above suggests that a large wage premium is required to induce workers on permanent contracts to move to temporary ones, in accordance with the theory of compensating wage differences (Smith, 1776). However, a less clear-cut finding is that current temporary workers would not be prepared to accept a significant wage reduction to move to a riskless permanent contract. This appears to be incompatible with intertemporal utility maximisation (especially in a world of imperfect capital markets). Although a number of plausible economic theories could underpin such an outcome (discussed in detail below), it is argued on the basis of further empirical evidence that an appropriate culprit is the adaptation effect, which can play a significant role in moulding the perceptions of individuals who are already subjected to non-permanent employment.

From an economic perspective the discrepancy in the utilities of current permanent and temporary workers can be most obviously attributed to a selection effect, particularly to differential unobserved preferences for employment security. It is clear that given the option value of remaining in a permanent post, a permanent job will be more attractive to individuals who have an inherent taste for security. In contrast, the relative flexibility of non-permanent contracts may be appreciated more by individuals who value job security less. Another possible unmeasured factor that could lie behind the disparity in preferences is the "readiness for job change". Specifically, temporary workers who have become accustomed to shifting workplace environments may have developed "migration skills" (e.g. familiarity and sufficient acquisition of information about current job market conditions) that make the job search process less 'costly' compared to those who have been in a permanent post for a considerable length of time. Self-selection into different types of contractual agreements can therefore potentially explain the smaller wage premiums required by temporary employees to move to non-permanent contracts.

Furthermore, as the most usual career development path involves a move from a temporary to a permanent job, and bearing in mind the smaller average age of temporary employees (see Table 2), another reason for the fact that temporary workers are more sympathetic to non-permanent contracts can simply be because they view them as stepping stones to superior future employment. In addition, due to the lesser amount of accumulated work experience, the younger temporary contract workers may also suffer from inadequate knowledge of the real value of alternative contract types. The above line of arguments suggests

that the differences in the preferences of temporary and permanent workers may be driven mainly by career prospects and asymmetric information.

In order to test the viability of the aforementioned explanations, a number of alternative avenues have been pursued. First, to exclude the possibility that endogenous contract choice is the operative effect, a Heckman-type model has been employed that simultaneously corrects for the probability of individuals being in either contract type (described in more detail in Appendix 2). As shown in Table 4, the results are found to be robust to this alternative estimation methodology. Combined with the relative homogeneity of the dataset used in this paper, it would thus appear that self-selection is not an important driver of the empirical results.

Second, a number of interactive dummy variables have been independently introduced in the main regression equation (4), to test for the robustness of the reported marginal effects to heterogeneity in individual and job characteristics. Specifically, in order to investigate whether the indifference of temporary contract holders for no-risk permanent contracts is related to career prospects or inadequate information, the interactive variables of age, gender, and the respondents' subjective beliefs of their probability of promotion have been chosen. The rationale for the selection of these terms is that older workers are more likely to be in non-permanent contracts involuntarily and are expected to have adequate knowledge of the real value of alternative contract types. Moreover, flexible contracts have typically acted as the main avenue for the (re-) integration of younger female employees into the job market. It follows that if the stated indifference between temporary and risk-free permanent contracts also applies to older, male temporary employees who believe they have no probability of promotion, then this should constitute evidence against the career-concerns or asymmetric information explanations.

In order to further examine whether the preference of temporary workers for non-permanent contracts is related to indifference for employment security, two additional interaction terms have been added to the main model. These capture whether the respondents consider the risk of job loss as a significant incentive for the effort that they exert in their work and whether they face considerable financial constraints (which should be positively correlated with a preference for job security).[xi] The underlying hypothesis is that if it is found that temporary workers who are motivated by employment stability or are facing financial difficulties continue to be significantly indifferent to the option of taking up a secure contract, then this should refute the interpretation emphasizing differential risk attitudes among permanent and temporary workers.

The econometric estimates of the above two sets of regressions are reported in Table 6, from which a number of interesting insights emerge. Importantly, in all specifications the finding that current temporary

contract holders are indifferent between temporary and risk-free permanent contracts persists, and this is in stark contrast to the robust preference of permanent workers for secure employment. Indeed, the statistically insignificant coefficients of the age, gender and promotion interaction terms suggest that the reported indifference of temporary employees cannot be attributed to career progression neither to insufficient knowledge of the labour market. The results in Table 6 also imply that temporary employees are not averse to insecure contractual options even if they consider the risk of job loss as a significant incentive or are facing growing debt. No support is therefore found in our dataset to support the plausibility of the economic explanations discussed above.

Other significant interactive terms, however, do suggest that heterogeneity in individual or job characteristics may affect the respondents' attitudes to alternative contractual arrangements. As shown in Table 6, there is a significant difference in the preferences of male and female *permanent* employees, with females disliking temporary contracts less. Furthermore, it is found that permanent contract holders who are members of a trade union are more critical of the temporary-to-temporary contract option when compared to non-union members. Other significant differences include the fact that temporary civil servants derive much greater disutility from temporary contracts leading to other contracts of temporary duration, relative to those who work in the private sector.

[INSERT TABLE 6 HERE]

VIII. THE ADAPTATION HYPOTHESIS

Given the aforementioned evidence, another possible interpretation for the indifference of temporary workers between the no-risk permanent and temporary contract options includes the *adaptation effect*. Although typically overlooked in the traditional economic literature, many psychological studies now suggest that individuals are quite adept not only at adapting to changing circumstances, but also to rationalizing events once these become inescapable. As argued by Wilson and Gilbert (2003) and Gilbert (2006, p. 162), individuals appear to have a *psychological immune system* which defends the mind against events that challenge our sense of well-being (such as job insecurity). In other words, the psychological processes of adaptation, coping and cognitive dissonance can be quite significant in shaping individual preferences. A behavioural mechanism of this sort could therefore lie behind the apparent unwillingness of current temporary contract holders to exchange a wage reduction for the security of a permanent post.

What the above implies is that the comparison of the 'uncontaminated' (from adaptation) pecuniary trade-offs of permanent employees with those of temporary workers, who have already adjusted to their precarious working conditions, can be interpreted as a monetary estimate of the extent of adaptation to insecure employment. Table 5 reports the financial difference between the trade-offs of the two groups of workers, whereby it can be seen that those who are presently employed under a non-permanent contract request a 10-12% smaller wage premium to move to a hypothetical temporary job compared to those who are in permanent employment. Thus, there can be a substantial difference between the *a priori* anticipation of the 'utility loss' associated with a move to a precarious contract and the eventual impact of such a circumstance on individual welfare.

The implication of the above is that a permanent contract worker who switches to a temporary contract should be compensated *at the very least* with a 10-12% premium over his/her current wage in order to alleviate the transitional loss in welfare associated with such a move. For example, consider a permanent contract worker on an annual salary of £20k who is forced by exogenous events to accept fixed-term employment. The empirical findings of this paper suggest that once the individual has adapted to the new precarious circumstances, he/she will be equally happy as before if his/her yearly earnings are approximately £20.6k - 21k (3% or 5% times £20k). Nevertheless, the initial wage premium required to compensate the individual for the disutility of insecure employment amounts to £3k (15% times £20k). The transitional loss in welfare (or adaptation cost) that is associated with the move to temporary contracts in this example is therefore £2k.

IX. CONCLUDING REMARKS

The empirical findings presented in this study suggest that the anticipated 'utility loss' of moving from a riskless permanent contract to the insecurity of a temporary job or no work at all can be quite significant once the psychological effects of adaptation have been purged. This finding is particularly important given that the relatively low-skilled individuals who comprise the dataset are those who have typically borne the brunt of the trend towards flexible employment practices (European Commission, 2004). The evidence also indicates that the workings of adaptation, coping and cognitive dissonance can be influential in making individuals more content with an unfortunate state of affairs, such as job insecurity. Finally, the study has suggested a novel estimate of the loss in welfare that is associated with the transition to non-permanent employment

status. This estimate is significant given the wide recognition that it is *changes* in the states, rather than states themselves, that are the carriers of utility (Kahneman and Tversky, 1979).

A growing literature on happiness economics has recently argued compellingly in favour of using *ex post* subjective measures of well-being for policy purposes (Layard, 2005). This study proposes an alternative yet complementary measure of utility measurement, one that is based on the method of conjoint analysis. Such a measure can overcome one of the major deficiencies of the job satisfaction question, namely that it is contaminated by adaptation. Controlling for the effect of adaptation on people's preferences has important implications for employment policy. Once adaptation manifests itself the long-run impact of precarious employment on well-being is expected to be smaller than one would have anticipated *a priori*, and this might potentially be the effect that is captured by job satisfaction studies. From a public policy standpoint, evidence failing to establish a clear negative impact of non-permanent jobs on welfare can then be used as justification for allocating resources and formulating employment legislation in favour of the further proliferation of flexible employment contracts. Yet, there may still be a significant welfare cost that human beings experience in the transitional period from a favourable to an unfavourable state (e.g. from employment security to insecurity). Amartya Sen (1990) has persistently made the case that just because the poor adapt to poverty does not mean that we should ourselves adapt to the notion of poverty. Thus, even though individuals eventually adapt to unfortunate circumstances of life, it certainly seems like a worthwhile objective for the authorities to strive for an accurate evaluation of the 'comprehensive effect' of an implemented policy. This can only be achieved via the comparison of the initial '*ex ante*' utility (or disutility) derived from of a new circumstance (prior to adaptation taking effect) and the eventual '*ex post*' impact of the change. Policymakers will then be better equipped to mitigate the unhappiness and disruption that people experience in the interim period.

It may be argued that the conclusions of this paper suffer from an inability to control for the respondents' past employment experiences, as this could result in participants carrying with them pre-existing negative beliefs about the different contract types when evaluating the vignettes. Choices elicited in hypothetical settings are also likely to be affected by the degree of 'contextual realism' that the researcher establishes for respondents (Dolan and Kahneman, 2008, p. 225). Finally, there may be an asymmetry in the nature of the shocks faced by temporary and permanent employees in the conjoint exercise, as it is often observed that people suffer disproportionately more when a prospect gets worse (as in the case of a temporary contract for

permanent contract holders) compared to the utility gain of a prospect that gets better (as with a permanent contract for current temporary workers).

Though these arguments may be valid, psychological evidence suggests that they should not be overemphasized. Many studies have shown that our memories do not recall past utilities and their duration particularly well (Dolan and Kahneman, 2008, p. 226). Moreover, it is believed that the observation that people suffer disproportionately more when the prospect gets worse than they enjoy when it gets better is intrinsically related to the working mechanisms of adaptation. The reason for this is that it is much harder for individuals to adapt to unfortunate rather than to fortunate circumstances of life. The asymmetry in preferences under different prospects may therefore be potentially linked to the asymmetry in the speed of adaptation.

As the cross-sectional dataset used in this paper prohibits further investigation of these hypotheses, future studies would ideally require a panel vignette dataset tracing the employment status and preferences of the same individuals across time. This could also address the concern for lack of data dependability that is endemic in such type of applied statistical work. The concerns of Dolan and Kahneman (2008, p. 228), who have argued for the need to develop better measures of utility on a moment-to-moment basis in future research, are therefore shared by the authors. It is also important for future academic endeavours to attempt to pinpoint the exact timing at which the adaptation process takes precedence in peoples' perceptions (e.g. to provide some estimate of how many months or years it takes for previously permanent workers to adapt to precarious contracts).

APPENDIX

Appendix 1: Procedural issues with respect to the design of the EPICURUS questionnaire

During the design stages of the survey, the EPICURUS research team ensured that, for the purpose of comparability, all countries would respond to an identical questionnaire. This entailed having the text of the survey translated into each country's language by native speakers, so as to avoid any inconsistencies in terminology.

The data was collected online from a panel of Internet users, except for Greece where face-to-face interviews were organized instead, since the degree of Internet penetration at the time of the survey was relatively low in that country. The members were invited by e-mail to answer the questionnaire, and within

this large population respondents were screened through their answers to the first five questions. Each member of the panel that did not fulfill the criteria of stratification was then forced to stop answering the questionnaire and was thanked for their cooperation. All necessary efforts were made so that the face-to-face interviews in Greece were comparable and of a similar format to the internet version faced by the respondents of the other six countries of the survey.

Each individual was offered a set of five vignettes at random, each of them consisting of a set of ten attributes relating to a hypothetical job. The creation of such vignettes is not trivial. There are four steps to this methodology:

- Step 1: *Identifying the characteristics* - The characteristics or attributes characterizing a job are identified (e.g. salary, working hours, type of contract etc.).
- Step 2: *Assigning levels to the characteristics* - The levels must be plausible and actionable, thus encouraging the respondents to take the exercise seriously.
- Step 3: *Design of scenarios (vignettes)* - Vignettes are drawn up that describe all possible job configurations, given the selected job attributes and level possibilities. Since the number of scenarios increases with the number of characteristics and levels, not all of the vignettes generated can be included in the questionnaire as the respondents have a finite attention span. Thus, experimental designs are used to reduce the number to a convenient level.
- Step 4: *Establishing preferences* - Once designed, the vignettes are offered to respondents, who are asked to state their preferences. Preferences for the scenarios included in the questionnaire are elicited by using one of three methods: ranking, rating, or discrete choices.

In the EPICURUS survey each vignette was a description of a job with ten attributes and multiple levels each. It is evident that this specific choice of attributes is by no means an exhaustive characterisation of a typical job situation. Nevertheless, it is believed that it is sufficient for the purposes of the present analysis, since it was clearly indicated to the respondents that all the other aspects of the hypothetical job, except for the dimensions explicitly mentioned in the vignette, were similar to their own present working conditions.

Although the five vignettes were supplied in a specific order, respondents could review each of the five vignettes as often as they liked by going backwards and forwards in order to compare the vignettes (Greeks could specifically request from their interviewer to review the vignettes, while in the other countries the respondents could simultaneously compare all of their vignettes on their PC screens). With this method the problem of ordering effects was eliminated.

In order to keep the structure of each vignette simple, readable, and easy to understand, the included text in the vignettes was fairly short (see Figure 1). This facilitated the task of comparing vignettes. However, this could pose a problem, as some attributes cannot be adequately explained by means of a few words. In order to overcome this difficulty, some attributes were further explained by including an additional information facility. In the Internet version of the questionnaire the respondent was able to click and to obtain extra information, while in the face-to-face interviews the respondent could prompt for further information from the interviewer.

Respondents were finally asked to 'evaluate' each of the five vignettes by grading them on a numerical scale from 0 to 10. The choice of the rating method using a scale from 0 to 10 was made so that the respondents' answers to the vignette experiment were comparable to the conventional question regarding their satisfaction with their current job, which was also rated on a 0-10 scale in the EPICURUS survey.

Appendix 2: The probability model of contractual choice

Given the need to correct for the potential self-selection bias that may arise, a Heckman-type correction procedure was also employed as part of the econometric methodology of this paper (Heckman, 1979). A selection equation was firstly estimated (using a random effects probit model), which regressed the probability of the individual being in either permanent or temporary employment on the full set of exogenous variables (q, X). A dummy variable indicating whether there are children over the age of 16 in the household was also used for identification purposes, on the basis that there is a higher probability of parents (especially, mothers) returning to the labour force (and most likely taking up a temporary job) once the children have reached working age and the responsibilities of rearing/childcare are reduced. It was confirmed that this particular identifying variable satisfies the rank and exogeneity conditions, while the remaining results confirmed the findings of previous studies in the literature (Booth et al., 2002).[xii] The estimated coefficients from the selection equation were subsequently used for the calculation of the appropriate Mills ratios, which were then included as additional controls in the job evaluation regressions of the permanent and temporary sub-samples. To correct for sampling variability, the standard errors of the explanatory variables were also bootstrapped to 500 repetitions.

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FIGURE 1. A TYPICAL VIGNETTE

Imagine that, for some reason, you had to stop with your current job and had to look for a new one. Imagine that after a short time you get several offers. We will list them on the following screen. These listed job offers do not differ from your current job except for some points we specifically mention.
Can you please evaluate these offers on a scale from 0 to 10, where 0 means the worst possible and 10 the best possible offer? And indicate if they are acceptable?"

Wage: 20% more than now per hour
Type of contract: Permanent with risk of losing the job with no severance pay
Working hours: 20 hours a week
Working times: Rotating shift system
Training opportunities: The employer will offer you a 10 workdays training program in the course of the year
Work organization: The job involves working in a varying team
Work conditions: No one controls your work
Work speed: The job is fairly demanding, which means that sometimes you may have to work at high speed
Retirement: You can retire at age 55
Behavioral norms: Same working conditions as in other firms. No loyalty from both sides. Shirking and low performance is possible

How would you rate this offer?…….
Please, evaluate this offer on a scale from 0 to 10, where 0 means the worst possible and 10 the best possible job.

Would this job offer be acceptable to you? *Yes/No*

TABLE 1: THE VIGNETTE ATTRIBUTES AND LEVELS

1. ***Type of contract (dummy variables)***
(*i*) Permanent contract with no risk of being fired
(*ii*) Permanent contract with risk of being fired & with economic compensation
(*iii*) Permanent contract with risk of being fired & with no economic compensation
(*iv*) One-year contract with high probability of continuation with a permanent contract
(*v*) One-year contract with high probability of continuation with a temporary contract
(*vi*) (ref: One-year contract with no probability of continuation)
2. Working hours: Ranging from 20 to 50 hours per week.
3. Net wages per hour: expressed as a percentage of wages at the current job (range: -50% to +50%)
4. ***Working times (dummy variables)***
(*i*) Flexible working hours
(*ii*) Office working hours (you can choose which days your work)
(*iii*) Rotating shifts (system)
(*iv*) (ref: Work. times decided by employer)
5. ***Training (dummy variables)***
(*i*) 1-3 month training
(*ii*) 5-10 days training
(*iii*) (ref: No training or in the past)
6. ***Work organization (dummy variables)***
(*i*) Job not in teamwork
(*ii*) Job in varying teamwork
(*iii*) (ref: Job in fixed team)
7. ***Control over own work (dummy variables)***
(*i*) Job has a fixed routine
(*ii*) Can choose order tasks: job tasks are fixed, but you may decide when & how things are done
(*iii*) (ref: No one controls your work)
8a. ***Intensity due to high speed (dummy variables)***
(*i*) Often high speed
(*ii*) Sometimes high speed
(*iii*) (ref: never working at high speed)
8b. ***Intensity due to tight deadlines (dummy variables)***
(*i*) Often tight deadlines
(*ii*) Sometimes tight deadlines
(*iii*) (ref: never working with tight deadlines)
9. ***Retirement & Labour disability (dummy variables)***
(*i*) Have to stop before 65 (because the job is physically very demanding)
(*ii*) Early retirement 55 (firm has early retirement plans)
(*iii*) Early retirement 60 (firm has early retirement plans)
(*iv*) (ref: the firm has no early retirement plans)
10. ***Loyalty-no shirking(dummy variables)***
(*i*) Loyalty from both sides; shirking & low performance impossible
(*ii*) (ref: No loyalty from both sides; shirking & low performance possible)

TABLE 2: DESCRIPTIVE STATISTICS BY CONTRACT STATUS

Variable	*Permanent* *Mean (s.d)*	*Temporary* *Mean (s.d)*
Age	37.87 (10.33)	31.85 (10.23)
Male	0.51 (0.49)	0.45 (0.49)
Married	0.70 (0.45)	0.55 (0.49)
Job Tenure	8.93 (8.72)	2.56 (4.34)
Two Jobs	0.09 (0.29)	0.17 (0.37)
Unemployed last year	0.06 (0.24)	0.38 (0.48)
Ln(monthly net wage)	7.5 (1.15)	7.21 (1.12)
Ln(Contract work hours/week)	3.53 (0.29)	3.49 (0.37)
Sector		
Non-profit institution	0.06 (0.25)	0.07 (0.27)
Civil service	0.18 (0.39)	0.19 (0.39)
Public company	0.11 (0.32)	0.09 (0.30)
(ref. Private company)	0.63 (0.48)	0.63 (0.48)
Occupation		
Managers/Professionals	0.06 (0.24)	0.07 (0.25)
Technical/Clerical	0.41 (0.49)	0.35 (0.48)
(ref. Other)	0.53 (0.50)	0.58 (0.49)
Training		
5-10 days	0.35 (0.47)	0.23 (0.42)
1-3 months	0.06 (0.23)	0.08 (0.26)
(ref. no training or in the past)	0.58 (0.49)	0.68 (0.46)
Control over own work		
Job has a fixed routine	0.27 (0.44)	0.40 (0.49)
Can choose order tasks	0.65 (0.47)	0.53 (0.49)
(ref. No one controls your work)	0.07 (0.25)	0.06 (0.24)
Job satisfaction	6.96 (2.10)	6.68 (2.07)

TABLE 3: MEAN EVALUATION OF HYPOTHETICAL CONTRACT OPTIONS BY CONTRACT STATUS

	Mean Permanent	*Mean Temporary*
Evaluation Vignette	4.067	4.620
Type of contract (dummy variables)		
Permanent contract with no risk of being fired	4.832	5.149
Permanent contract with risk of being fired & with economic compensation	4.444	4.815
Permanent contract with risk of being fired & with no economic compensation	3.887	4.549
One-year contract with high probability of continuation with a permanent contract	4.201	4.902
One-year contract with high probability of continuation with a temporary contract	3.937	4.526
(ref: One-year contract with no probability of continuation)	2.678	3.121

TABLE 4: RANDOM EFFECTS COLS JOB EVALUATION REGRESSIONS BY CONTRACT STATUS – EFFECT OF VIGNETTE ATTRIBUTES

	Controls		*Selection*	
	Permanent	*Temporary*	*Permanent*	*Temporary*
	Coef. (s.e.)	Coef. (s.e.)	Coef. (s.e.)	Coef. (s.e.)
Type of contract				
Perm.cont. risk w comp.	-0.150 (0.02)***	-0.105 (0.07)	-0.144 (0.02)***	-0.097 (0.08)
Perm.cont. risk w no comp.	-0.348 (0.02)***	-0.289 (0.07)***	-0.342 (0.02)***	-0.291 (0.07)***
Temp.cont. to perm.cont	**-0.171** (**0.02**)***	**-0.067** (**0.07**)	**-0.171** (**0.02**)***	**-0.057** (**0.07**)
Temp.cont. to temp.cont	**-0.158** (**0.03**)***	**-0.042** (**0.08**)	**-0.163** (**0.03**)***	**-0.028** (**0.08**)
Temp.cont.to unempl.	**-0.417** (**0.03**)***	**-0.327** (**0.09**)***	**-0.407** (**0.029**)***	**-0.317**(**0.093**)** *
(ref. Perm.cont. no risk.)				
Ln(Working hours)	7.932 (0.62)***	10.269 (1.97)***	7.954 (0.64)***	10.458 (2.1)***
Ln(Working hours) squared	-1.201 (0.09)***	-1.531 (0.28)***	-1.207 (0.09)***	-1.554 (0.3)***
Wages (in % of current income)	1.106 (0.02)***	1.297 (0.07)***	1.089 (0.02)***	1.275 (0.07)***
Working times				
Flexible working hours	0.12 (0.02)***	0.062 (0.08)	0.128 (0.02)***	0.083 (0.08)
Office working hours	0.097 (0.02)***	0.105 (0.06)	0.103 (0.02)***	0.109 (0.07)
Rotating shifts (ref. work. Times decided by employer)	-0.070 (0.02)***	-0.081 (0.06)	-0.064 (0.02)***	-0.07 (0.06)
Training				
5-10 days	0.112 (0.02)***	0.084 (0.06)	0.107 (0.02)***	0.069 (0.06)
1-3 months	0.065 (0.02)***	0.134 (0.06)**	0.061 (0.02)***	0.119 (0.06)**
(ref. No training or in past)				
Work organization				
Job not in teamwork	0.014 (0.02)	0.061 (0.05)	0.010 (0.02)	0.048 (0.05)
Job in varying teamwork (reference: Job in fixed team)	-0.023 (0.02)	-0.029 (0.05)	-0.026 (0.02)	-0.032 (0.05)
Control over own work				
Job has a fixed routine	-0.133 (0.02)***	-0.136 (0.06)**	-0.133 (0.02)***	-0.135 (0.06)**
Can choose order tasks (ref. noone controls your work)	0.016 (0.02)	0.034 (0.06)	0.008 (0.02)	0.039 (0.06)
Intensity due to high speed				
Often high speed	-0.176 (0.02)***	-0.299 (0.06)***	-0.180 (0.02)***	-0.325 (0.06)***
Sometimes high speed (ref. never work at high speed)	-0.031 (0.02)	0.026 (0.07)	-0.024 (0.02)	-0.013 (0.07)
Intensity due to tight deadlines				
Often tight deadlines	-0.127 (0.02)***	-0.027 (0.06)	-0.128 (0.02)***	-0.011 (0.07)
Sometimes tight deadlines (ref. never work tight deadlines)	-0.034 (0.02)	-0.102 (0.06)*	-0.041 (0.02)**	-0.126 (0.07)
Retirement				
Have to stop before 65	0.069 (0.03)**	0.052 (0.09)	0.051 (0.03)	0.048 (0.09)
Early retirement 55	0.204 (0.02)***	0.275 (0.07)***	0.201 (0.02)***	0.272 (0.07)***
Early retirement 60 (ref. firm has no early retirement plans)	0.230 (0.02)***	0.108 (0.07)	0.222 (0.02)***	0.107 (0.07)
No loyalty-shirking	-0.101(0.01)***	-0.151 (0.05)***	-0.101 (0.01)***	-0.157 (0.05)***

Cons	-12.937 (1.09)***	-16.44 (3.44)***	-12.915 (1.13)***	-16.71 (3.59)***
Mills ratios			0.038 (0.14)	0.035 (0.14)
N (groups)	17738 (3582)	1809 (365)	16565 (3344)	1679 (339)
Wald χ^2 (61/62)	6860.36***	852.06***	6284.84***	776.75***
R^2: within	0.307	0.35	0.302	0.344
R^2: between	0.153	0.216	0.154	0.226
R^2: overall	0.253	0.310	0.25	0.309

Notes: ** significant at 5%; *** significant at 1%; Personal and current job characteristics as well as country dummies have also been included as controls; The remaining regression output is available as supplementary material.

TABLE 5: TRADE-OFF RATIOS AND MEASURE OF UTILITY COST BY CONTRACT STATUS

		Trade-off			Measure of utility cost		
		Temp-perm	*Temp-temp*	*Temp-unem*	*Temp-perm*	*Temp-temp*	*Temp-unem*
Controls	Temporary	-0.051	-0.033	-0.252	-0.104	-0.110	-0.125
	Permanent	-0.155	-0.143	-0.377			
Selection	Temporary	-0.045	-0.022	-0.249	-0.112	-0.128	-0.125
	Permanent	-0.157	-0.150	-0.374			

Notes: The trade-off ratios are calculated from application of eq. (5); the measure of utility cost is given by the difference of the respective figures for permanent and temporary employees e.g. *Temp-perm* (controls): *Measure of utility cost* = -0.155-(-0.051) = -0.104.

TABLE 6: RANDOM EFFECTS COLS JOB EVALUATION REGRESSIONS WITH INTERACTION TERMS

	Temporary		*Permanent*	
	Temp-Perm Coef.(s.e)	*Temp-Temp* Coef.(s.e)	*Temp-Perm* Coef.(s.e)	*Temp-Temp* Coef.(s.e)
Age				
Contract dummies	-0.126 (0.10)	-0.057 (0.11)	-0.182 (0.04)***	-0.105 (0.05)**
Contract*age (25-40)	0.079 (0.11)	0.053 (0.12)	0.020 (0.04)	-0.051 (0.05)
Contract*age (40-64)	0.088 (0.15)	-0.054 (0.16)	0.002 (0.05)	-0.069 (0.05)
Gender				
Contract dummies	-0.019 (0.09)	0.003 (0.09)	-0.104 (0.02)***	-0.119 (0.03)***
Contract*Male	-0.099 (0.11)	-0.09 (0.12)	-0.135 (0.03)***	-0.076 (0.04)**
Promotion				
Contract dummies	-0.12 (0.08)	-0.106 (0.08)	-0.172 (0.02)***	-0.174 (0.02)***
Contract*Promo (Probable)	0.155 (0.13)	0.244 (0.14)	-0.012 (0.04)	0.027 (0.04)
Incentive: Job security				
Contract dummies	0.021 (0.10)	0.037 (0.10)	-0.189 (0.02)***	-0.135 (0.03)***
Contract*Incentive(Important)	-0.13 (0.12)	-0.12 (0.13)	0.023 (0.03)	-0.055 (0.04)
Financial Situation				
Contract dummies	-0.003 (0.14)	0.163 (0.15)	-0.13 (0.03)***	-0.185 (0.04)***
Contract*Save(Sometimes yes or no)	-0.061 (0.17)	-0.215 (0.18)	-0.042 (0.04)	0.052 (0.05)
Contract*Save(No or getting into debt)	-0.063 (0.16)	-0.283 (0.18)	-0.066 (0.04)	0.022 (0.05)
Trade union				
Contract dummies	-0.109 (0.07)	-0.087 (0.08)	-0.16 (0.02)***	-0.13 (0.02)***
Contract*Union(Yes)	0.141 (0.13)	0.162 (0.14)	-0.039 (0.03)	-0.081 (0.04)**
Sector				
Contract dummies	-0.057 (0.08)	0.075 (0.09)	-0.189 (0.02)***	-0.138 (0.02)***
Contract*sector(Non-profit)	0.364 (0.23)	-0.125 (0.24)	0.036 (0.07)	-0.063 (0.07)
Contract*sector(Civil service)	-0.201 (0.15)	-0.405 (0.16)***	0.034 (0.04)	-0.070 (0.05)
Contract*sector(Public)	0.076 (0.20)	-0.186 (0.21)	0.0830 (.06)	-0.023 (0.06)

Notes**:** ** significant at 5%; *** significant at 1%; *Omitted Interaction terms*: *Age*: 16-25; *Gender*: Female; *Promotion*: Improbable; *Incentive*: Unimportant; *Financial Situation*: Nearly Always, Yes; *Union*: No; *Occupation*: Managers & professionals; *Sector*: Private; The full regression output is available from the authors upon request.

SUPPLEMENTARY MATERIAL

TABLE S1: MEAN EVALUATION SCORES BY COUNTRY AND CONTRACT STATUS

Country	*N Whole*	*Mean (s.d) Whole*	*N Permanent*	*Mean (s.d) Permanent*	*N Temporary*	*Mean (s.d) Temporary*
Denmark	4876	4.02 (2.80)	3926	3.97 (2.79)	389	4.44 (2.95)
France	4896	3.82 (2.87)	3980	3.73 (2.85)	409	4.58 (2.87)
Greece	4000	4.12 (2.66)	3150	4.06 (2.65)	500	4.33 (2.70)
Netherland	4924	4.12 (2.57)	4370	4.08 (2.56)	359	4.50 (2.57)
Spain	1505	4.88 (2.89)	978	4.76 (2.90)	285	5.54 (2.79)
Finland	1612	5.31 (2.82)	1268	5.24 (2.81)	205	5.31 (2.94)
UK	4947	3.98 (2.73)	4403	3.97 (2.73)	283	4.21 (2.79)

TABLE S2: RANDOM EFFECTS COLS JOB EVALUATION REGRESSIONS BY CONTRACT STATUS – EFFECT OF INDIVIDUAL AND CURRENT JOB CHARACTERISTICS

	Controls				*Selection*			
	Permanent		*Temporary*		*Permanent*		*Temporary*	
	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	Coef	s.e.
Personal factors								
Male	0.009	(0.019)	0.026	(0.061)	0.006	(0.020)	0.034	(0.064)
Age	-0.031	(0.007)***	-0.034	(0.020)	-0.033	(0.007)***	-0.038	(0.026)
Age squared	0.000	(0.000)**	0.000	(0.000)	0.000	(0.000)**	0.000	(0.000)
Married	0.004	(0.02)	0.067	(0.060)	0.005	(0.022)	0.071	(0.067)
Job Tenure	-0.006	(0.004)	-0.005	(0.016)	-0.005	(0.004)	0.007	(0.048)
Job Tenure squared	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	-0.000	(0.001)
Two Jobs	-0.001	(0.031)	0.099	(0.078)	0.005	(0.032)	0.054	(0.105)
Unemployed last year	-0.038	(0.037)	-0.039	(0.061)	-0.046	(0.047)	-0.054	(0.197)
Ln(monthly net wage)	-0.002	(0.02)	-0.044	(0.063)	0.001	(0.021)	-0.044	(0.075)
Ln(Contract hours/week)	0.175	(0.039)***	0.086	(0.084)	0.171	(0.040)***	0.129	(0.093)
Sector								
Non-profit institution	-0.058	(0.042)	-0.322	(0.124)***	-0.043	(0.045)	-0.349	(0.162)**
Civil service	-0.033	(0.032)	-0.084	(0.094)	-0.028	(0.033)	-0.093	(0.137)
Public company	0.001	(0.029)	-0.070	(0.094)	-0.002	(0.031)	-0.084	(0.125)
(ref. private company)								
Industry								
Manufacturing	0.045	(0.032)	0.021	(0.105)	0.043	(0.034)	0.059	(0.118)
Wholesale/retail trade	0.001	(0.033)	-0.109	(0.104)	0.004	(0.035)	-0.090	(0.112)
Services	0.003	(0.028)	0.016	(0.082)	0.010	(0.030)	0.033	(0.103)
Public admin/education/health	0.010	(0.034)	-0.021	(0.091)	0.008	(0.035)	-0.011	(0.094)
(ref. other)								
Occupation								
Managers/Professionals	0.046	(0.040)	0.010	(0.126)	0.037	(0.041)	0.007	(0.151)

Technical/Clerical	-0.045	(0.020)**	0.048	(0.063)	-0.050	(0.021)**	0.046	(0.066)
(ref. other)								
Working times								
Always same working times	-0.036	(0.029)	-0.027	(0.092)	-0.039	(0.03)	-0.097	(0.101)
Rotating shifts	0.008	(0.036)	0.111	(0.114)	0.009	(0.038)	0.057	(0.122)
Employee decides	-0.028	(0.046)	0.020	(0.111)	-0.046	(0.048)	-0.040	(0.125)
Employee+employer decide	-0.028	(0.036)	0.156	(0.135)	-0.026	(0.037)	0.110	(0.147)
(ref. decided by employer)								
Work organization								
Job in fixed team	0.001	(0.024)	-0.085	(0.079)	0.010	(0.025)	-0.090	(0.084)
Job in varying teamwork	-0.010	(0.032)	-0.274	(0.099)***	0.008	(0.034)	-0.319	(0.114)***
(ref. Job not in teamwork)								
Training								
5-10 days	-0.030	(0.020)	-0.051	(0.066)	-0.032	(0.020)	-0.069	(0.089)
1-3 months	-0.037	(0.039)	-0.051	(0.106)	-0.037	(0.041)	-0.065	(0.112)
(ref. no training or in the past)								
Control over own work								
Job has a fixed routine	-0.053	(0.039)	0.005	(0.118)	-0.056	(0.041)	-0.007	(0.131)
Can choose order tasks	-0.031	(0.036)	0.028	(0.11)	-0.035	(0.037)	0.036	(0.13)
(ref. No one controls your work)								
Country dummies								
Denmark	-0.012	(0.061)	0.096	(0.19)	-0.022	(0.064)	0.046	(0.269)
France	-0.119	(0.030)***	0.033	(0.105)	-0.118	(0.032)***	-0.016	(0.144)
Greece	-0.007	(0.035)	-0.020	(0.112)	-0.007	(0.037)	-0.084	(0.202)
Netherlands	0.070	(0.031)**	0.089	(0.110)	0.057	(0.033)	0.073	(0.177)
Spain	0.212	(0.046)***	0.287	(0.116)**	0.227	(0.05)***	0.192	(0.247)
Finland	0.339	(0.045)***	0.231	(0.145)	0.337	(0.046)***	0.180	(0.212)
(ref. UK)								

Notes: ** significant at 5%; *** significant at 1%; Vignette characteristics have also been controlled for as shown in Table 4 of the main text.

TABLE S3: RANDOM EFFECTS PROBIT REGRESSION OF TEMPORARY VS. PERMANENT CONTRACT STATUS

	Coef	s.e.
Male	-0.101	(0.135)
Age	-0.123	(0.046)***
Age squared	0.001	(0.001)**
Married	-0.026	(0.151)
Job Tenure	-0.374	(0.028)***
Job Tenure squared	0.009	(0.001)***
Two Jobs	0.699	(0.199)***
Unemployed last year	2.081	(0.176)***
Ln(monthly net wage)	-0.385	(0.139)***
Ln(Contract hours/week)	-0.075	(0.231)
Sector		
Non-profit institution	0.773	(0.297)***
Civil service	0.922	(0.225)***
Public company	0.765	(0.221)***
(ref. private company)		
Industry		
Manufacturing	-0.485	(0.242)**
Wholesale/retail trade	-0.397	(0.225)
Services	-0.491	(0.194)**
Public admin/education/health	-0.112	(0.227)
(ref. other)		
Occupation		
Managers/Professionals	0.549	(0.267)**
Technical/Clerical	-0.184	(0.141)
(ref. other)		
Working times		
Always same working times	-0.134	(0.215)
Rotating shifts	-0.326	(0.262)
Employee decides	0.511	(0.286)
Employee+employer decide	-0.256	(0.276)
(ref. work. times decided by employer)		
Work organization		
Job in fixed team	-0.036	(0.175)
Job in varying teamwork	0.355	(0.227)
(ref. Job not in teamwork)		
Training		
5-10 days	-0.576	(0.151)***
1-3 months	0.247	(0.242)
(ref. no training or in the past)		
Control over own work		
Job has a fixed routine	-0.491	(0.260)
Can choose order tasks	-0.599	(0.236)**
(ref. No one controls your work)		

Country dummies		
Denmark	1.898	(0.418)***
France	0.866	(0.229)***
Greece	1.471	(0.238)***
Netherlands	1.118	(0.240)***
Spain	2.109	(0.287)***
Finland	0.993	(0.351)***
(ref. UK)		
ID var: Children over age 16	0.564	(0.154)***
cons	3.671	(7.018)
N	18276 (3686)	
Wald chi2 (61)	952.39***	
Log likelihood	-1427.37	

Notes: ** significant at 5%; *** significant at 1%; The regression has also controlled for the vignette characteristics, though they are omitted here as they are all insignificant variables. The full regression output is available from the authors upon request.

NOTES

[i] According to Frederick and Loewenstein (1999), hedonic adaptation occurs when there is a "reduction in the affective intensity of favourable and unfavourable circumstances".

[ii] The theory of cognitive dissonance suggests that contradicting elements of knowledge (cognitions) serve as a driving force that compel the human mind to modify existing beliefs. The existence of dissonance, being psychologically uncomfortable, motivates the person to reduce the dissonance by altering his current beliefs and leads to avoidance of information likely to increase the dissonance. The greater the magnitude of the dissonance, the greater is the pressure to reduce dissonance.

[iii] However, their study did find evidence that fixed-term contracts function as effective stepping-stones towards permanent jobs, especially for women.

[iv] The first studies on conjoint analysis came from the field of marketing research (Luce and Tukey, 1964 and Green and Srinivasan, 1978). In these studies, respondents are often faced with the evaluation of a new consumer product before it is introduced to the market. Recently this approach is also widely applied to environmental and health economics. Van Beek, Koopmans and Van Praag (1997) and Van Leeuwen and Van Praag (2002) were the first to have used this approach in a labour economics context.

[v] Defining the hourly wage in the vignette in terms of a relative deviation from the current wage of the respondent circumvents the usual problem of wage definition and the problems that arise if respondents with different wages evaluate the same vignettes.

[vi] The COLS method has been shown to yield consistent parameter estimates (Ferrer-i-Carbonell and Fritjers, 2004; Stewart, 1983). It is a variant of the so-called 'interval regression' method. This approach yields parameter estimates that are nearly identical to those obtained by Ordered Probit (except for a factor of proportionality), are as efficient as Probit-estimation (as the *t*-values are approximately the same), but it is computationally much easier. It is also important to note that the so-called 'trade-off' ratios, indicating the marginal rate of substitution between two attributes, are not dependent on the specific method used. The reason is that the COLS procedure, which entails a specific monotonic labeling convention, ultimately describes the same indifference curves as the more traditional Ordered Probit/Logit estimates.

[vii] The justification for choosing to use random rather than fixed effects is twofold. Firstly, a simple Hausman test reveals no systematic difference in the estimated coefficients between the random and fixed effects models. Secondly, the random effects model allows for the assessment of the influence of individual variables like age, gender and educational level on the evaluation of the vignettes. The results are nevertheless unchanged when a fixed effects methodology is used (available from the authors upon request).

[viii] It was deemed necessary to pool all of the countries of the survey together, as the sample of permanent and temporary workers in one country alone would be very small and would not allow for a robust econometric analysis. Country fixed effects are nevertheless included in all of the regressions to control for potential national differences in job perceptions and institutional features.

[ix] The remaining percentage of workers was engaged in casual, seasonal, or other work, so they were dropped from the analysis.

[x] A table of the mean evaluation scores by country and contract status can be found as supplementary material.

[xi] The exact wording of the 'incentives' question in the EPICURUS survey is: "Which, if any, of the things listed below will induce you to increase your effort in your job? Please grade each factor by a number from 1 to 5, where 1 stands for 'very unimportant' and 5 stands for 'very important': The risk of losing your job"; while the question regarding the respondents' financial situation was stated as follows: "In the present circumstances, does your household save any money from the current income? 1. Yes, nearly always; 2. Sometimes yes, sometimes no; 3. No, hardly ever; 4. We are getting more and more into debt".

[xii] The results of the selection equation are available as supplementary material.