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Job satisfaction in Finland: Some results from the European Community household panel 1996 - 2001

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No. 958

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JOB SATISFACTION IN FINLAND

– Some results from the European Community Household panel 1996-2001

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ABSTRACT: In this paper we investigate several determinants of job satisfaction using the Finnish part of the European Community Household Panel. In general, Finnish research on job satisfaction using economics methodology is very scarce. Therefore, the paper starts by investigating several "classic" determinants of individual job satisfaction, such as the effect of wage, age, gender, education etc., on job satisfaction. The results of these investigations reveal that the Finnish results look rather similar to the bulk of international results, in the sense that women, those with higher wages, those with low education and so on have higher job satisfaction. We also find that a low level of job satisfaction can predict quits, in line with the international evidence. Further investigations into newer issues reveal that involuntary part-time is associated with lower job satisfaction, and that on-the-job training is associated with higher job satisfaction.

KEY WORDS: Job satisfaction, quits, part-time work, on-the-job training

JEL: J22, J24, J28

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TIIVISTELMÄ: Tässä paperissa tutkitaan työtyytyväisyyteen vaikuttavia tekijöitä käyttäen European Community Household Panel-aineistoa koskien Suomea. Taloustieteellisestä näkökulmasta tehtyjä suomalaisia tutkimuksia työtyytyväisyydestä on verrattain vähän. Tästä syystä tutkitaan paperissa ensin miten "perinteiset" tekijät kuten palkkataso, ikä, sukupuoli, koulutustaso vaikuttavat työtyytyväisyyteen. Nämä tekijät ovat "perinteisiä" siinä mielessä että aikaisemmissa, kansanvälisissä tutkimuksissa, on jo havaittu niiden vaikuttavan työtyytyväisyyteen. Tämän tutkimuksen tuloksien valossa Suomi ei näytä poikkeavan paljon muista maista, koska naisilla, huonommin koulutetuilla, ja korkeapalkkaisilla on muita korkeampi työtyytyväisyys samalla tavoin kuin ulkomailla. Matala työtyytyväisyys myös lisää todennäköisyyttä että työntekijä irtisanoutuu työstään. Paperissa tutkitaan myös työtyytyväisyyteen vaikuttavia tekijöitä, joiden vaikutuksista tiedetään vielä varsin vähän. Henkilöillä, jotka tekevät omasta tahdosta riippumatta osa-aikatyötä on muita matalampi työtyytyväisyys. Tulokset viittaavat myös siihen, että yrityksen tarjoama koulutus nostaa työntekijöiden työtyytyväisyyden.

AVAINSANOJA: Työtyytyväisyys, irtisanoutuminen, osa-aikatyö, henkilöstökoulutus

JEL: J22, J24, J28

1. Introduction

In economics, the concept of utility is central, and traditionally, utility theory has been used as a theoretical tool to explain and predict behaviour. In an empirical context, it has been common to evaluate individuals' utility or changes in utility by means of observed behaviour in market situations. Meanwhile, economists have been very reluctant to try to measure utility directly by using survey data on individuals' subjective views on their overall well being. However, psychologists have for a long time been very active in using such data.

Yet, in recent times, there has been a rethinking among economists regarding the use of subjective questions on individuals' well-being, and many papers have been written starting with the assumption that subjective well-being can be taken as an empirical proxy for economists' theoretical concept of utility. Large scale literature reviews on the economics of subjective well-being can be found in for example Frey & Stutzer (2002a), Frey & Stutzer (2002b), and van Praag & Ferrer-i-Carbonell (2004).

Although it will probably be some years before the economics science has really decided whether the economics of subjective well-being was just a fad or is an integral part of economics, there are issues speaking in favour of the suitability of subjective well-being data for economic analysis. First, many studies have found that questions on subjective well-being do provide consistent results. For example, psychologists have compared answers to subjective well-being questions with more "tangible" psychological measures, and found that individuals who report higher satisfaction also smile more (Sandvik et al., 1993), and that satisfaction correlates with changes in facial muscles (Kahneman et al., 1999). Second, earlier research within the economics tradition (e.g. Freeman, 1978), has shown that including subjective well-being data in "traditional" empirical economic analysis has been successful, in the sense that it improved the predicting power of the model. This said however, many economists are still suspicious, perhaps justifiably, of using data on subjective well-being, particularly as a dependent variable (Bertrand et al. 2001).

An individual's overall life satisfaction or overall well being may be disaggregated into various domains, such as job satisfaction, leisure satisfaction, health satisfaction and so on (van Praag et al. 2003). And undoubtedly, job satisfaction is one of the most important

domains of overall life satisfaction. Indeed, the adult population spends a large amount of time at work. This fact can also be seen in the economics literature on subjective well-being, which is heavily skewed towards papers on job satisfaction.

In Finland, the literature on job satisfaction is to say the least very sparse. As far as we know, only one economics paper (Böckerman & Ilmakunnas, 2004) has been published on this topic. This paper investigates the role of adverse working conditions on the determination of individual wages and overall job satisfaction in the Finnish labour market is investigated. The results show that working conditions have a very minor role in the determination of individual wages in the Finnish labour market. In contrast, adverse working conditions substantially increase the level of job dissatisfaction and the perception of unfairness of pay at the workplace.

Against this background, there seems to be a need for a deeper understanding of job satisfaction and its determinants in the Finnish labour market. This paper is an attempt to do just that, by investigating several determinants of job satisfaction. First, we investigate some "classic" determinants of job satisfaction on which there are already many international results. These are among other things a) how wages affect job satisfaction, b) if there are gender differences in job satisfaction, and c) if there are differences based on education levels in job satisfaction, and e) whether workers that state that they are less satisfied with their jobs are more likely to quit their jobs. Second, we also explore some determinants of job satisfaction that have seldom or ever been investigated in the literature before. These are a) whether part-timers are more satisfied with their jobs, and b) whether on-the-job training improves individual job satisfaction.

2. Subjective well-being data - some technical considerations

If one is willing to accept that subjective well-being data can be used for economic analysis, the next step is to consider which econometric techniques may be applied if one wants to explain individual differences in these data.

Subjective well-being data are most often expressed in discrete form. In the European Community Household Panel (ECHP) for example, individuals are asked to express their satisfaction with main activity (which may be interpreted as job satisfaction if the individual

is working) on a discrete scale from 1 to 6, where those reporting 6 are the most satisfied. As such, these discrete responses may easily be handled using ordered logit or probit models.

However, things get econometrically somewhat more complicated if one wants to use the panel property of say, the ECHP data. Clearly, there are great advantages of using panel data, as the same individual may be observed at several points over time. This helps in reducing problems of unobserved heterogeneity by taking individual effects into account. These effects are unobservable individual characteristics that stay constant across time but differ among individuals. Examples are the individual's intelligence and character, i.e. optimism. Individual effects can be treated as *fixed*, through the inclusion of a dummy variable (d_n) for each individual, or as *random* effects through the inclusion of a random disturbance (η_n) that has, when averaged over the *n* individuals, mean 0 and unknown standard deviation.

In order to estimate individual fixed effects, the model has to be expressed in differences across time so that the *N* individual dummy variables drop out. As a consequence, explanatory variables that are constant across time cannot be estimated. Alternatively, individual effects can be entered as a random variable (η_n). The advantage of this specification is that we do not have to estimate *N* specific individual effects δ_n. The main disadvantage of the random effects model is that it has to be assumed that $\text{cov}(x_{nt}, \eta_n) = 0$. For example, it is then assumed that unobserved intelligence is not correlated with income. Such correlation can only be addressed with *fixed* effects, not with *random* effects.

However, ordered-response panel data models are not entirely straightforward to use. Traditional ordered (Probit or Logit) models with individual fixed effects are either computationally infeasible or not consistent panels covering a small number of years. Furthermore, an ordered probit model with random effects of course suffers from the random effects "problem" described above[1].

There are at least two ways to alleviate some of these problems. First, one can transform the discrete responses into continuous variables, and second, one can append random effects models with what is called Mundlak transformations.

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[1] The interested reader is referred to Ferrer-i-Carbonell & Frijters (2004), for a much more thorough exposition of the econometrics of subjective well-being data.

If the researcher is willing to accept not only that the subjective data is measured on an ordinal scale, but also can be measured on a cardinal scale, the discrete numbers may be transformed into continuous variables. One way to do that is to transform the discrete values by z (normal) scores as in Freeman, (1978). Another way, which will be utilised later on in this paper, is for the researcher to approximate the unknown value of the underlying value of the respondents satisfaction y_n by $\bar{y}_n$. This uses information on within which specific interval , $[a_{i-1}, a_i]$ corresponding to the ith response category, does y_n lie. Then,

$$\bar{y}_n = E(\alpha_{i_n-1} < y_n \leq \alpha_{i_n}) = \frac{n(\alpha_{i_n-1}) - n(\alpha_{i_n})}{N(\alpha_{i_n}) - N(\alpha_{i_n-1})}$$

where $n(.)$ and $N(.)$ stand for the normal standard density and distribution functions, respectively. This formula is the conditional mean of y_n (Maddala, 1983). Within the subjective well-being literature in economics, this transformation has been labelled the POLS-transformation (van Praag & Ferrer-i-Carbonell, 2004). Once this transformation has been done, the researcher can use traditional panel data techniques for continuous variables.

If one does not want to assume cardinality, but still run an ordered probit model with random effects, models may be improved by making so-called Mundlak-transformations (Mundlak 1978). Remember that one of the problems with the random effects specification is that there is a risk that the random effect is correlated with one or some of the explanatory variables. Then, one can decompose the effect of some explanatory variables into an individual average over time, and a term describing the deviation from that mean. The individual average over time may then be thought of as showing differences between individuals, while the deviation from the mean identify the within individuals effect (Ferrer-i-Carbonell, 2003). Obviously, this decomposition only makes sense for those variables where there may be considerable differences between the average for an individual over time, and deviations from that mean.

3. Some facts from earlier research on job satisfaction

Subjective questions can fruitfully be divided into two main groups. One refers to satisfaction with ‘life as a whole’, which has often been termed as ‘subjective well-being’, ‘subjective happiness’, or ‘subjective general satisfaction’. The terms ‘well-being’, ‘happiness’, and

‘general satisfaction’ are in this exposition taken as interchangeable. The other group of subjective satisfaction questions refers to individual satisfaction with specific domains of life, such as job, finance, housing, and health situation. The answers to these questions are referred to as domain satisfactions, and one speaks, for example, of job satisfaction, financial satisfaction, house satisfaction, and health satisfaction. For this paper job satisfaction is of most relevance. In many questionnaires, individuals have been also asked how satisfied they are with concrete aspects of their job situation, such as the number of working hours, the working environment, and security. These may be termed *partial job satisfactions*. If the list of partial job satisfactions were exhaustive, job satisfaction could be seen as a weighted aggregate of these (van Praag & Ferrer-i-Carbonell, 2004). As work-related aspects of well-being, i.e. job satisfaction, are the most important ones in this paper, the following summary of some of the existing research results concerns job satisfaction.

3.1 Job satisfaction and earnings

The link between earnings (wages) and job satisfaction is a controversial issue, which resembles the discussion about the influence of income on overall well-being. Some researchers have estimated a negative relation when controlling for income (Clark & Oswald, 1994). Some other studies, however, find a clear positive relation between earnings and job satisfaction when including also household income in the job satisfaction regression (van Praag et al., 2003, van Praag & Ferrer-i-Carbonell, 2004). Concretely, these latter studies show that both income concepts have a positive and significant effect on job satisfaction for the UK as well as in East Germany (but not for West Germany). The specification of van Praag’s groups is more complex than the one of Clark and Oswald, though, and that could explain the differences. van Praag & Ferrer-i-Carbonell (2004) find that, for the UK, the effect of labour income on job satisfaction decreases with increasing age and is larger for men.

Further, a number of studies suggest that the utility from a job is not affected by wages in “absolute terms, but rather by relative wages because people judge their utility with respect to a certain reference point (Clark & Oswald, 1996, Clark, 1999, Ward & Sloane, 2000, Grund & Sliwka, 2001). However, the empirical evidence on this issue is mixed. Clark & Oswald (1996), using data from wave 1 of a random sample of approximately 5,000 British workers from the British Household Panel Survey collected in 1991, find that workers’ reported levels of well-being are correlated, albeit weakly, with absolute income alone.

Finally, some researchers have found that own expectations of the future and the past are better determinants of job satisfaction than the relative wage based on some comparative group (Easterlin 2001, Lydon & Chevalier, 2002, Groot & van den Brink, 1999). Groot and van den Brink explained that preferences and aspirations increase with higher earnings, thus the effect of wage increases on job satisfaction disappears. They called this phenomenon "preference drift" or "habit-formation".

3.2 Job satisfaction and gender

A large number of studies of job satisfaction and *gender differences* report that women are more satisfied with their jobs than men (Clark & Oswald, 1994, Clark, 1997, van Praag et al., 2003, Sousa-Poza & Sousa-Poza, 2000). This is a rather remarkable finding considering that studies across occupations and countries have found substantial and significant male-female earnings differentials and there is evidence of discrimination against women in the labour market in the case of e.g. hiring/firing and promotion (Ward & Sloane, 2000). Clark (1997) attempts to explain these results in terms of jobs, work values, self-selection or expectations. The assumption is that workers who expect comparatively less of their job report higher job satisfaction, compared to those who expect more the terms of career opportunities and the career stage that one is expecting to. For instance, women who generally expect less from their job feel more satisfied than men, since the satisfaction gap between the current state of job career and what is expected to be reached is narrower for women (Kaiser, 2002) However, there are also studies which show that men are more satisfied with their jobs (Sousa-Poza & Sousa-Poza, 2000 using Spanish, Danish, Japanese, French, and Norwegian data, and Kaiser (2002), using Portuguese and Dutch data). In this case, the results are in accordance with the fact that men typically earn more than women.

Judging from the above discussion, it is obvious that that there is no consensus regarding gender differences in job satisfaction, both regarding the direction of the effect, and the potential explanations for the observed findings. As such, this represents an issue for further research.

3.3 Job satisfaction and age

With respect to *age*, the most frequently reported result is a positive, usually statistically significant, relationship with job satisfaction. However, recent work, particularly by Blanchflower & Oswald, (1999) for the US, has found that job satisfaction is U-shaped in age,

with the minimum around the age of 30, with older workers generally being more satisfied with their job. Thus, although job satisfaction increases with age later in life, it can initially decline with age. A posterior choice model can explain the results that job satisfaction is U-shaped in age (Lydon & Chevalier, 2002). For instance, young workers over-estimate their future earnings. However, each additional experience will reduce their expected future wage, thus affecting negatively their job satisfaction. Similarly, for older workers, job satisfaction is going to be affected rather by unexpected shocks to their future expectations. It should be noted however, that there is no complete consensus on this issue. For Denmark, for example, no age effects on job satisfaction are found (Eriksson et al., 2003).

3.4 Job satisfaction and education level

A number of studies suggest that satisfaction levels are negatively correlated with the level of education (Clark & Oswald, 1996, Sloane & Williams, 1996). Higher educated workers are less satisfied with their job than lower educated workers. The assumption is that job satisfaction depends on the gap between outcomes and aspirations, and education raises aspiration targets. There are also studies, on the other hand, that report that there is a positive correlation between education and job satisfaction (Eriksson et al., (2003) for Denmark, Kaiser, (2002), for a variety of EU countries).

3.5 Job satisfaction and quits

One of the most interesting strands of the economics of subjective well-being is the relation between subjective well-being measures and actual behaviour. One nice feature of this literature is that it provides some indication that data on subjective well-being actually may provide us with information that is not conveyed by “traditional” economic variables (i.e. information on economic agents’ actions, as opposed to attitudes). One sub-strand of this literature is the literature concerns whether or not data on job satisfaction can predict quits. Thus, is it the case that an individual who reports lower job satisfaction is more likely to quit his or her job, even if other relevant factors, such as wages ad tenure, are taken into account? Indeed, one of the very first papers on job satisfaction (Freeman, 1978) shows that by adding a job satisfaction variable to a regression where one tries to explain who quits a job and who does not, it is possible to get a better prediction of who will quit than when not adding the job satisfaction variable. More recent research on various European datasets (e.g. Ward & Sloane, 2000, Shileds & Price, 2002, Clark, 2001, Kristensen & Westergård-Nielsen, 2004) has added more evidence pointing in this direction.

4. Data

As already mentioned, not much research has been done on Finnish data regarding the economics of subjective well-being. Regarding job satisfaction, two datasets are the most promising for research on Finnish issues

The *Quality of Work Life Survey* data is a Finnish data set produced by Statistics Finland. There are four cross-sections, that have been collected in 1977, 1984, 1990, and 1997. Each of the cross-sections comprises around 5000 observations, but there is no panel dimension. The contents of the data set can be divided into four broad categories – work history, health, psychological and work environment factors, and physical work environment. Further, it also contains ample information on job satisfaction and its sub-components. This data set has been used quite a bit in sociological research, but has not attracted much attention from economists.

The *European Community Household Panel* (ECHP) is a survey based on a standardised questionnaire that involves annual interviewing of a representative panel of households and individuals in each EU country, covering a wide range of topics: income, health, education, housing, demographics, satisfaction with various things, employment characteristic, etc. The total duration of the ECHP is 8 years, running from 1994 to 2001. Finland has been included since 1996. The great advantage of the ECHP is its panel design, which makes it possible to follow up individuals over time. In the ECHP, job satisfaction (or more precisely satisfaction with the main occupation) is reported on a scale from 1 to 6.

As already mentioned, we use the Finnish part of the ECHP in this paper, mainly because of the panel property. Another advantage of the data is its comparability with data from the other EU countries.

5. Results

5.1 "Classic" determinants of job satisfaction

In this section we present results regarding determinants of job satisfaction in Finland for the period 1996 to 2001. We start by studying what we earlier called the classical determinants of job satisfaction which have earlier rather extensively been studied in other countries. In doing

so, we restrict ourselves to full-time employees only[2]. Before looking at the regression results, however, it is useful to examine some descriptive statistics regarding key variables (Table 1). Although more robust conclusions only may be made by studying results of multivariate regressions, some patterns may be distinguished from table 1. First of all, it seems like job satisfaction is rising with income, as the average of the monthly net wage is highest for those reporting a job satisfaction score of 6 and lowest for those reporting a job satisfaction score of 1. Further, there is a clear positive correlation between job satisfaction and self-reported health, with 60% of those reporting a job satisfaction score of 1 also reporting having good health, but with 81% of those reporting a job satisfaction score of 6 reporting good health. Married or cohabiting individuals also seem to have higher job satisfaction.

Nevertheless, as these variables most likely to some extent are correlated with each other, we now proceed to more rigorous econometric estimation. In table 2, results of 3 regressions are presented. In columns 1 and 2, the job satisfaction score has been recalculated using the formula presented in section 3 (the so called POLS method). In column 3, the dependent variable is the reported job satisfaction score. In column 1 the method is then OLS with random individual effects, and in column 2, OLS with fixed individual effects. In column 3, the method is ordered probit with random individual effects. Note also that in the random effects specifications, the individual average over time, the so called Mundlak-corrections, are also included.

It seems clear that the log of net monthly wage has a positive effect on job satisfaction. In columns 1 and 3, we see that both the log of net monthly wage, and its individual average over time (the Mundlak term) are positive. In interpreting this, it is useful to think of the Mundlak-term as differences between individuals, whereas the log of net monthly wage may be interpreted as the within-individual effect. In other words, the Mundlak-term may be interpreted as a level effect, and the log of net income as a shock effect.

The effect of age on job satisfaction is non-linear with the young and the older being more satisfied with their jobs than their middle-aged colleagues. This is a result that has been

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[2] Although the job satisfaction of the self-employed is an interesting subject in itself, (see e.g. Frey & Benz, 2003), there are several additional problems that have to be dealt with if they are to be included in the analysis. One of the major problems is which income to use (capital income, entrepreneurial income etc.). This because one may suspect that a sizeable part of income for the self-employed is actually capital income, which in turn makes the interpretation of satisfaction with income difficult.

obtained in many earlier studies on job satisfaction (e.g. Oswald et al., 1996) and also in studies on overall life satisfaction (e.g Blanchflower & Oswald, 2004). Good health is significantly positive in all three specifications, which is also very much in line with earlier international research (e.g. Ferrer-i-Carbonell & Frijters, 2004).

The effect of education on job satisfaction is interesting, as a high level of education is significantly negative compared to the reference category, middle level education. And a low level of education is significantly better in terms of job satisfaction than a middle level of education. (Education levels are defined using the ISCED-standards, and a high level of education is defined as ISCED categories 5 to 7, middle level education as ISCED category 3, and low level of education as ISCED categories 0-2.) Perhaps it is the case in Finland, as has been suggested for several other countries, that with high education also come high aspirations, which have a negative effect on job satisfaction.

The female dummy is positive, indicating that women are generally more satisfied with their jobs. This is also similar to many (but not all) earlier studies. This is a rather remarkable finding, from which the term “the gender paradox” has arisen. Thus, why should women be more satisfied with their jobs, when they often get less pay than men, even when doing the same job?

The rest of the coefficients are perhaps less interesting. There seems to be no difference in terms of job satisfaction between public and private sector workers. We find no effects of working hours or immigrant status. The industry dummies reveal some differences, with health care workers being happier with their jobs and manufacturing workers being less happy. Having children does not seem to affect job satisfaction.

Summing up the results from these “classic” job satisfaction regression it is perhaps fair to say that they look rather similar to the results obtained from regressions of the same type for other countries. Wage increases job satisfaction, job satisfaction is U-shaped in age, women have higher job satisfaction, and highly educated are less satisfied with their jobs.

5.2 Can low job satisfaction predict quits?

As, already mentioned in section 4, one of the earliest examples of job satisfaction data having been used in economic research is Freeman (1978) where job satisfaction data were used in addition to “traditional” data in order to explain who quit their job and who does not.

Although there are several examples in the international literature of this type of research, we do not know of any Finnish study on this topic.

To get a grasp on how things look in the Finnish case, we follow the methodology used in Kristensen & Westergård-Nielsen (2004) in which the topic has been analysed for the case of Denmark, using the Danish part of the ECHP. The idea in this approach is, in order to avoid some of the endogeneity problems inherit to this type of research, to estimate a kind of transition equation, where the researcher tries to explain who changes jobs between time *t* and time *t+1,* given his or her characteristics and other circumstances measured at time *t.* In technical terms the modeling strategy will be such, that in a probit or logit model the dependent variable takes the value 0 if the individual stays in the same job both at time *t* and at time *t+1,* and 1 if the individual switches jobs between *t* and *t+1*. Quits are defined as individuals who report a start date for their current job that falls in-between the interview at time *t* in the ECHP and the interview at time *t+1*. This information is further augmented with information on whether the respondent has reported that he or she voluntarily quit his or her job[3].

Column 1 of table 3 reports results for a random effects logit regression, where quits are explained in the fashion described above[4]. As an explanatory variable, job satisfaction, transformed in the way described in section 3, is included. As expected, individuals that express higher job satisfaction at time *t* are less likely to voluntarily switch to another job between time *t* and time *t+1*.

The other explanatory variables in the quit regression reveal some additional, perhaps not too surprising, patterns. The young, the well-educated, those working in the private sector, those with low wages, those with a managerial position, and those with a short tenure are more likely to switch jobs. It is also interesting to see that a high wage, holding other things constant, significantly reduces the probability of a job switch. Women also seem to be less inclined to switch jobs, although the effect is only almost significant on the 5%-level. Another interesting result is that those who own their house or apartment (as opposed to renting it) are

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[3] In the ECHP, there is a risk that individuals state that they have quit their job, but they have in fact been laid off. If this is the case to a large extent, it would introduce a bias to the results (Kristensen & Westergård-Nielsen, 2004).

[4] The same regression was also run without utilisation of the panel structure of the data set. This straightforward pooling of the data resulted in very similar results to those presented here.

considerably less likely to switch jobs. Although not a particular topic of this paper, this may perhaps be interpreted as house ownership reduces labour mobility (see Hämäläinen & Böckerman, 2004, for more information on this topic). And the reader should bear in mind that residence ownership is still heavily subsidized through the tax system in Finland.

As described earlier in the paper, job satisfaction may be thought of as a kind of weighted average of various domains of job satisfaction, such as satisfaction with pay, satisfaction with job security etc. An interesting exercise is therefore to investigate which of these domains of job satisfaction seem to be the most important ones for the probability of quits. In columns 2-8 of table 3, we have therefore run separate regressions for various domains of job satisfaction, in order to check their relative importance.

Several interesting results emerge from this analysis. The degree of satisfaction with type of work, satisfaction with working times, and satisfaction with distance to work seem to be the most important determinants of quits. Somewhat surprisingly, it seems that satisfaction with job security is not significant in this quit-regression. Thus it does not seem like individuals change jobs because they anticipate a potential layoff or similar in the future. It is not entirely straightforward why this is the case. Perhaps the relative generous level of unemployment benefits in Finland makes individuals less worried about these things. Or, some more complicated selection mechanism is in play. Perhaps those facing potential layoffs do not change jobs because they have very few opportunities to do so. For instance, suppose that there are plans of shutting down a plant in some remote part of Finland, and the workers are worried about job security. They do not quit before shutdown however, because there are no alternative jobs to be found in this industry at this location. Clearly, more research on this question would be interesting.

In a final step, we performed a kind of ranking of the domains of job satisfaction that are important for this quit decision, based on the results from table 3. The ranking outcome is presented in column 1 of table 4. It may be compared to the results of Kristensen & Westergård-Nielsen (2004) of which a similar ranking is presented in column 2 of table 4. There are some interesting similarities between the two countries. The first one is perhaps that satisfaction with job security is so unimportant both in Denmark and in Finland. Secondly, satisfaction with “type of work” is the most important determinant in both countries.

Summing up the results from this analysis of quits, it is again fair to say that the Finnish results are not too far from earlier results obtained in other countries. Another observation from this type of analysis of quits is further evidence supporting the fact that data on job satisfaction may be used in economics in a fruitful way, just as Freeman (1978) wrote in his seminal paper.

5.3 Job satisfaction and part-time work

We now turn the attention to some internationally less researched determinants of job satisfaction. The first one is to what extent part-time work affect job satisfaction. The backdrop to the interest in this question is that over the last few decades, the average number of hours worked per individual has dropped in many EU-countries. One of the driving forces behind this drop has been an increase in part-time work. (It should nevertheless be noted that this development is less pronounced in Finland than in most other countries, with part-time work being much less common in Finland than in for instance Sweden or the Netherlands.)

Some individuals work part-time instead of full-time voluntarily, and one would hardly expect that the job satisfaction of those individuals would be worse than of those who work full-time. However, some individuals work part-time because they cannot find full-time employment. And as such, involuntary part-time should perhaps be considered hidden unemployment. And furthermore, it is perhaps likely that promotion prospects, and possibilities of getting employer paid training are worse for those who work only part time. Indeed, as Arurampalam et al. (2003) point out, Finnish men that are employed part-time do receive less training that Finnish men who work full time, but for women there is no such clear-cut relationship.

In the ECHP, it is possible to distinguish between voluntary and involuntary part*time work. Respondents indicate why they don’t work full-time and those who answer either “want but cannot find full-time job”, “illness” or “other” are categorized as involuntary part-time workers, while those who reply either “education”, “don’t want full-time job” or “housework” are categorized as voluntary part-time workers. Clearly, this distinction is not clear cut, but it is perhaps the best one can do with the available data.

Table 5 provides some tabulations of those having worked part-time, either voluntarily or involuntarily in Finland during 1996-2001. We can see that around 6% of the sample has

worked work part-time, of which over 50% voluntarily, according to our definition above. The typical worker who works part-time involuntarily seems to be an elderly, female, service sector worker with a low level of education and an atypical work contract.

Charts 1 to 3 show the distribution of actual hours worked per week for the three categories, involuntarily part-time working, voluntarily part-time working, and working full-time. For both part-time categories, working hours are clustered at 15, 20, and 25 hours per week. For the involuntary part-timers though, it seems that fewer work only 15 hours. For the full-time workers, the number of working hours are, expectedly, clustered at 40 hours per week.

Chart 4 provides a first, graphical, clue to the job satisfaction consequences of part-time work. It looks like those who work full-time and those who work part-time voluntarily are just about as well off, but that those who work part-time involuntarily seem to be worse off.

In table 6, we investigate the matter econometrically. These regressions have the same specification as the one in column 3 of table 2, apart from the part-time split. The results show that for men, but not for women, voluntary part-time is associated with higher job satisfaction than working full-time. Involuntary part-time is no different from working full time. However, this result may be due to an omitted variables problem. It may thus be the case that an unobserved personal trait, say “the taste for a good life” or something similar, affects both job satisfaction and the probability of self-selecting into voluntarily working part-time.

If there is an omitted variables problem, and this omitted variable is constant over time for a given individual, a fixed-effects set-up will take care of that problem. In table 7, columns 4-6, the results of such regressions are shown. In all regressions in table 7, the dependent variable is job satisfaction, transformed using the POLS-methodology (The random effects results in columns 1 to 3 are supplied for comparative reasons). The results of the fixed effects specification look different to the random effects estimates. First, working part-time voluntarily is no longer different in job satisfaction terms compared to working full-time. However, working involuntarily part-time is associated with lower job satisfaction than the other two alternatives, for the whole sample, and for men in particular. And in the fixed-effects specification case, the selection problem should have been eliminated.

Nevertheless, there may still be a problem of reverse causality. Perhaps it is not the case that an individual becomes forced to accept involuntary part-time and job satisfaction suffers for

that reason, but instead it is the case that the worker becomes dissatisfied for some reason, his or her productivity suffers, and he or she gets demoted to part-time for that reason. In order to solve this problem, one would need to instrument part-time work, with instruments that affect the probability of working part-time, but are unrelated to job satisfaction. Unfortunately, we have not been able to find reasonable instruments for this, as most things that affect the probability of working part-time also tend to be correlated with job satisfaction. The female gender dummy appears to be a possible instrument at first sight, but in the case of Finland it is clear that being a woman also seems to have an independent positive effect on job satisfaction.

So, we are forced to stop investigations at this stage. In summary, it is perhaps fair to say that, involuntary part-time work is associated with lower job satisfaction, at least for men. It is likely not due to selection, but we dare not say at this stage in which direction the causality runs.

5.4 Job satisfaction and on-the-job training

There are several reasons why one would be interested in the job satisfaction consequences of on-the-job training. An important one has to do with the fact that the population is ageing in many (or most) EU countries. This puts pressure on public finances. One way to ease these pressures is to improve the productivity of the labour force, and thereby GDP per capita. If the EU economies succeed in doing so, more financial resources will be available to fund the needs of pensioners. One way to improve the productivity of the labour force is to improve its skills, and that will hopefully happen if workers receive training. However, it is a well-known fact in economics that for on-the-job training to be profitable for firms, it is important that the trained workers do not quit and take up employment in another firm. And as we have seen, low job satisfaction increases the risk that employees quit.

Measuring on-the-job training is not entirely straightforward, as on-the-job training can take many forms. The simplest form is informal learning at the workplace, where a supervisor instructs the worker on how to accomplish certain tasks. A more formal mode is one where employees are provided some kind of course, perhaps outside the office or establishment. Generally, in datasets that are available for empirical research, there is seldom any information on informal training. So, the researcher has to use what is available, i.e. most often information only on formal courses provided by the employer.

In the ECHP, quite a few things are asked about the training received by workers, and consequently the researcher can choose between several ways how to measure the occurrence and extent of on-the-job training. In this paper, we have tried various ways. Our first attempt was to construct a dummy taking the value of 1 if the respondent has answered that the duration of the vocational training course he or she attended exceeded one day. Table 8 provides some descriptive statistics on who actually got training according to this definition. Several differences between groups emerge from this table, with well-educated, young individuals in managerial positions receive training more often. Larger firms also seem to provide more training more often.

The job satisfaction consequences of participation in training are explored econometrically in table 9. The dependent variable is POLS job satisfaction, and columns 1 to 3 present the results of panel OLS regressions with random individual effects and columns 4-6 panel OLS regressions with fixed individual effects. Judging from the results, it seems clear that receiving on-the-job training is associated with higher levels of job satisfaction. This is true for the sample as a whole, and for men in particular. The fixed effects specification should rule out a selection explanation, as time-invariant unobserved characteristics are controlled for. However, as in the case of table 7, where we looked at part-time work, this assumption is not entirely water-tight from a reverse causation point of view. The straightforward explanation is of course that those who receive on-the-job training becomes more satisfied with their jobs, but it may also be the case that individuals first become more satisfied with their job for some reason we have not controlled for, which in turn increases their job satisfaction. As in the case of part-time work, a solution to this problem would require an instrumental variable approach, in which the receipt of on-the-job training is instrumented by some factor that is uncorrelated with job satisfaction. However, as in the case of part-time work, we will leave the investigation at this stage, as it is very difficult to find proper instruments for training. As a final comment however, it could be said that because we have controlled for quite a few other things in table 9, we judge it more likely that participation in on-the-job training actually increases job satisfaction and not the other way around.

As already mentioned, it is possible to measure the occurrence and magnitude of on-the-job training in the ECHP in several ways. Another, rather appealing way, is to measure it by using responses to the question “Was the vocational education course paid for or organised by the

employer?[5] In table 10, we present econometric estimates with the same specifications as in table 9, but with our dummy constructed in such a way that it takes the value of 1 if the respondent's vocational training course was organised by the employer and 0 otherwise. And as can be seen from the results, this distinction does not matter very much. The results remain very similar.

Yet another way to define the receipt of on-the-job training is to make use of information on which type of course the employee has been involved in. This can be done using question PT002 in the ECHP, which asks the respondent about which type of training the respondent has been involved in. From this, we constructed a dummy taking the value of 1 if the respondent has chosen answer alternative "vocational training course only". With this dummy we performed the same regressions as those presented in tables 9 and 10. The results are presented in table 11.

Unfortunately, these regressions are severely hampered by a missing observations problem, with the number of observations shrinking to some 7 600, instead of the approximately 12 500 available for the analysis in tables 9 and 10. This may be explain why the results look markedly different compared to tables 9 and 10. In order to perform a kind of robustness check we compared the results of table 11, run without the vocational training dummy, with our basic results from table 2. (Columns 1 and 3 refer to regressions run with the same data as in table 11, and columns 2 and 4 are the results from table 2). This table (12) indicates that the loss of observations biases the result considerably – consider the coefficients on the log of monthly wage – for instance. For this reason, we are more inclined to go with the results presented in tables 9 and 10.

To sum up or results on the effect of on-the-job training on job satisfaction, we found a fair amount of evidence in favour of on-the-job training causing higher job satisfaction, holding a host of other effects constant. There are at least two caveats to this, though. First, we cannot rule out the possibility that higher job satisfaction leads to a higher probability of an individual receiving on-the-job training. Second, measuring on-the-job training is nor clear-cut, and results may to some extent be sensitive to the way on-the-job training is measured.

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[5] Question PT017 in the ECHP.

6. Concluding remarks

This paper is about job satisfaction in Finland. To date, there has not been very much research on job satisfaction on Finnish data using economics-based approaches. In this paper, we analyse, using the Finnish part of the European Community Household Panel, several issues related to job satisfaction. We first deal with what we call "classical" determinants of job satisfaction. These have been researched to a great extent internationally, but they have received only limited attention in Finland. These include how for instance gender, education, wages, age, and public/private sector employment affect job satisfaction. In general, we find that Finland is rather typical, in the sense that most of the results resemble the bulk of results already obtained internationally. After this we go into some questions that are somewhat newer to the job satisfaction literature, also internationally. These concern the effect on job satisfaction of part-time work and on-the-job training, respectively. Here we find that involuntary part-time has a negative effect on job satisfaction, and that on-the-job training affects job satisfaction positively.

This paper has the nature of an overview paper, and there are many directions into which deeper analysis could be done. For instance, one should try to explain why women and individuals with a low level of education have higher job satisfaction, even after controlling for a rather substantial set of other factors, as is done in the paper. Also, one should try to go further and resolve the potential reverse causation problem we faced in the investigation of the effects of on-the-job training and part-time work on job satisfaction. This would require an instrumental variables approach, using instruments that would predict why someone receives on-the-job training, or involuntarily works part-time, but are uncorrelated with job satisfaction.

Table 1: Averages of key variables sorted by job satisfaction

Variable	JS=1	JS=2	JS=3	JS=4	JS=5	JS=6
Age	38.3	37.1	39.1	40.7	40.8	41.8
Dummy: Cohabiting/married	0.72	0.73	0.75	0.80	0.81	0.81
Dummy: Public sector	0.31	0.30	0.37	0.42	0.44	0.46
Dummy: Immigrant	0.04	0.04	0.03	0.03	0.03	0.03
Dummy: Manager/professional	0.12	0.18	0.20	0.29	0.35	0.34
Dummy: Agriculture	0.04	0.04	0.03	0.02	0.02	0.02
Dummy: Manufacturing	0.24	0.33	0.33	0.33	0.27	0.21
Dummy: Services	0.72	0.64	0.64	0.65	0.71	0.77
Dummy: Female	0.55	0.49	0.52	0.53	0.51	0.58
Dummy: Good health	0.60	0.70	0.69	0.73	0.80	0.81
Dummy: High education	0.29	0.32	0.35	0.39	0.43	0.41
Dummy: Middle education	0.50	0.53	0.48	0.43	0.41	0.37
Dummy: Low Education	0.21	0.15	0.18	0.18	0.17	0.21
Tenure (years)	6.6	6.7	8.3	9.2	9.0	8.6
Number of children	0.75	0.80	0.86	0.87	0.87	0.86
Monthly net wage (€)	1132.9	1231.5	1315.3	1478.6	1584.9	1631.3
Hours per week	37.4	37.6	37.8	38.4	38.7	38.7
N	126	451	1580	4950	8149	2452

Table 2: Determinants of job satisfaction in Finland 1996-2001.

Method	Random effects OLS	Fixed effects OLS	Random effects ordered probit
Dependent variable	JS-pols	JS-pols	Job satisf.
Log of monthly wage	0.107	0.082	0.196
	(2.84)**	(1.89)	(2.93)**
Age	-0.023		-0.041
	(3.21)**		(3.25)**
Age squared	0.000		0.001
	(4.08)**		(4.14)**
Log of weekly hours	0.006	0.029	0.011
	(0.11)	(0.52)	(0.12)
Dummy: two jobs	0.021	0.025	0.039
	(0.71)	(0.65)	(0.76)
Dummy: good health	0.179	0.109	0.320
	(9.57)**	(4.59)**	(9.66)**
Dummy: high education	-0.085	-0.033	-0.150
	(3.61)**	(0.82)	(3.59)**
Dummy: low education	0.096	0.040	0.173
	(3.84)**	(0.88)	(3.92)**
Dummy: female	0.069		0.123
	(2.59)**		(2.63)**
Dummy cohabiting/married	0.037	0.007	0.071
	(1.57)	(0.16)	(1.68)
Dummy: public sector	-0.017	-0.039	-0.029
	(0.74)	(1.05)	(0.71)
Dummy: immigrant	-0.040		-0.078
	(0.71)		(0.79)
Dummy: Manager/professional	0.105	0.140	0.189
	(3.92)**	(2.68)**	(4.00)**
Dummy: blue collar worker	-0.087	-0.171	-0.151
	(3.60)**	(3.46)**	(3.56)**
Tenure: 0-4 years	0.104	0.154	0.185
	(4.41)**	(4.44)**	(4.41)**
Tenure 11-15 years	0.007	-0.095	0.029
	(0.30)	(2.47)*	(0.66)
Tenure > 16 years	-0.023	-0.138	-0.037
	(0.78)	(2.80)**	(0.71)
Number of children	0.021	0.011	0.035
	(1.12)	(0.51)	(1.06)
Dummy: children u. 12 years	-0.003	-0.024	0.004
	(0.09)	(0.48)	(0.06)
Dummy: female*children u. 12	0.042	0.129	0.062
	(1.14)	(1.99)*	(0.96)
Mean of log of monthly wage	0.166		0.310
	(3.64)**		(3.83)**
Mean of log of weekly hours	-0.013		-0.040
	(0.17)		(0.30)
Mean of number of children	-0.014		-0.024
	(0.68)		(0.68)

Table 2: Determinants of job satisfaction in Finland 1996-2001 (continued)

Agriculture	-0.069	-0.182	-0.121
	(1.07)	(1.01)	(1.06)
Mining	-0.118	-0.564	-0.217
	(1.31)	(1.34)	(1.40)
Manufacturing: food	-0.310	-0.546	-0.537
	(4.61)**	(3.99)**	(4.61)**
Manufacturing: textiles	-0.166	-0.403	-0.300
	(1.79)	(1.79)	(1.84)
Manufacturing: wood prod.	-0.143	-0.327	-0.245
	(3.09)**	(2.54)*	(3.03)**
Manufacturing: metal prod.	-0.165	-0.144	-0.280
	(3.54)**	(1.45)	(3.44)**
Manuafacturing: other	-0.123	-0.209	-0.216
	(2.66)**	(2.28)*	(2.66)**
Contruction	-0.054	-0.040	-0.098
	(1.15)	(0.40)	(1.17)
Wholesale	-0.037	-0.169	-0.056
	(0.98)	(2.15)*	(0.85)
Hotels	-0.090	-0.201	-0.157
	(1.61)	(1.92)	(1.61)
Financial services	-0.127	-0.192	-0.222
	(2.01)*	(1.13)	(1.98)*
Real Estate	-0.069	-0.146	-0.124
	(1.85)	(1.93)	(1.88)
Public Adm.	0.002	-0.190	0.006
	(0.04)	(1.80)	(0.08)
Health care	0.080	0.048	0.150
	(2.46)*	(0.58)	(2.62)**
Other social services	0.033	-0.019	0.069
	(0.70)	(0.21)	(0.83)
1996	-0.006	-0.008	0.095
	(0.32)	(0.41)	(2.87)**
1998	-0.087	-0.077	-0.025
	(4.98)**	(4.23)**	(0.81)
1999	-0.119	-0.100	-0.117
	(5.42)**	(4.17)**	(2.98)**
2000	-0.132	-0.117	-0.140
	(5.48)**	(4.35)**	(3.26)**
2001	-0.217	-0.193	-0.253
	(7.80)**	(6.38)**	(5.10)**
Observations	12447	12479	12447
Number of individuals	4700	4719	4700

Note: Absolute value of z statistics in parentheses.* significant at 5%; ** significant at 1%

Table 3: Random effects logit estimates of the probability of quitting

Overall job satisfaction	-0.190							
	(3.18)**							
Satisfaction with earnings		-0.181						
		(1.87)						
Satisfaction with job security			-0.171					
			(1.26)					
Satisfaction with type of work				-0.530				
				(4.32)**				
Satisfaction with working hours					-0.169			
					(1.35)			
Satisfaction with working times						-0.515		
						(3.43)**		
Satisfaction with working environment							-0.284	
							(2.21)*	
Satisfaction with distance to work								-0.482
								(3.55)**

Table 3: Random effects logit estimates of the probability of quitting (continued)

Age below 30	0.393	0.399	0.401	0.388	0.388	0.362	0.389	0.381
	(2.94)**	(3.00)**	(3.01)**	(2.90)**	(2.92)**	(2.72)**	(2.93)**	(2.86)**
Age above 49	-0.725	-0.735	-0.743	-0.745	-0.745	-0.735	-0.744	-0.738
	(3.22)**	(3.27)**	(3.30)**	(3.31)**	(3.32)**	(3.27)**	(3.31)**	(3.29)**
Cohabiting/married	-0.093	-0.101	-0.101	-0.077	-0.092	-0.083	-0.090	-0.103
	(0.72)	(0.79)	(0.79)	(0.60)	(0.72)	(0.65)	(0.71)	(0.80)
Female	-0.199	-0.210	-0.216	-0.204	-0.202	-0.211	-0.206	-0.207
	(1.79)	(1.88)	(1.94)	(1.83)	(1.82)	(1.89)	(1.85)	(1.86)
Number of children	0.126	0.114	0.114	0.116	0.119	0.124	0.123	0.124
	(1.85)	(1.69)	(1.68)	(1.72)	(1.76)	(1.83)	(1.83)	(1.85)
Children under 12 (dummy)	-0.050	-0.032	-0.032	-0.043	-0.048	-0.064	-0.057	-0.061
	(0.31)	(0.20)	(0.20)	(0.26)	(0.29)	(0.39)	(0.35)	(0.38)
Log of monthly wage	-0.479	-0.446	-0.500	-0.473	-0.492	-0.503	-0.515	-0.521
	(2.83)**	(2.56)*	(2.92)**	(2.81)**	(2.94)**	(3.01)**	(3.04)**	(3.11)**
Log of hours worked per week	-0.031	-0.058	-0.032	-0.011	-0.030	-0.044	-0.007	-0.014
	(0.13)	(0.24)	(0.13)	(0.05)	(0.13)	(0.19)	(0.03)	(0.06)
Primary/lower secondary education	-0.608	-0.635	-0.641	-0.630	-0.635	-0.645	-0.632	-0.639
	(3.05)**	(3.21)**	(3.23)**	(3.17)**	(3.20)**	(3.25)**	(3.19)**	(3.22)**
More than secondary education	-0.289	-0.312	-0.319	-0.308	-0.301	-0.303	-0.310	-0.307
	(2.16)*	(2.34)*	(2.39)*	(2.30)*	(2.26)*	(2.28)*	(2.32)*	(2.29)*
Public sector	-0.605	-0.632	-0.624	-0.599	-0.608	-0.615	-0.616	-0.594
	(4.82)**	(5.03)**	(4.97)**	(4.78)**	(4.87)**	(4.91)**	(4.92)**	(4.74)**
Manager/professional	0.578	0.543	0.550	0.585	0.548	0.562	0.569	0.558
	(3.97)**	(3.75)**	(3.80)**	(4.03)**	(3.80)**	(3.89)**	(3.93)**	(3.86)**
Blue collar	-0.032	-0.007	-0.001	-0.030	-0.003	-0.036	-0.019	-0.001
	(0.22)	(0.05)	(0.00)	(0.21)	(0.02)	(0.25)	(0.13)	(0.00)
Firm size below 20 employees	0.031	0.004	0.005	0.030	0.007	0.012	0.009	0.040
	(0.26)	(0.03)	(0.04)	(0.24)	(0.06)	(0.10)	(0.07)	(0.33)
Firm size above 100 employees	-0.085	-0.104	-0.100	-0.092	-0.088	-0.091	-0.090	-0.086
	(0.63)	(0.77)	(0.74)	(0.68)	(0.66)	(0.67)	(0.67)	(0.64)
Tenure 0-4 years	0.361	0.351	0.344	0.361	0.351	0.354	0.357	0.336
	(2.49)*	(2.44)*	(2.39)*	(2.50)*	(2.44)*	(2.45)*	(2.48)*	(2.33)*

Table 3: Random effects logit estimates of the probability of quitting (continued)

Tenure 11-15 years	-0.403	-0.402	-0.405	-0.394	-0.409	-0.399	-0.403	-0.396
	(2.02)*	(2.02)*	(2.04)*	(1.98)*	(2.06)*	(2.00)*	(2.03)*	(1.99)*
Tenure over 16 years	-1.467	-1.462	-1.470	-1.445	-1.465	-1.455	-1.461	-1.445
	(5.13)**	(5.12)**	(5.15)**	(5.06)**	(5.13)**	(5.10)**	(5.12)**	(5.07)**
Owner of residence	-0.357	-0.344	-0.349	-0.344	-0.354	-0.348	-0.351	-0.364
	(3.14)**	(3.03)**	(3.08)**	(3.03)**	(3.14)**	(3.07)**	(3.10)**	(3.21)**
Permanent contract	-0.114	-0.107	-0.050	-0.106	-0.109	-0.116	-0.112	-0.108
	(0.86)	(0.81)	(0.36)	(0.80)	(0.83)	(0.88)	(0.85)	(0.81)
Constant	-0.234	-0.199	0.008	-0.141	-0.013	0.209	0.093	0.176
	(0.24)	(0.20)	(0.01)	(0.14)	(0.01)	(0.21)	(0.09)	(0.18)
Observations	15802	15796	15784	15791	15797	15799	15796	15794
Number of pid	4748	4746	4745	4745	4747	4747	4747	4746

Note: Absolute value of z statistics in parentheses * significant at 5%; ** significant at 1%. Regressions also contain year dummies.

Table 4: What satisfactions are important for the quit decision? A ranking

Finland	**Denmark**
Type of work	Type of work
Working times	Earnings
Distance	Working times
Environment	Environment
Earnings	Working hours
Job Security	Distance
Working hours	Job Security

Note: Danish ranking taken from Kristensen, N., Westergård-Nielsen, N. (2004).

Table 5: Distribution of employees across demographics, by part time/full time status

	Full time	Part-time	
		Involuntary	Voluntary
Gender			
males	96.43	1.52	2.06
females	91.50	3.80	4.70
Sector			
Private	93.71	2.54	3.75
Public	94.01	2.97	3.02
Education level			
High	95.81	1.80	2.39
Middle	92.85	2.72	4.43
Low	91.73	4.76	3.51
Industry			
Agriculture	95.63	1.75	2.62
Industry	97.37	1.39	1.25
Services	91.72	3.40	4.89
Age group			
below 29 years	86.96	2.98	10.05
30-49 years	96.13	1.85	2.02
above 49 years	92.92	4.68	2.41
Origin			
Not immigrant	93.90	2.70	3.40
Immigrant	91.28	3.83	4.89
No. of children			
0	92.50	3.27	4.23
1	95.89	2.26	1.85
2	95.30	2.01	2.68
3	94.64	1.97	3.38
4	92.47	1.79	5.73
5	90.32	0.00	9.68
6	100.00	0.00	0.00
Children under 12			
No	93.01	3.17	3.82
Yes	95.38	1.86	2.76
cohab/married			
not married	91.18	3.12	5.70
cohab/married	94.51	2.61	2.88
Occupation			
Professional/manager	96.19	1.27	2.54
Intermediate	93.21	2.86	3.93
Blue collar	93.44	3.30	3.26
Contract type			
Not permanent	84.21	6.95	8.84
Permanent	95.47	2.00	2.53
Total number	14,744	427	542
Total percent	93,83	2,72	3,45

Chart 1: Distribution of hours worked for involuntary part-time workers

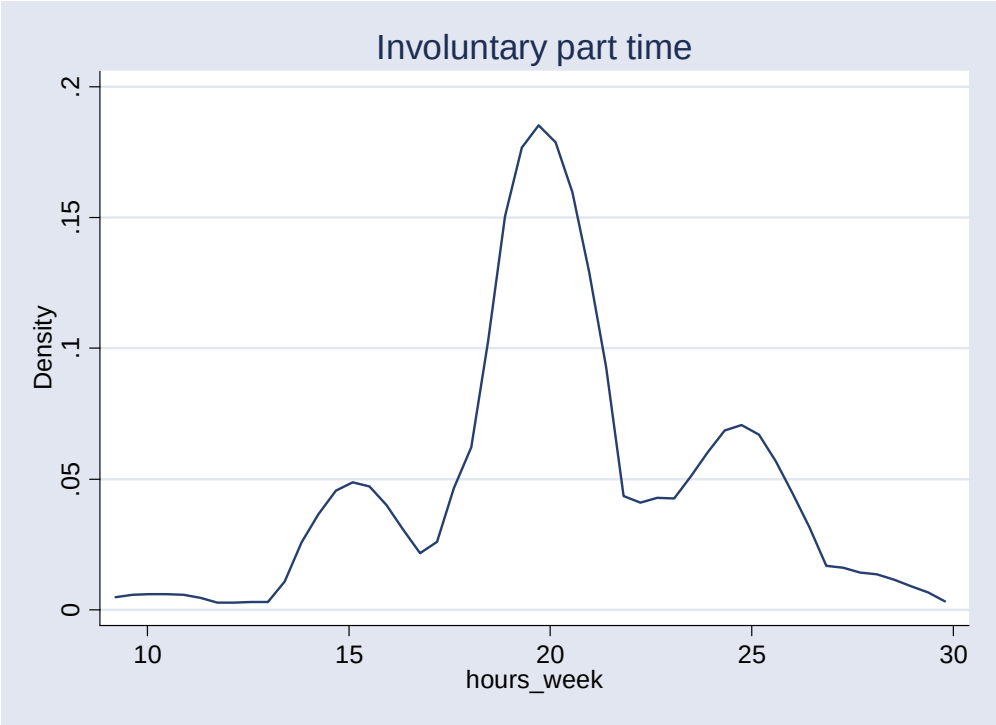

Chart 2: Distribution of hours worked for voluntary part-time workers

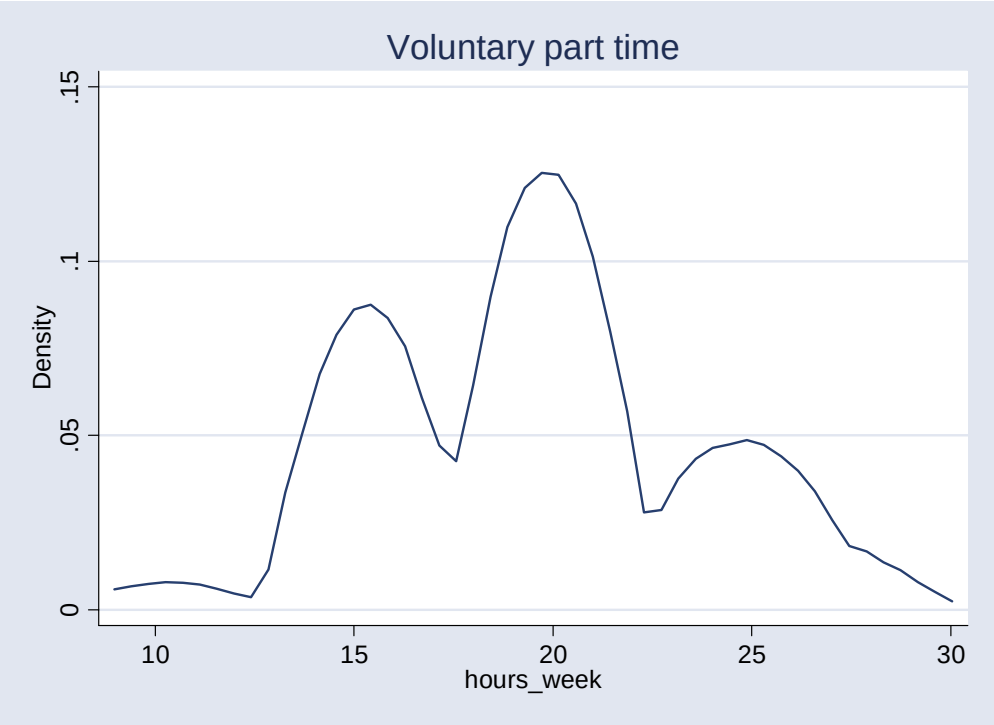

Chart 3: Distribution of hours worked for full time workers

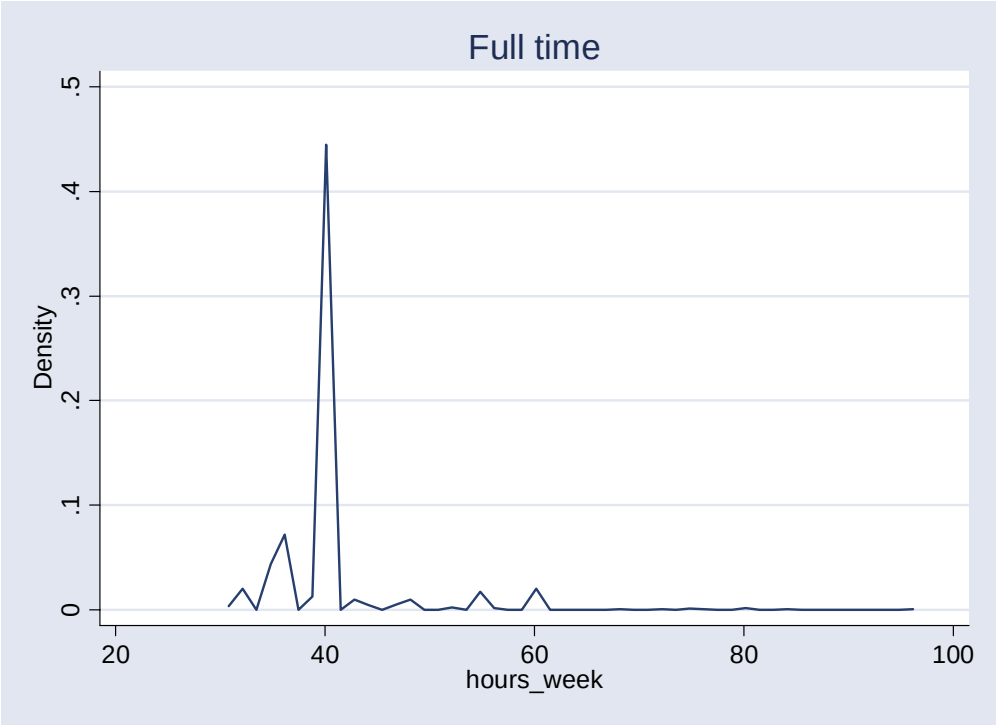

Chart 4: Distribution of job satisfaction by working time status

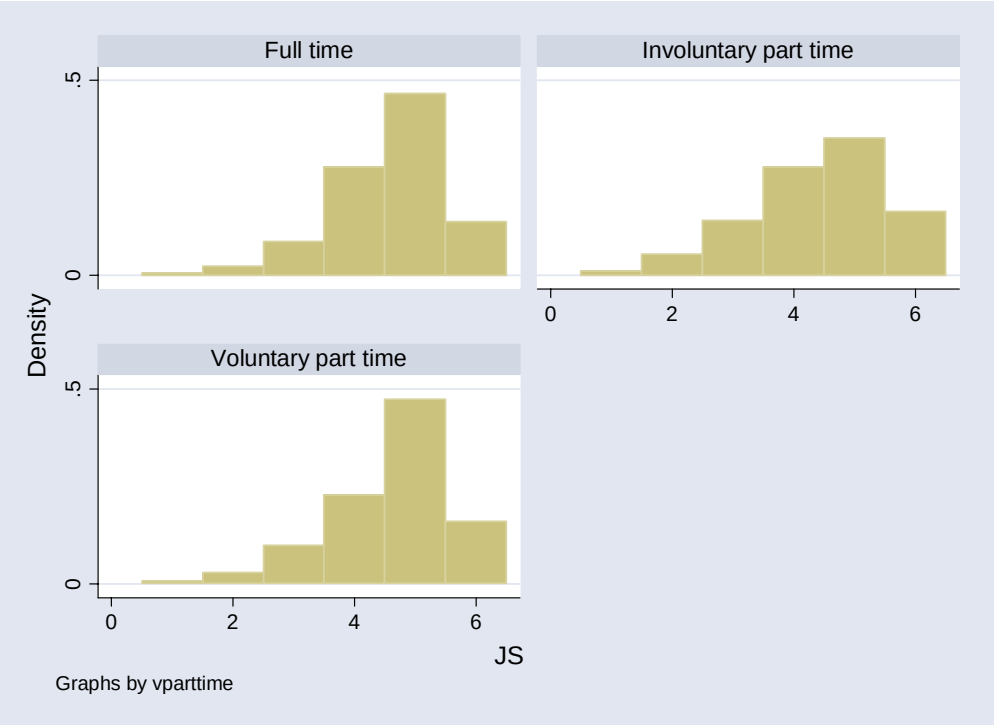

Table 6: The effect of part-time work on job satisfaction in Finland 1996-2001, random effects ordered probit estimates

	Both genders	Females	Males
Involuntary part time	-0.114	-0.163	-0.218
	(1.18)	(1.39)	(1.20)
Voluntary part time	0.292	0.139	0.511
	(3.14)**	(1.23)	(2.86)**
Log of monthly wage	0.258	0.103	0.399
	(3.56)**	(0.98)	(3.94)**
Age	-0.030	-0.003	-0.059
	(2.21)*	(0.17)	(3.00)**
Age squared	0.001	0.000	0.001
	(3.16)**	(0.90)	(3.52)**
Dummy: hood health	0.336	0.348	0.330
	(9.57)**	(7.31)**	(6.31)**
Dummy: high education	-0.132	-0.124	-0.129
	(2.97)**	(2.08)*	(1.92)
Dummy: low education	0.172	0.189	0.146
	(3.69)**	(2.84)**	(2.23)*
Dummy: female	0.118		
	(2.38)*		
Dummy cohabiting/married	0.064	0.092	0.009
	(1.45)	(1.51)	(0.14)
Dummy: public sector	-0.018	-0.022	-0.034
	(0.42)	(0.37)	(0.53)
Dummy: immigrant	-0.046	-0.093	-0.024
	(0.44)	(0.61)	(0.17)
Dummy: manager/professional	0.184	0.189	0.180
	(3.69)**	(2.81)**	(2.33)*
Dummy: blue collar	-0.130	-0.058	-0.212
	(2.89)**	(0.92)	(3.15)**
Tenure 0-4 years	0.187	0.176	0.204
	(4.24)**	(2.86)**	(3.19)**
Tenure 11-15 years	0.022	-0.003	0.065
	(0.47)	(0.05)	(0.90)
Tenure > 16 years	-0.057	-0.063	-0.035
	(1.02)	(0.85)	(0.41)
Number of children	0.048	0.084	0.017
	(1.34)	(1.62)	(0.35)
Dummy: children under 12	-0.017	0.081	-0.047
	(0.27)	(1.16)	(0.63)
Female* children u. 12	0.055		
	(0.80)		
Mean of log of monthly wage	0.297	0.218	0.381
	(3.37)**	(1.69)	(3.09)**
Mean of log of weekly hours	-0.001	-0.097	0.113
	(0.00)	(0.52)	(0.60)
Mean of number of children	-0.038	-0.126	0.038
	(1.00)	(2.24)*	(0.73)
Agriculture	0.012	-0.163	0.143
	(0.10)	(0.74)	(0.89)
Mining	-0.223	-0.049	-0.221
	(1.38)	(0.12)	(1.24)

Table 6: The effect of part-time work on job satisfaction in Finland 1996-2001, random effects ordered probit estimates (continued)

Manufacturing: food	-0.504	-0.634	-0.397
	(4.15)**	(3.68)**	(2.30)*
Manufacturing: textiles	-0.192	-0.484	0.466
	(1.15)	(2.43)*	(1.42)
Manufacturing: wood prod.	-0.201	-0.270	-0.134
	(2.40)*	(1.92)	(1.26)
Manufacturing: metal prod.	-0.247	-0.367	-0.194
	(2.91)**	(1.86)	(1.98)*
Manuafacturing: other	-0.197	-0.152	-0.229
	(2.35)*	(1.08)	(2.15)*
Contruction	-0.067	0.294	-0.033
	(0.77)	(0.95)	(0.34)
Wholesale	-0.031	-0.127	0.026
	(0.45)	(1.25)	(0.26)
Hotels	-0.032	-0.091	-0.145
	(0.30)	(0.71)	(0.68)
Financial services	-0.222	-0.255	-0.270
	(1.93)	(1.82)	(1.24)
Real Estate	-0.111	-0.233	-0.019
	(1.58)	(2.23)*	(0.20)
Public Adm.	0.071	-0.035	0.214
	(0.82)	(0.31)	(1.61)
Health care	0.204	0.153	0.112
	(3.35)**	(2.12)*	(0.76)
Other social services	0.045	-0.046	0.140
	(0.49)	(0.39)	(0.94)
1996	0.081	0.059	0.111
	(2.31)*	(1.24)	(2.14)*
1998	-0.031	-0.071	0.025
	(0.94)	(1.55)	(0.51)
1999	-0.137	-0.159	-0.099
	(3.27)**	(2.73)**	(1.63)
2000	-0.154	-0.174	-0.111
	(3.26)**	(2.66)**	(1.62)
2001	-0.300	-0.264	-0.310
	(5.51)**	(3.51)**	(3.89)**
Observations	10986	5777	5209

Note: See notes to table 2.

Table 7: The effect of part-time work on job satisfaction in Finland 1996-2001, random and fixed effects estimates

	OLS Random effects			OLS fixed effects		
	Both genders	Females	Males	Both genders	Females	Males
Involuntary part-time	-0.061	-0.084	-0.135	-0.147	-0.117	-0.272
	(1.13)	(1.23)	(1.37)	(2.18)*	(1.42)	(2.08)*
Voluntary part-time	0.159	0.079	0.262	0.054	0.031	0.060
	(3.06)**	(1.22)	(2.72)**	(0.82)	(0.39)	(0.43)
Log of monthly wage	0.140	0.058	0.207	0.078	0.009	0.133
	(3.45)**	(0.94)	(3.82)**	(1.68)	(0.12)	(2.14)*
Age	-0.017	-0.003	-0.031			
	(2.20)*	(0.26)	(2.90)**			
Age squared	0.000	0.000	0.000			
	(3.12)**	(0.97)	(3.40)**			
Dummy: Good health	0.186	0.196	0.177	0.124	0.148	0.095
	(9.41)**	(7.10)**	(6.27)**	(4.86)**	(4.22)**	(2.55)*
Dummy: high education	-0.076	-0.074	-0.070	-0.003	0.043	-0.051
	(3.01)**	(2.10)*	(1.93)	(0.08)	(0.67)	(0.86)
Dummy: low education	0.095	0.108	0.077	0.019	0.028	0.007
	(3.59)**	(2.76)**	(2.16)*	(0.39)	(0.40)	(0.11)
Dummy: female	0.067					
	(2.37)*					
Dummy cohabiting/married	0.033	0.044	0.008	0.015	-0.033	0.069
	(1.31)	(1.23)	(0.23)	(0.33)	(0.48)	(1.07)
Dummy: public sector	-0.011	-0.016	-0.017	-0.019	-0.068	0.020
	(0.46)	(0.46)	(0.50)	(0.48)	(1.18)	(0.35)
Dummy: immigrant	-0.023	-0.048	-0.011			
	(0.39)	(0.53)	(0.14)			
Dummy: manager/professional	0.102	0.111	0.091	0.120	0.178	0.064
	(3.62)**	(2.82)**	(2.19)*	(2.13)*	(2.25)*	(0.77)
Dummy: blue collar	-0.076	-0.036	-0.119	-0.172	-0.188	-0.141
	(2.98)**	(0.97)	(3.27)**	(3.13)**	(2.27)*	(1.91)
Tenure 0-4 years	0.107	0.101	0.113	0.161	0.142	0.195
	(4.30)**	(2.80)**	(3.28)**	(4.34)**	(2.60)**	(3.87)**
Tenure 11-15 years	0.004	-0.012	0.028	-0.083	-0.125	-0.033
	(0.17)	(0.35)	(0.72)	(2.04)*	(2.30)*	(0.51)
Tenure > 16 years	-0.032	-0.042	-0.015	-0.125	-0.163	-0.082
	(1.03)	(0.96)	(0.34)	(2.39)*	(2.29)*	(1.06)
Number of children	0.028	0.055	0.008	0.024	0.085	-0.035
	(1.42)	(1.85)	(0.29)	(1.01)	(2.47)*	(1.11)
Dummy: children under 12	-0.013	0.045	-0.027	-0.023	0.015	0.023
	(0.38)	(1.10)	(0.69)	(0.43)	(0.27)	(0.41)
Female* children u. 12	0.036			0.073		
	(0.93)			(1.05)		
Mean of log of monthly wage	0.160	0.115	0.196			
	(3.21)**	(1.52)	(2.95)**			
Mean of log of weekly hours	0.009	-0.044	0.069			
	(0.12)	(0.41)	(0.68)			
Mean of number of children	-0.022	-0.076	0.022			
	(1.00)	(2.31)*	(0.76)			

Table 7: The effect of part-time work on job satisfaction in Finland 1996-2001, random and fixed effects estimates (continued)

Agriculture	0.006	-0.100	0.076	0.212	-0.140	0.557
	(0.09)	(0.77)	(0.87)	(0.83)	(0.38)	(1.58)
Mining	-0.121	-0.024	-0.113	-0.646	0.000	-0.548
	(1.30)	(0.10)	(1.15)	(1.52)	(.)	(1.31)
Manufacturing: food	-0.289	-0.367	-0.228	-0.527	-0.512	-0.571
	(4.13)**	(3.60)**	(2.37)*	(3.63)**	(2.57)*	(2.66)**
Manufacturing: textiles	-0.112	-0.293	0.251	-0.433	-0.703	1.507
	(1.17)	(2.48)*	(1.43)	(1.89)	(2.78)**	(2.02)*
Manufacturing: wood prod.	-0.120	-0.170	-0.078	-0.343	-0.549	-0.183
	(2.50)*	(2.02)*	(1.35)	(2.43)*	(2.11)*	(1.05)
Manufacturing: metal prod.	-0.146	-0.212	-0.113	-0.111	-0.299	0.008
	(3.00)**	(1.81)	(2.10)*	(1.02)	(1.28)	(0.06)
Manufacturing: other	-0.113	-0.091	-0.126	-0.278	-0.359	-0.185
	(2.38)*	(1.10)	(2.18)*	(2.83)**	(2.02)*	(1.56)
Contruction	-0.037	0.154	-0.016	-0.057	-0.380	0.060
	(0.75)	(0.86)	(0.30)	(0.53)	(0.82)	(0.52)
Wholesale	-0.024	-0.084	0.008	-0.228	-0.433	-0.008
	(0.60)	(1.41)	(0.14)	(2.61)**	(3.34)**	(0.07)
Hotels	-0.020	-0.056	-0.079	-0.078	-0.081	-0.380
	(0.32)	(0.73)	(0.66)	(0.61)	(0.53)	(1.32)
Financial services	-0.127	-0.151	-0.137	-0.240	-0.312	-0.441
	(1.94)	(1.84)	(1.15)	(1.35)	(1.47)	(1.16)
Real Estate	-0.063	-0.141	-0.010	-0.232	-0.470	-0.028
	(1.59)	(2.29)*	(0.18)	(2.73)**	(3.64)**	(0.25)
Public Adm.	0.038	-0.022	0.106	-0.092	-0.424	0.309
	(0.77)	(0.33)	(1.49)	(0.78)	(2.56)*	(1.77)
Health care	0.109	0.082	0.059	0.064	0.026	-0.031
	(3.16)**	(1.91)	(0.74)	(0.70)	(0.24)	(0.15)
Other social services	0.018	-0.036	0.070	-0.066	-0.173	-0.059
	(0.35)	(0.52)	(0.87)	(0.61)	(1.18)	(0.36)
y96	-0.014	-0.028	0.001	-0.018	-0.041	0.006
	(0.74)	(1.00)	(0.03)	(0.82)	(1.33)	(0.20)
y98	-0.091	-0.114	-0.060	-0.082	-0.108	-0.051
	(4.86)**	(4.33)**	(2.27)*	(4.17)**	(3.91)**	(1.84)
y99	-0.131	-0.144	-0.109	-0.110	-0.126	-0.087
	(5.58)**	(4.30)**	(3.32)**	(4.25)**	(3.42)**	(2.39)*
y00	-0.140	-0.151	-0.117	-0.118	-0.129	-0.098
	(5.28)**	(3.99)**	(3.16)**	(3.95)**	(3.01)**	(2.32)*
y01	-0.244	-0.224	-0.249	-0.214	-0.204	-0.214
	(8.00)**	(5.15)**	(5.79)**	(6.30)**	(4.27)**	(4.43)**
Constant	-2.076	-1.203	-2.736	-0.482	0.089	-1.006
	(6.44)**	(2.60)**	(6.07)**	(1.46)	(0.18)	(2.26)*
Observations	10986	5777	5209	11063	5815	5248
Number of individuals.	4331	2260	2071	4362	2273	2089

Note: See notes to table 2.

Table 8: Descriptive statistics for vocational training

	Percentage who receives no vocational training	Percentage who receives 1-5 days of vocational training	Percentage who receives more than 1 week of vocational training
Gender			
males	53.76	29.21	17.03
females	49.32	31.84	18.84
Sector			
Private	58.09	25.69	16.22
Public	42.44	37.19	20.37
Education Level			
High	38.73	37.96	23.31
Middle	57.46	26.80	15.74
Low	66.13	22.73	11.14
Industry			
Agriculture	50.65	30.52	18.83
industry	59.33	25.08	15.60
Services	48.50	31.12	20.38
Age group			
Below 29 years	60.03	17.11	22.86
30-49 years	49.09	32.71	18.20
above 49 years	50.89	35.24	13.87
Origin			
Non-immigrant	51.26	30.81	17.93
Immigrant	53.73	25.75	20.52
Occupation			
Manager/Professional	37.55	39.44	23.01
Intermediate	46.18	34.46	19.36
Blue collar	64.65	22.46	12.89
Contract type			
Fixed-term	62.59	14.31	23.10
Permanent	49.33	33.64	17.03
Tenure			
tenure 0-4 years	57.81	21.87	20.32
tenure 5-10 years	49.74	32.76	17.50
tenure 11-15 years	43.35	39.48	17.17
tenure 16+ years	46.03	38.65	15.33
Firm size			
1-4	63.17	22.07	14.76
5-19	54.93	27.61	17.46
20-49	50.00	32.08	17.92
50-99	46.84	34.08	19.08
100-499	46.27	34.95	18.78
500 or more	43.82	35.12	21.06
Working time			
Not part-time	50.02	31.78	18.20
Part-time	70.94	14.02	15.04
Total percent	51.4	30.6	18.0
Total, absolute numbers	9 101	5 416	3 184

Table 9: The effect of on-the-job-training on job satisfaction in Finland 1996-2001

	OLS Random effects			OLS fixed effects		
	Both genders	Females	Males	Both genders	Females	Males
Vocational training	0.034	-0.008	0.082	0.035	0.008	0.066
	(2.32)*	(0.41)	(3.91)**	(1.98)*	(0.32)	(2.64)**
Log of monthly wage	0.106	0.065	0.153	0.082	0.046	0.113
	(2.83)**	(1.15)	(3.04)**	(1.89)	(0.71)	(1.95)
Age	-0.023	-0.007	-0.038			
	(3.18)**	(0.68)	(3.80)**			
Age squared	0.000	0.000	0.001			
	(4.07)**	(1.32)	(4.31)**			
Log of weekly hours	0.003	-0.037	0.095	0.028	-0.009	0.110
	(0.06)	(0.54)	(1.20)	(0.49)	(0.12)	(1.28)
Dummy: good health	0.178	0.196	0.159	0.109	0.143	0.070
	(9.54)**	(7.53)**	(5.97)**	(4.58)**	(4.33)**	(2.03)*
Dummy: high education	-0.087	-0.089	-0.079	-0.034	-0.010	-0.059
	(3.68)**	(2.72)**	(2.31)*	(0.84)	(0.16)	(1.08)
Dummy: low education	0.098	0.113	0.077	0.040	0.066	0.007
	(3.92)**	(3.12)**	(2.26)*	(0.90)	(1.04)	(0.11)
Dummy: female	0.067					
	(2.50)*					
Dummy cohabiting/married	0.036	0.041	0.018	0.006	-0.055	0.067
	(1.53)	(1.24)	(0.54)	(0.14)	(0.86)	(1.12)
Dummy: public sector	-0.019	-0.020	-0.026	-0.040	-0.099	0.015
	(0.81)	(0.60)	(0.80)	(1.08)	(1.91)	(0.28)
Dummy: immigrant	-0.039	-0.025	-0.052			
	(0.70)	(0.29)	(0.71)			
Dummy: Manager/professional	0.105	0.106	0.107	0.141	0.185	0.107
	(3.95)**	(2.85)**	(2.72)**	(2.70)**	(2.54)*	(1.41)
Dummy: blue collar worker	-0.084	-0.057	-0.108	-0.167	-0.195	-0.121
	(3.46)**	(1.65)	(3.10)**	(3.39)**	(2.66)**	(1.80)
Tenure: 0-4 years	0.105	0.103	0.110	0.152	0.147	0.170
	(4.44)**	(3.04)**	(3.36)**	(4.40)**	(2.86)**	(3.66)**
Tenure 11-15 years	0.006	-0.012	0.037	-0.096	-0.130	-0.052
	(0.22)	(0.36)	(0.99)	(2.49)*	(2.54)*	(0.88)
Tenure > 16 years	-0.026	-0.030	-0.011	-0.138	-0.161	-0.114
	(0.87)	(0.72)	(0.25)	(2.82)**	(2.40)*	(1.55)
Number of children	0.021	0.048	-0.003	0.011	0.069	-0.044
	(1.11)	(1.72)	(0.11)	(0.51)	(2.14)*	(1.54)
Dummy: children u. 12 years	-0.003	0.064	-0.021	-0.024	0.069	0.018
	(0.08)	(1.67)	(0.55)	(0.48)	(1.37)	(0.35)
Dummy: female*children u. 12	0.042			0.130	0.000	0.000
	(1.14)			(2.00)*	(.)	(.)
Mean of log of monthly wage	0.160	0.114	0.186			
	(3.48)**	(1.68)	(3.02)**			
Mean of log of weekly hours	-0.012	0.005	-0.054			
	(0.16)	(0.05)	(0.49)			
Mean of number of children	-0.014	-0.074	0.037			
	(0.67)	(2.42)*	(1.38)			

Note: See notes to table 2.

Table 9: The effect of on-the-job-training on job satisfaction in Finland 1996-2001 (continued)

Agriculture	-0.070	-0.102	-0.035	-0.185	-0.526	0.183
	(1.08)	(0.94)	(0.44)	(1.02)	(2.02)*	(0.72)
Mining	-0.120	0.102	-0.149	-0.568	0.000	-0.517
	(1.33)	(0.45)	(1.55)	(1.35)	(.)	(1.25)
Manufacturing: food	-0.311	-0.380	-0.267	-0.543	-0.519	-0.595
	(4.62)**	(3.89)**	(2.88)**	(3.97)**	(2.83)**	(2.85)**
Manufacturing: textiles	-0.163	-0.312	0.121	-0.405	-0.647	1.557
	(1.76)	(2.69)**	(0.74)	(1.80)	(2.61)**	(2.10)*
Manufacturing: wood prod.	-0.146	-0.187	-0.114	-0.334	-0.294	-0.274
	(3.16)**	(2.37)*	(2.02)*	(2.59)**	(1.27)	(1.70)
Manufacturing: metal prod.	-0.166	-0.231	-0.143	-0.145	-0.349	-0.042
	(3.56)**	(2.09)*	(2.76)**	(1.46)	(1.67)	(0.37)
Manuafacturing: other	-0.125	-0.095	-0.140	-0.209	-0.232	-0.142
	(2.70)**	(1.18)	(2.49)*	(2.29)*	(1.39)	(1.29)
Contruction	-0.054	0.108	-0.040	-0.042	0.004	0.028
	(1.15)	(0.65)	(0.79)	(0.43)	(0.01)	(0.26)
Wholesale	-0.039	-0.108	0.012	-0.172	-0.349	0.039
	(1.03)	(1.96)	(0.22)	(2.18)*	(3.04)**	(0.35)
Hotels	-0.091	-0.110	-0.168	-0.200	-0.230	-0.332
	(1.63)	(1.58)	(1.59)	(1.91)	(1.82)	(1.50)
Financial services	-0.130	-0.158	-0.122	-0.192	-0.222	-0.437
	(2.06)*	(2.00)*	(1.07)	(1.13)	(1.11)	(1.16)
Real Estate	-0.070	-0.144	-0.027	-0.146	-0.321	0.009
	(1.87)	(2.51)*	(0.55)	(1.93)	(2.78)**	(0.09)
Public Adm.	-0.002	-0.050	0.047	-0.195	-0.382	0.029
	(0.05)	(0.77)	(0.71)	(1.85)	(2.57)*	(0.19)
Health care	0.077	0.074	-0.031	0.050	0.025	-0.043
	(2.38)*	(1.84)	(0.45)	(0.62)	(0.25)	(0.25)
Other social services	0.033	-0.018	0.085	-0.021	-0.072	-0.031
	(0.69)	(0.28)	(1.15)	(0.23)	(0.58)	(0.23)
1996	-0.011	-0.011	-0.013	-0.013	-0.026	-0.002
	(0.59)	(0.43)	(0.48)	(0.65)	(0.90)	(0.08)
1998	-0.089	-0.102	-0.072	-0.079	-0.097	-0.060
	(5.09)**	(4.14)**	(2.93)**	(4.33)**	(3.75)**	(2.31)*
1999	-0.119	-0.138	-0.092	-0.100	-0.124	-0.070
	(5.42)**	(4.40)**	(3.03)**	(4.16)**	(3.60)**	(2.10)*
2000	-0.134	-0.148	-0.109	-0.119	-0.142	-0.091
	(5.56)**	(4.31)**	(3.24)**	(4.43)**	(3.71)**	(2.42)*
2001	-0.218	-0.204	-0.223	-0.195	-0.190	-0.197
	(7.85)**	(5.15)**	(5.68)**	(6.43)**	(4.43)**	(4.59)**
Observations	12447	6564	5883	12479	6578	5901
Number of individuals	4700	2469	2231	4719	2478	2241

Table 10: The effect of on-the-job training on job satisfaction in Finland 1996-2001 (alternative measurement)

	OLS Random effects			OLS fixed effects		
	Both genders	Females	Males	Both genders	Females	Males
Dummy: emp.-paid training	0.039	-0.004	0.087	0.032	0.005	0.063
	(2.58)**	(0.20)	(4.00)**	(1.78)	(0.18)	(2.44)*
Log of monthly wage	0.104	0.065	0.149	0.080	0.046	0.110
	(2.77)**	(1.16)	(2.97)**	(1.85)	(0.71)	(1.89)
Age	-0.024	-0.007	-0.040			
	(3.27)**	(0.67)	(3.96)**			
Age squared	0.000	0.000	0.001			
	(4.13)**	(1.32)	(4.45)**			
Log of weekly hours	0.002	-0.038	0.093	0.027	-0.009	0.110
	(0.05)	(0.54)	(1.18)	(0.48)	(0.12)	(1.27)
Dummy: good health	0.178	0.197	0.161	0.109	0.142	0.071
	(9.53)**	(7.53)**	(6.03)**	(4.58)**	(4.33)**	(2.06)*
Dummy: high education	-0.086	-0.090	-0.077	-0.033	-0.010	-0.057
	(3.65)**	(2.73)**	(2.27)*	(0.82)	(0.16)	(1.05)
Dummy: low education	0.098	0.114	0.079	0.040	0.065	0.008
	(3.93)**	(3.13)**	(2.30)*	(0.90)	(1.03)	(0.13)
Dummy: female	0.067					
	(2.52)*					
Dummy cohabiting/married	0.036	0.041	0.018	0.005	-0.055	0.066
	(1.50)	(1.23)	(0.53)	(0.12)	(0.86)	(1.11)
Dummy: public sector	-0.020	-0.020	-0.027	-0.039	-0.099	0.016
	(0.84)	(0.60)	(0.84)	(1.07)	(1.91)	(0.31)
Dummy: immigrant	-0.039	-0.025	-0.052			
	(0.69)	(0.30)	(0.71)			
Dummy: Manager/ professional	0.105	0.106	0.105	0.141	0.185	0.107
	(3.95)**	(2.84)**	(2.68)**	(2.69)**	(2.53)*	(1.41)
Dummy: blue collar worker	-0.083	-0.057	-0.107	-0.168	-0.195	-0.122
	(3.44)**	(1.64)	(3.07)**	(3.40)**	(2.67)**	(1.81)
Tenure: 0-4 years	0.107	0.103	0.112	0.153	0.148	0.170
	(4.53)**	(3.03)**	(3.45)**	(4.42)**	(2.87)**	(3.67)**
Tenure 11-15 years	0.005	-0.013	0.035	-0.095	-0.130	-0.052
	(0.20)	(0.37)	(0.93)	(2.47)*	(2.54)*	(0.88)
Tenure > 16 years	-0.026	-0.030	-0.011	-0.136	-0.161	-0.111
	(0.86)	(0.73)	(0.25)	(2.77)**	(2.39)*	(1.51)
Number of children	0.021	0.048	-0.002	0.011	0.069	-0.044
	(1.11)	(1.72)	(0.10)	(0.50)	(2.14)*	(1.54)
Dummy: children u. 12 years	-0.003	0.064	-0.022	-0.025	0.069	0.016
	(0.10)	(1.68)	(0.59)	(0.49)	(1.37)	(0.32)
Dummy: female*children u. 12	0.042			0.129		
	(1.15)			(2.00)*		
Mean of log of monthly wage	0.160	0.113	0.187			
	(3.48)**	(1.66)	(3.03)**			
Mean of log of weekly hours	-0.012	0.006	-0.050			
	(0.16)	(0.05)	(0.45)			
Mean of number of children	-0.013	-0.074	0.037			
	(0.65)	(2.42)*	(1.40)			

Table 10: The effect of on-the-job training on job satisfaction in Finland 1996-2001 (alternative meas.) (continued)

Agriculture	-0.071	-0.103	-0.038	-0.183	-0.526	0.182
	(1.09)	(0.94)	(0.47)	(1.01)	(2.02)*	(0.72)
Mining	-0.120	0.102	-0.149	-0.558	0.000	-0.501
	(1.33)	(0.44)	(1.54)	(1.33)	(.)	(1.22)
Manufacturing: food	-0.312	-0.379	-0.268	-0.546	-0.519	-0.605
	(4.64)**	(3.88)**	(2.89)**	(3.99)**	(2.83)**	(2.89)**
Manufacturing: textiles	-0.163	-0.312	0.120	-0.406	-0.648	1.553
	(1.76)	(2.69)**	(0.73)	(1.81)	(2.61)**	(2.09)*
Manufacturing: wood prod.	-0.147	-0.187	-0.115	-0.329	-0.293	-0.267
	(3.17)**	(2.38)*	(2.04)*	(2.55)*	(1.26)	(1.66)
Manufacturing: metal prod.	-0.166	-0.230	-0.143	-0.145	-0.349	-0.042
	(3.56)**	(2.09)*	(2.76)**	(1.45)	(1.67)	(0.36)
Manuafacturing: other	-0.126	-0.095	-0.143	-0.209	-0.232	-0.144
	(2.73)**	(1.18)	(2.55)*	(2.29)*	(1.39)	(1.31)
Contruction	-0.054	0.108	-0.039	-0.042	0.004	0.027
	(1.14)	(0.65)	(0.77)	(0.43)	(0.01)	(0.26)
Wholesale	-0.040	-0.108	0.008	-0.173	-0.349	0.036
	(1.07)	(1.96)	(0.15)	(2.19)*	(3.04)**	(0.33)
Hotels	-0.092	-0.110	-0.167	-0.201	-0.231	-0.334
	(1.65)	(1.57)	(1.59)	(1.93)	(1.83)	(1.51)
Financial services	-0.132	-0.158	-0.128	-0.196	-0.223	-0.438
	(2.09)*	(2.00)*	(1.12)	(1.16)	(1.11)	(1.16)
Real Estate	-0.071	-0.144	-0.027	-0.147	-0.321	0.010
	(1.89)	(2.50)*	(0.55)	(1.94)	(2.78)**	(0.10)
Public Adm.	-0.003	-0.050	0.047	-0.194	-0.382	0.032
	(0.06)	(0.77)	(0.71)	(1.83)	(2.57)*	(0.21)
Health care	0.078	0.073	-0.026	0.049	0.024	-0.042
	(2.41)*	(1.83)	(0.37)	(0.61)	(0.24)	(0.25)
Other social services	0.033	-0.018	0.084	-0.022	-0.072	-0.036
	(0.69)	(0.28)	(1.13)	(0.24)	(0.58)	(0.26)
1996	-0.009	-0.012	-0.009	-0.011	-0.025	0.002
	(0.51)	(0.46)	(0.34)	(0.53)	(0.88)	(0.07)
1998	-0.088	-0.103	-0.071	-0.079	-0.096	-0.059
	(5.05)**	(4.16)**	(2.89)**	(4.29)**	(3.75)**	(2.28)*
1999	-0.118	-0.138	-0.091	-0.100	-0.124	-0.071
	(5.39)**	(4.41)**	(3.00)**	(4.17)**	(3.60)**	(2.11)*
2000	-0.134	-0.149	-0.109	-0.119	-0.142	-0.093
	(5.56)**	(4.33)**	(3.24)**	(4.45)**	(3.70)**	(2.46)*
2001	-0.219	-0.204	-0.223	-0.196	-0.190	-0.199
	(7.86)**	(5.15)**	(5.70)**	(6.45)**	(4.43)**	(4.63)**
Observations	12447	6564	5883	12479	6578	5901
Number of individuals	4700	2469	2231	4719	2478	2241

Table 11: The effect of on-the-job training on job satisfaction in Finland 1996-2001 (alternative measure of on-the-job training)

	OLS Random effects			OLS fixed effects		
	Both genders	Females	Males	Both genders	Females	Males
Dummy: voc. training	-0.001	0.006	-0.013	-0.052	-0.038	-0.078
	(0.07)	(0.22)	(0.48)	(2.10)*	(1.16)	(2.10)*
Log of monthly wage	0.058	0.002	0.120	0.032	0.006	0.069
	(1.25)	(0.04)	(1.91)	(0.56)	(0.07)	(0.90)
Age	-0.016	0.001	-0.039			
	(1.87)	(0.12)	(3.06)**			
Age squared	0.000	0.000	0.001			
	(2.63)**	(0.48)	(3.47)**			
Log of weekly hours	0.005	-0.012	0.088	0.038	-0.020	0.142
	(0.07)	(0.14)	(0.84)	(0.50)	(0.19)	(1.17)
Dummy: two jobs				0.024	0.068	-0.014
				(0.48)	(0.90)	(0.22)
Dummy: Good health	0.184	0.192	0.180	0.099	0.152	0.033
	(7.66)**	(5.89)**	(5.08)**	(3.00)**	(3.44)**	(0.66)
Dummy: high education	-0.107	-0.093	-0.115	-0.030	0.022	-0.089
	(3.92)**	(2.48)*	(2.87)**	(0.59)	(0.30)	(1.27)
Dummy: low education	0.077	0.114	0.035	0.010	0.033	-0.022
	(2.30)*	(2.41)*	(0.72)	(0.14)	(0.36)	(0.20)
Dummy: female	0.024					
	(0.76)					
Dummy cohabiting/married	0.014	0.030	-0.008	-0.072	-0.118	-0.017
	(0.48)	(0.76)	(0.18)	(1.21)	(1.48)	(0.18)
Dummy: public sector	-0.029	-0.011	-0.056	-0.048	-0.077	-0.042
	(1.07)	(0.30)	(1.44)	(0.99)	(1.16)	(0.59)
Dummy: immigrant	-0.056	-0.087	-0.037			
	(0.85)	(0.91)	(0.40)			
Dummy: manager/professional	0.097	0.118	0.082	0.113	0.096	0.134
	(3.28)**	(2.91)**	(1.84)	(1.81)	(1.13)	(1.40)
Dummy: blue collar	-0.096	-0.071	-0.124	-0.235	-0.329	-0.128
	(3.29)**	(1.70)	(2.91)**	(3.43)**	(3.35)**	(1.33)
Tenure 0-4 years	0.126	0.173	0.072	0.191	0.258	0.139
	(4.29)**	(4.16)**	(1.73)	(4.01)**	(3.75)**	(2.10)*
Tenure 11-15 years	-0.012	-0.015	-0.007	-0.140	-0.143	-0.123
	(0.39)	(0.35)	(0.14)	(2.68)**	(2.11)*	(1.45)
Tenure > 16 years	-0.010	-0.006	-0.011	-0.154	-0.134	-0.169
	(0.27)	(0.11)	(0.20)	(2.30)*	(1.53)	(1.60)
Number of children	0.010	0.028	-0.002	-0.001	0.034	-0.036
	(0.40)	(0.80)	(0.06)	(0.05)	(0.75)	(0.88)
Dummy: children under 12	0.015	0.034	-0.014	-0.014	0.017	0.015
	(0.38)	(0.73)	(0.30)	(0.21)	(0.25)	(0.22)
Female* children u. 12	-0.019			0.056		
	(0.44)			(0.64)		
Mean of log of monthly wage	0.169	0.134	0.198			
	(3.00)**	(1.61)	(2.58)**			
Mean of log of weekly hours	0.034	0.065	-0.061			
	(0.36)	(0.51)	(0.43)			
Mean of number of children	-0.009	-0.069	0.040			
	(0.36)	(1.83)	(1.15)			

Table 11: The effect of on-the-job training on job satisfaction in Finland 1996-2001 (alternative measure of on-the-job training) (continued)

Agriculture	-0.081	-0.029	-0.100	0.063	0.195	-0.189
	(1.04)	(0.23)	(1.03)	(0.27)	(0.59)	(0.53)
Mining	-0.114	0.165	-0.200	-0.626	0.000	-0.635
	(1.08)	(0.69)	(1.73)	(1.24)	(.)	(1.23)
Manufacturing: food	-0.249	-0.278	-0.233	-0.285	-0.250	-0.325
	(2.99)**	(2.26)*	(2.08)*	(1.35)	(0.89)	(0.99)
Manufacturing: textiles	-0.288	-0.530	0.199	-0.877	-0.878	0.000
	(1.98)*	(2.88)**	(0.83)	(2.51)*	(2.43)*	(.)
Manufacturing: wood prod.	-0.143	-0.170	-0.131	-0.375	-0.117	-0.688
	(2.56)*	(1.87)	(1.87)	(2.00)*	(0.38)	(2.59)**
Manufacturing: metal prod.	-0.155	-0.150	-0.164	-0.204	-0.315	-0.262
	(2.59)**	(1.10)	(2.45)*	(1.30)	(0.98)	(1.39)
Manuafacturing: other	-0.111	-0.092	-0.131	-0.207	-0.158	-0.332
	(2.04)*	(1.01)	(1.95)	(1.65)	(0.77)	(2.05)*
Contruction	-0.137	-0.128	-0.142	-0.280	-0.244	-0.257
	(2.11)*	(0.60)	(2.05)*	(1.67)	(0.50)	(1.36)
Wholesale	-0.040	-0.084	0.006	-0.176	-0.313	0.016
	(0.87)	(1.26)	(0.09)	(1.60)	(2.01)*	(0.10)
Hotels	-0.137	-0.080	-0.361	-0.252	-0.174	-0.671
	(1.99)*	(0.95)	(2.75)**	(1.78)	(1.06)	(2.18)*
Financial services	-0.140	-0.119	-0.180	-0.097	0.090	-0.591
	(2.01)*	(1.32)	(1.55)	(0.44)	(0.33)	(1.56)
Real Estate	-0.087	-0.083	-0.101	-0.093	-0.101	-0.148
	(1.99)*	(1.25)	(1.73)	(0.91)	(0.67)	(1.05)
Public Adm.	-0.045	-0.085	0.006	-0.294	-0.270	-0.366
	(0.90)	(1.20)	(0.08)	(2.17)*	(1.56)	(1.56)
Health care	0.066	0.080	-0.054	-0.045	0.001	-0.170
	(1.81)	(1.78)	(0.70)	(0.44)	(0.01)	(0.76)
Other social services	0.001	-0.020	0.027	-0.056	-0.009	-0.274
	(0.01)	(0.28)	(0.30)	(0.46)	(0.05)	(1.37)
1996	-0.010	-0.024	0.011	-0.009	-0.022	0.008
	(0.41)	(0.75)	(0.31)	(0.32)	(0.59)	(0.21)
1998	-0.102	-0.111	-0.082	-0.107	-0.124	-0.081
	(4.51)**	(3.65)**	(2.47)*	(4.31)**	(3.74)**	(2.18)*
1999	-0.149	-0.190	-0.094	-0.138	-0.192	-0.074
	(5.25)**	(4.89)**	(2.25)*	(4.22)**	(4.28)**	(1.53)
2000	-0.161	-0.189	-0.115	-0.141	-0.202	-0.064
	(5.27)**	(4.53)**	(2.55)*	(3.90)**	(4.12)**	(1.19)
2001	-0.245	-0.202	-0.278	-0.231	-0.216	-0.252
	(6.76)**	(4.03)**	(5.31)**	(5.54)**	(3.79)**	(4.07)**
Constant	-0.974	-1.017	-0.828	0.002	0.218	-0.407
	(3.88)**	(3.05)**	(2.20)*	(0.01)	(0.63)	(0.84)
Observations	7601	4255	3346	7620	4265	3355
Number of pid	3551	1951	1600	3563	1958	1605

Note: see notes to table 2.

Table 12 Robustness check

	OLS Random effects estimates		OLS Fixed effects estimates	
	Restricted sample	Full sample	Restricted sample	Full sample
Log of monthly wage	0.058	0.107	0.029	0.082
	(1.25)	(2.84)**	(0.50)	(1.89)
Age	-0.017	-0.023		
	(1.87)	(3.21)**		
Age squared	0.000	0.000		
	(2.63)**	(4.08)**		
Log of weekly hours	0.005	0.006	0.038	0.029
	(0.07)	(0.11)	(0.50)	(0.52)
Dummy: good health	0.184	0.179	0.099	0.109
	(7.66)**	(9.57)**	(3.00)**	(4.59)**
Dummy: high education	-0.107	-0.085	-0.031	-0.033
	(3.92)**	(3.61)**	(0.61)	(0.82)
Dummy: low education	0.077	0.096	0.017	0.040
	(2.30)*	(3.84)**	(0.24)	(0.88)
Dummy: female	0.024	0.069		
	(0.76)	(2.59)**		
Dummy cohabiting/married	0.014	0.037	-0.076	0.007
	(0.48)	(1.57)	(1.27)	(0.16)
Dummy: public sector	-0.029	-0.017	-0.047	-0.039
	(1.07)	(0.74)	(0.98)	(1.05)
Dummy: immigrant	-0.056	-0.040		
	(0.85)	(0.71)		
Dummy: Manager/professional	0.097	0.105	0.114	0.140
	(3.29)**	(3.92)**	(1.83)	(2.68)**
Dummy: blue collar worker	-0.097	-0.087	-0.235	-0.171
	(3.29)**	(3.60)**	(3.43)**	(3.46)**
Tenure: 0-4 years	0.126	0.104	0.189	0.154
	(4.29)**	(4.41)**	(3.97)**	(4.44)**
Tenure 11-15 years	-0.012	0.007	-0.141	-0.095
	(0.39)	(0.30)	(2.69)**	(2.47)*
Tenure > 16 years	-0.010	-0.023	-0.155	-0.138
	(0.27)	(0.78)	(2.32)*	(2.80)**
Number of children	0.010	0.021	-0.002	0.011
	(0.40)	(1.12)	(0.07)	(0.51)
Dummy: children u. 12 years	0.015	-0.003	-0.010	-0.024
	(0.38)	(0.09)	(0.15)	(0.48)
Dummy: female*children u. 12	-0.019	0.042	0.046	0.129
	(0.44)	(1.14)	(0.53)	(1.99)*
Mean of log of monthly wage	0.169	0.166		
	(3.00)**	(3.64)**		
Mean of log of weekly hours	0.034	-0.013		
	(0.36)	(0.17)		
Mean of number of children	-0.009	-0.014		
	(0.36)	(0.68)		

Table 12 Robustness check (continued)

Agriculture	-0.081	-0.069	0.050	-0.182
	(1.05)	(1.07)	(0.21)	(1.01)
Mining	-0.114	-0.118	-0.635	-0.564
	(1.08)	(1.31)	(1.25)	(1.34)
Manufacturing: food	-0.249	-0.310	-0.287	-0.546
	(2.99)**	(4.61)**	(1.36)	(3.99)**
Manufacturing: textiles	-0.288	-0.166	-0.867	-0.403
	(1.98)*	(1.79)	(2.48)*	(1.79)
Manufacturing: wood prod.	-0.143	-0.143	-0.381	-0.327
	(2.56)*	(3.09)**	(2.03)*	(2.54)*
Manufacturing: metal prod.	-0.154	-0.165	-0.203	-0.144
	(2.59)**	(3.54)**	(1.30)	(1.45)
Manuafacturing: other	-0.111	-0.123	-0.205	-0.209
	(2.04)*	(2.66)**	(1.64)	(2.28)*
Contruction	-0.137	-0.054	-0.287	-0.040
	(2.11)*	(1.15)	(1.71)	(0.40)
Wholesale	-0.040	-0.037	-0.176	-0.169
	(0.87)	(0.98)	(1.59)	(2.15)*
Hotels	-0.137	-0.090	-0.243	-0.201
	(1.99)*	(1.61)	(1.72)	(1.92)
Financial services	-0.140	-0.127	-0.106	-0.192
	(2.01)*	(2.01)*	(0.49)	(1.13)
Real Estate	-0.087	-0.069	-0.091	-0.146
	(1.99)*	(1.85)	(0.89)	(1.93)
Public Adm.	-0.046	0.002	-0.294	-0.190
	(0.90)	(0.04)	(2.16)*	(1.80)
Health care	0.066	0.080	-0.042	0.048
	(1.81)	(2.46)*	(0.41)	(0.58)
Other social services	0.001	0.033	-0.053	-0.019
	(0.01)	(0.70)	(0.43)	(0.21)
1996	-0.010	-0.006	-0.013	-0.008
	(0.42)	(0.32)	(0.46)	(0.41)
1998	-0.102	-0.087	-0.106	-0.077
	(4.51)**	(4.98)**	(4.28)**	(4.23)**
1999	-0.149	-0.119	-0.139	-0.100
	(5.25)**	(5.42)**	(4.22)**	(4.17)**
2000	-0.161	-0.132	-0.145	-0.117
	(5.28)**	(5.48)**	(4.03)**	(4.35)**
2001	-0.245	-0.217	-0.235	-0.193
	(6.77)**	(7.80)**	(5.64)**	(6.38)**
Observations	7601	12447	7620	12479
Number of individuals	3551	4700	3563	4719

Note: See notes to table 2

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