

# Good, Better, Best. The Social Context of Labour-Market Success\*

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**Abstract.** We extend recent work on relative utility functions to the context of promotions, and labour-market success in general, based on innovative work by Runciman. Receiving a promotion or a pay rise is, as might be expected, associated with greater levels of job satisfaction. However, doing better on the labour market is not the only thing that matters. The best of all is receiving a pay rise that is higher than that received by others. The two sets of 'relevant others' we consider here are the individual's partner, and other workers in the same occupational group by region and by year. We also uncover some evidence that the well-being return of having experienced a promotion at work is relative.

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# 1 Introduction

One of the key areas of interest in work on subjective well-being over recent years, and in Behavioural Economics in general, has been the possibility that well-being depends on income in a relative manner (see the survey in Clark *et al.*, 2008). Recent work has expanded the discussion of a relative utility function beyond income, considering for example labour-market status, marital status and health, to name but three domains. In the labor market, which is the focus of our contribution, it has been shown, for example, that the negative well-being effect of unemployment is attenuated by higher regional unemployment rates, and indeed by the unemployment status of the individual's partner (Clark, 2003).

This analysis has remained for the most part atemporal, in the sense that well-being at time  $t$  is correlated with some key explanatory variables (both own and others') at the same period. There is however also widespread interest in the role of time in social sciences. This has often made reference to the role that events which occurred in the past play for current levels of well-being. This sometimes tests for adaptation to one's own life events, finding that there is fairly fast adaptation to rises in income, marriage and divorce, for example, but not to unemployment (see Clark, 1999, Clark *et al.*, 2008, and Di Tella *et al.*, 2010). Other work has analysed the effect of completed negative events in the past, such as a past unemployment spell, on current outcomes. In the labour market, this work originally looked at the 'scarring' effect of past unemployment on current wages (Jacobson *et al.* 1993, and Ruhm, 1991), before turning the same kind of scarring effect on subjective well-being (Clark *et al.*, 2001, and Knabe and Rätzl, 2011).

Existing research has not to our knowledge put these two parts together and explicitly considered the idea that individual well-being does indeed depend on comparisons, but a comparison of income profiles. The work by D'Ambrosio and Frick (2012) goes some way in this direction by proposing a generalisation of Fehr and Schmidt's (1999) utility function over income distributions. In their framework individual well-being depends not only on one's ranking in society in the past and at present, but also on the situation of other individuals over time.

The research that we present here goes further in this sense. We focus on individual promotions at work, and income changes. While there is some little work on the well-being effect of promotions (which is perhaps unsurprisingly found to be positive: see Clark, 1996, and Kosteas, 2011), we here consider the social context of promotions, by relating one's own promotion experience to that of salient others in the reference group.

We are therefore asking the question “Are positive changes relative?”

The research here echoes to a considerable extent ideas that have been around for many years. Stouffer *et al.* considered the relationship between workers’ evaluation of their jobs and the extent of promotion, in the context of the Armed Forces. They in particular compared workers in the Military Police to those in the Air Force. One of the key distinctions between the two is that promotions are only rare in the former but much more widespread in the latter. Nonetheless, reported job satisfaction was higher in the Military Police than in the Air Force. This can be understood by a relative utility argument, with the Military Police comparing their outcome to a reference group with only little promotion, while the reference group for those in the Air Force would include a far greater number of promotees. It is easy to think of a parameterisation of the utility function by which a greater promotion rate will actually lead to lower average well-being at work. The negative externalities of others’ labour-market outcomes are highlighted by Runciman (1966, p.19), who writes that “*The more people a man sees promoted when he is not promoted himself, the more people he may compare himself to in a situation where the comparison will make him feel relatively deprived*”.

We here explicitly address the possibility of externalities from promotions using SOEP data from 1985 to 2012, and show that others’ good fortune may indeed have anything but a silver lining for the individual’s job satisfaction. The remainder of the paper is organised as follows. Section 2 briefly presents the idea of a relative utility function, but here with respect to changes in the individual’s labour-market position. Section 3 then describes the SOEP data we use and our key left-hand (job satisfaction) and right-hand (promotion opportunities, actual promotions, and labour-income changes) variables. The regression results appear in Section 4. Last, Section 5 concludes.

## 2 Relative Utility and Labour-Market Success

We here consider a relative utility function defined over promotions or income changes. This is inspired by the considerable literature on comparison effects with respect to the level of income. This latter literature has appealed to not only subjective well-being scores, but also the analysis of hypothetical preferences, individual behaviours, experimental results and neurological measurement: see Clark *et al.*, 2008. Our empirical analysis is based on a generic utility function which depends on not only the level of the individual  $i$ ’s own income at some period  $t$ ,  $y_i^t$ , but also the level of some benchmark, reference or comparison income measured at the same time,  $\bar{y}^t$ . More formally, the incomes of

a fixed set  $N = \{1, \dots, n\}$  of  $n \geq 2$  individuals are recorded in an income distribution  $y^t = (y_1^t, \dots, y_n^t) \in \mathbb{R}_+^n$ , where  $\mathbb{R}_+^n$  is the set of  $n$ -dimensional vectors with non-negative components. Various specifications of  $\bar{y}^t$  have been used in the literature, such as the mean of the distribution, the rank of individual  $i$  in the income distribution or the sum of income gaps with respect to richer and poorer individuals.

In this framework the utility function of individual  $i$ ,  $i = 1, \dots, n$ , at time  $t$  is:

$$U_i^t(y^t) = \alpha y_i^t + \beta \bar{y}^t \quad (1)$$

where it is commonly assumed that utility rises with own income,  $\alpha > 0$ , while the effect of comparison income  $\bar{y}^t$  is negative,  $\beta < 0$ . This latter acts in the same way as a price deflator: the higher is  $\bar{y}^t$ , the less good my own income feels. This is thought to reflect some instinctive process of comparison with others or ranking in the income scale, which may indeed reflect an evolutionary imperative (Rayo and Becker, 2007). The precise specification of this relative utility function differs from article to article, although log-linear specifications are often used (as in Clark and Oswald, 1996, and Luttmer, 2005).

If we want to model status explicitly, we can rewrite expression (1) in terms of a status variable  $s^t = (s_1^t, \dots, s_n^t) \in \mathbb{R}_+^n$  with the same interpretation as above. The utility function of individual  $i$ ,  $i = 1, \dots, n$ , at time  $t$  is now:

$$U_i^t(s^t) = \gamma s_i^t + \delta \bar{s}^t \quad (2)$$

with  $\gamma > 0$  and  $\delta < 0$ .

A fair amount of work has now been carried to extend the utility function described above to other domains of economic and social life. However, this literature has retained one key aspect of the utility function described above, in that the analysis has not been specifically dynamic: utility is considered to depend only on the contemporaneous levels of some variable, both own and in terms of a benchmark. There is no role for profiles over time or changes over time.

We here wish to expand this empirical analysis, by specifically considering temporal events relating to a change in work status: promotions and changes in income. We do so because we think that time matters in terms of individual evaluations, whether of work or of other life domains. We have two different ways of bringing this temporal aspect into the utility function. The first is in terms of future prospects: the evaluation of the job today will in part likely reflect what might happen to it tomorrow in terms of its present discounted value. This idea has in general only attracted limited empirical attention in

the well-being literature.<sup>1</sup>

As an alternative, which is the approach we follow, own and others’ promotions are modelled explicitly in the utility function. Let the promotions from  $t - 1$  to  $t$  be collected in a vector  $p^t = (p_1^t, \dots, p_n^t) \in \mathbb{R}_+^n$ , where  $\bar{p}^t$  indicates the arithmetic mean. Now, the utility function of individual  $i$ ,  $i = 1, \dots, n$ , at time  $t$ , is:

$$U_i^t(y^t, p^t) = \alpha y_i^t + \vartheta p_i^t + \tau \bar{p}^t \quad (3)$$

where  $\vartheta$  and  $\tau$  are some parameters measuring the effects of promotions on utility at time  $t$ . We have two versions of this equation: one with actual promotions and another with income changes. We estimate both of these on SOEP data, which is described in the next section.

### 3 Well-being and Labour-Market Success Data

To estimate the well-being effect of own and others’ promotions and income changes, we appeal to data from the 1985-2012 waves of the German Socio-Economic Panel (SOEP). As the research question we address specifically refers to the labor market, we retain observations on individuals of working age (16 to 64) who are employees (as it is arguably more difficult, although not impossible, to conceive of promotion for the self-employed). In our regression analysis, this restriction yields around 208,000 observations (on approximately 33,000 different individuals).

Our dependent variable, which will measure the effect of promotions on well-being, is individual job satisfaction. After an arguably rocky start, such simple measures are becoming increasingly accepted in Economics as providing information which is often difficult to measure with only objective variables. Job satisfaction in the SOEP is measured on a 0 to 10 scale (where 0 denotes “not satisfied at all” and 10 corresponds to “completely satisfied”). Figure 1 shows the distribution of job satisfaction in our SOEP analysis sample. As can be seen, there is a fair amount of right-skew in the distribution of job satisfaction, which is very typical for survey measures of individual well-being. There is no particular problem of top-coding though, as only 8.4% of individuals report job satisfaction scores of ten. The average satisfaction score is 7, as is the median.

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<sup>1</sup>Although there is something of an analogy here to Lévy-Garboua *et al.* (2007), who argue that the value that a worker puts on a job is given by its expected present value. It is the comparison of this value with that offered by alternative positions which will determine their decision to stay in the current job or to quit. They test their model of quitting on SOEP data and argue that this forward-looking component of the job is indeed that which is germane for decision-making.

We wish to relate the job satisfaction of employees to the promotions that they both expect and experience, as well as to their changes in income. In the first instance we will consider only the individual's own experience of labour-market success; then, in an attempt to provide an empirical counterpart to Runciman's claim, we shall introduce the analogous success variables experienced by salient others. The salient others here will be the individual's partner and other workers in the same occupation-region-year cell.

Promotion opportunities are measured in three different ways in the SOEP, and in particular are sometimes measured qualitatively and sometimes quantitatively. Information on promotion opportunities mostly appears every second year. The initial question used was qualitative, with individuals reporting the chance that they would be promoted in the next two years as "Definitely/Certainly", "Probable", "Improbable/Not Probable" and "Definitely not/Unlikely". The question was asked in this format in 1985 to 1998, without 1986, 1988, 1995 and 1997. Perhaps unsurprisingly, under 2% of respondents say that it is definite that they will be promoted over the next two years. However, around 15% believe that promotion is probable. The remainder of the sample are split almost equally into "Improbable" and "Definitely not".

In 2006 and 2011 individuals were asked if they felt that their chances of promotion were bad, with the possible answers being "Very much", "A lot", "Moderate" and "Not at all". More than 25% of the answers were in the first two categories. Approximately 35% did not feel that their chances of promotions were bad at all. We reverse the scale of this variable in our regression to be consistent with the other two promotion variables, in that higher numbers mean better chances of promotion.

Starting in 1999, individuals instead evaluated their chances of promotion over the next two years on a percentage scale from zero to 100, at ten percentage point intervals.<sup>2</sup> Fully one half of SOEP employed respondents say that they have a zero percent chance of promotion over the next two years, with the figures reporting a 10, 20, 30 and 40 percent chance being ten, nine, seven and six percent respectively. Nine per cent of respondents opt for the focal percentage of 50, and another nine per cent give a percentage figure of over 50.

Analysing the relationship between job satisfaction and self-reported promotion chances might not be thought to be completely satisfactory, however. Some (see Hamermesh, 2004) may well object to the correlation of one subjective variable with another, pointing out the possibility that both reflect some unobserved omitted variable such as personality.

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<sup>2</sup>Geishecker (2009) discusses the same kind of switch from qualitative to quantitative measurement in the context of job insecurity.

While the use of individual fixed effects in panel data goes some way towards mitigating such worries, it does not go the whole way. In particular, any transient mood effect on both subjective variables will produce a correlation between them in panel analysis. This correlation will however not be causal, and it is causal relationships that interest us.

To go further in our analysis, we therefore also look at actual experienced promotions and income changes, as reported by the individual. The goal here is then to see, all else equal, whether someone who reports having been promoted over the past year, or whose labour income has risen, is more satisfied with their job than someone who has not been promoted or whose labour income stayed the same. This analysis has the advantage of removing the subjective component from our key explanatory variable.

The variables described so far have only referred to the first half of the right-hand side of the utility function described above, picking up own labour-market outcomes. However, we are particularly interested in the relationship between own satisfaction and others' good fortune here. The arguably most innovative part of our paper therefore introduces others' promotions. The key question here is: Who are the others? We appeal to two different reference groups: the individual's own partner, and then others in the individual's own occupational groups by German region (Lander) and year.

The empirical results described in the following section are consistent with own promotions increasing well-being, but also with there being comparison effect in terms of labour-market success. Doing well in the labour market, in terms of income changes and promotions, is good for job satisfaction. But doing better than others in these respects is best.

## **4 Well-Being and Labour-Market Success: Regression Results**

To set the scene, Table 1 presents a standard job satisfaction regression. The controls here include gross monthly labour income (in thousands of Euros), annual hours of work, and sets of dummies for age, education, marital status, occupation, wave and region. We have around 208,000 observations here. The first column refers to ordered probit estimation of job satisfaction regressions on pooled data, while the second column controls for time-invariant individual fixed effects via a within regression. This latter is a linear estimation technique which assumes the cardinality of the dependent variable. Following Ferrer-i-Carbonell and Frijters (2004), we use this simple estimation technique rather than a more

complicated ordinal panel estimation approach.

The results are to a large extent unsurprising, and reflect patterns often found in the job satisfaction literature. In particular, the estimated coefficients are consistent with the premises of the indirect utility function, with satisfaction rising with labour income but falling with hours of work. There is an addition a pronounced U-shape with respect to age (see Clark *et al.*, 1996, and Blanchflower and Oswald, 2008), and men report significantly lower job satisfaction scores than do women, *ceteris paribus* (Nolen-Hoeksema and Rusting, 1999). The relative estimated coefficients on income and hours of work are similar in size across the pooled and panel estimates, although they cannot be directly compared as one results from linear estimation and the other is an ordered probit coefficient.

One of the broad themes that is tackled in this paper is that time matters. With respect to individual job satisfaction, future prospects may well be important. We thus add promotion opportunities to the standard regression in Table 1: the pooled results appear in Table 2a and the panel results in Table 2b.

Both tables have three columns, referring to the different ways in which promotion opportunities have been measured in the SOEP since 1985. We show the estimated coefficients on promotion probability only, although all regressions include all of the explanatory variables which appeared in Table 1. The first two columns in each table refer to the two qualitative promotion probability variables, and the third column to the percentage probability of future promotion. All of three measures behave in the expected way, in that a greater probability of promotion is associated with higher job satisfaction. The estimated promotion coefficients in the panel regressions in Table 2b are notably larger than those in the pooled results in Table 2a. As such, individuals who are in jobs with better promotion possibilities are “less happy” types (in other words, the comparison of one individual with bad promotion opportunities to another with good promotion opportunities will produce a smaller satisfaction gap than that produced by switching a given individual’s promotion opportunities from bad to good).

It is perhaps worth also noting that the addition of promotion probabilities to the job satisfaction regression does not seem to make much difference to the size of the coefficient on own labour income. *A priori*, this suggests that the positive effect of own income in Table 1 does not just reflect that high income is a proxy for good future prospects (nor that those with good future prospects currently earn less, in a compensating differential way): the two variables seem to represent broadly separate dimensions of what makes a satisfying job. As such, conditional on the present, the future matters in the determination



of the individual’s current job satisfaction: well-being at work is intertemporal.

We would like to address the question of comparisons in terms of promotions: Are you more satisfied with your job when your partner has good future prospects, or rather do you compare your own promotion probabilities to theirs? We will address this issue in the first instance by introducing partner’s promotion into Table 2’s specification; we then introduce an interaction between own and partner’s promotion opportunities. To avoid having an unwieldy number of interactions between categorical promotion probabilities, we undertake this analysis only for the third, cardinal, promotion-probability variable. The results, for both pooled and panel estimation, appear in Table 3a. These regressions cover only individuals who have a partner.

As in Table 2, own promotion probabilities are associated with higher levels of job satisfaction. This does not extend to partner’s promotion opportunities however (see column 2 and column 5). When we include an interaction between own and partner’s promotion opportunities we find a positive estimated coefficient (although this is not significantly positive in the panel regressions in column 6). As such, the better your partner’s promotion opportunities, the more valuable are your own opportunities. Both the main effect and the interaction are therefore suggestive of comparisons with respect to one’s partner: the better their opportunities, the less satisfied is the individual.

Runciman’s original work was not about spouses of course, but rather about some larger reference group that is germane for the individual. We therefore consider the comparison of good fortune to an “external” reference group: other employees in the individual’s occupation by region and by year. Table 3b reproduces the format of Table 3a, but now with this occupational reference group with respect to promotion probabilities. The results are of the same order as those in Table 3a. Own income and promotion probabilities remain positive. Occupational promotion probabilities attract negative estimated coefficients, which are however not systematically significant. Last, the interaction in columns 3 and 6 is positive and significant in the pooled estimates (so my future possibilities are more important to me as others’ are higher), but positive and insignificant in the panel estimates.

Asking about individuals’ expectations of future events is certainly of interest. However, we would also like to know what happens when promotions actually occur. We can here use the yearly information available in the SOEP on job changes. For example, the question asked in 2007 is: “*Did you change your job or start a new one after December 31, 2005?*”. If this question is answered in the affirmative, the individual also reports what type of job change has occurred. This can refer to the individual’s first job, or to a new

job in a different firm, for example. With respect to promotions, the response category that interests us here are “Changed Job, Same Firm” and “Job with New Employer”. We therefore add a set of “Changed Job” dummies to Table 1’s standard job satisfaction regression to see if recent job changes are indeed associated with higher job satisfaction, conditional on the individual’s current labour income. The results of this regression on pooled and panel data are presented in Table 4.

Most job changes are associated with higher job satisfaction. These include changes that lead to the individual being with a new employer (First Job, and Job with New Employer). This is reminiscent of the honeymoon effect of new jobs highlighted by Chadi and Hetschko (2013). Changing job within the same company, which will include promotions (but also may pick up individuals who have been moved sideways in the company). The estimated coefficient on “Changed Job, Same Firm” is positive and significant in the panel estimates, but insignificant in the pooled estimates. As in the results for individuals’ perceptions of promotion, those with better outcomes seem to inherently “less happy” types. In the panel results, the estimated coefficient on “Changed Job, Same Firm” is around the same size as those on the other “new job” variables (the largest estimated coefficient, perhaps reflecting Chadi and Hetschko (2013), is on “Job with New Employer” in both the pooled and the panel regressions).

Our last take on labour-market success, changes tack somewhat. Instead of collecting subjective evaluations of promotion opportunities, or inferring actual promotions from having changed job within the same firm, we consider a direct measure of labour-market success, via labour income. This last approach has the advantage of being well-defined in the data at least. As a first step, we consider the role of partner’s labour income in determining individual job satisfaction. The results appear in Tables 5a and 5b, for the pooled and panel results respectively.

In column 1, we introduce partner’s labour income. This attracts a negative significant coefficient in both the pooled regressions and panel regressions. This is consistent with individuals comparing their income to that of their partner (although other stories about bargaining power or joint leisure are also possible).

We are most interested in columns 2 through 4. Here we add a dummy variable for earning more than one’s partner. As in Clark (1996b), this attracts a positive significant coefficient: individuals are more satisfied with their job when they earn more than their partner. This holds in both pooled and panel estimates, and is markedly stronger for men than for women.

Table 6 moves on from the comparison of levels of income to the comparison of changes

in income between  $t-1$  and  $t$ . A change in income is arguably a good proxy for a promotion having taken place. We distinguish between rises in income and falls (or constant) in income. Rises in income are always, but not always significantly so, associated with higher job satisfaction. Spousal comparison effects in income are not confined to the level of labour income in Table 5: Table 6 shows that they are also found with respect to changes over the past year, which we here are taking to be synonymous with improvements in the individual's job position. In Table 6, those whose change in labour income was larger than that of their spouse report higher job satisfaction scores. This holds in both pooled and panel estimation; as in Table 5, this comparative result within the household seems to be stronger for men than for women.

Our last table considers the comparison of income changes at the broader level of the individual's occupation by region and by year. Table 7 presents the results. In the first three columns of Table 7, the occupational yearly wage change is significantly negatively correlated with individual job satisfaction for men, but not for women. The last column of Table 7 shows, parallel to Table 6, that own income change is significantly positively associated with job satisfaction as long as that income change is larger than the occupational average. These results hold in both the pooled and panel estimations. The fact that the estimated coefficients in Table 7 for occupational comparisons are larger than those in Table 6 for the comparison to one's spouse might be thought to reflect some degree of altruism within the household.

## 5 Conclusion

This paper has endeavoured to extend the analysis of relative outcomes beyond the atemporal, and suggests that changes are evaluated relatively too. In particular, while there is now a fair amount of work that suggests that individuals assess their income at least partly relatively, the results here are consistent with promotions, or more generally changes in income, having a relative component as well.

We have considered two types of reference group: the first is a cell mean with respect to occupation, while the other is the individual's spouse. The results from the two types of reference group are similar to each other. At face value, this is not consistent with altruism within the household. However, it is wise to be circumspect about this conclusion. While it may indeed reflect envy with respect to one's partner, it is also consistent with the partner acting as a proxy for broader labour market conditions, with an omitted variable (for example, the joint use of leisure) and with relative incomes determining bargaining

power within the household (as much of the collective labour supply literature has found). Last, as noted above, the coefficients are sometimes stronger at the occupational than at the spousal level. Identifying the relevant channel of influence between spouses would seem to be important for the correct understanding of household behaviour.

We have here only modelled average effects overall the whole sample. However, it is likely that there is heterogeneity in individuals' propensity to carry out comparisons. The results for men and women are not identical in the current paper, but it may well be true that the salience of comparisons depends on personality type, for example.

Last, taking these results at face value, not only is income at least partly relative, but so are promotions and changes in income. This would suggest that tournaments may lose their power as they become more widespread. This extension of personnel Economics to include such behavioural considerations is arguably a useful programme for future research.

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## Tables and Figures:

**Table 1: Basic Job Satisfaction Regressions: Pooled and Panel.**

	<b>OP</b>	<b>FE</b>
Gross monthly labour income (€000)	0.050*** (0.002)	0.071*** (0.006)
Annual hours of work	-0.005*** (0.000)	-0.009*** (0.001)
Age 16-20	0.227*** (0.023)	0.582*** (0.052)
Age 21-30	0.144*** (0.008)	0.460*** (0.023)
Age 31-40	0.060*** (0.006)	0.291*** (0.014)
Age 51-60	-0.037*** (0.006)	-0.389*** (0.015)
Age 61-65	0.119*** (0.015)	-0.519*** (0.034)
Male	-0.015*** (0.006)	
Married	0.003 (0.007)	-0.006 (0.031)
Widowed	-0.038*** (0.007)	-0.031 (0.028)
Divorced	0.057*** (0.007)	-0.063*** (0.023)
Separated	0.107*** (0.020)	-0.193*** (0.068)
Wave Dummies	Yes	Yes
Region Dummies	Yes	Yes
Education dummies	Yes	Yes
Occupational dummies	Yes	Yes
Observations	208,200	208,200

+ significant at 10%; \* at 5%; \*\* at 1%. (Standard errors in parentheses).

**Table 2a: Job Satisfaction and Promotion Prospects: Pooled Results.**

	<b>Prom1</b>	<b>Prom2</b>	<b>Prom3</b>
Gross monthly labour income (€000)	0.036*** (0.010)	0.088*** (0.007)	0.063*** (0.004)
Chances of Promotion: Improbable	0.343*** (0.046)		
Chances of Promotion: Probable	0.635*** (0.042)		
Chances of Promotion: Definitely	0.823*** (0.043)		
Expected Promotion: Improbable		0.088*** (0.011)	
Expected Promotion: Probable		0.380*** (0.015)	
Expected Promotion: Definitely		0.581*** (0.037)	
Promotion probability (0 to 1)			0.325*** (0.020)
Observations	10,153	49,903	51,096

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 2b: Job Satisfaction and Promotion Prospects: Panel Results.**

	Prom1	Prom2	Prom3
Gross monthly labour income (€000)	-0.063 (0.061)	0.259*** (0.021)	0.073*** (0.014)
Chances of Promotion: Improbable	0.512*** (0.153)		
Chances of Promotion: Probable	1.098*** (0.148)		
Chances of Promotion: Definitely	1.001*** (0.155)		
Expected Promotion: Improbable		0.302*** (0.023)	
Expected Promotion: Probable		0.720*** (0.033)	
Expected Promotion: Definitely		0.806*** (0.077)	
Promotion probability (0 to 1)			0.739*** (0.043)
Observations	10,153	49,903	51,096

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 3a: Job satisfaction: own and spouse's promotion probabilities.**

	Prom3 Pooled	Prom3 Pooled	Prom3 Pooled	Prom3 Panel	Prom3 Panel	Prom3 Panel
Gross monthly labour income (000)	0.063*** (0.004)	0.063*** (0.004)	0.063*** (0.004)	0.073*** (0.014)	0.073*** (0.014)	0.074*** (0.014)
Promotion probability (0 to 1)	0.325*** (0.020)	0.325*** (0.020)	0.087 (0.059)	0.739*** (0.043)	0.741*** (0.043)	0.666*** (0.121)
Sp. Promotion probability (0 to 1)		-0.145*** (0.029)	-0.240*** (0.037)		-0.136** (0.067)	-0.208** (0.083)
Prom prob* Sp. Prom prob (0 to 1)			0.435*** (0.105)			0.315 (0.215)
Observations	23,696	23,616	23,616	23,696	23,616	23,616

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 3b: Job satisfaction: own and occupation's promotion probabilities.**

	Prom3 Pooled	Prom3 Pooled	Prom3 Pooled	Prom3 Panel	Prom3 Panel	Prom3 Panel
Gross monthly labour income (€000)	0.063*** (0.004)	0.063*** (0.004)	0.063*** (0.004)	0.073*** (0.014)	0.073*** (0.014)	0.074*** (0.014)
Promotion probability (0 to 1)	0.325*** (0.021)	0.325*** (0.021)	0.087 (0.062)	0.739*** (0.041)	0.741*** (0.042)	0.666*** (0.098)
Occ. Promotion probability (0 to 1)		-0.008 (0.126)	-0.356** (0.154)		-0.094 (0.214)	-0.208 (0.268)
Prom prob* Occ. Prom prob (0 to 1)			1.211*** (0.2895)			0.377 (0.446)
Observations	51,096	51,096	51,096	51,096	51,096	51,096

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.



**Table 4: Job satisfaction and actual promotions.**

	<b>OP</b>	<b>FE</b>
Gross monthly labour income (€000)	0.064*** (0.002)	0.101*** (0.006)
First Job	0.081*** (0.023)	0.215*** (0.045)
Job After Break	-0.001 (0.012)	0.251*** (0.023)
Job with New Employer	0.093*** (0.009)	0.351*** (0.016)
Company Taken Over	0.003 (0.023)	0.201*** (0.042)
Changed Job, Same Firm	0.008 (0.030)	0.227*** (0.053)
Observations	199,157	199,157

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 5a. Job satisfaction and Partner Income: Pooled.**

	<b>(1) All</b>	<b>(2) All</b>	<b>(3) Men</b>	<b>(4) Women</b>
Gross monthly labour income (€000)	0.057*** (0.003)	0.043*** (0.004)	0.053*** (0.004)	0.034*** (0.007)
Spouse's Gross monthly labour income	-0.009*** (0.003)	0.008** (0.003)	0.004 (0.007)	0.003 (0.004)
Earn more than Spouse		0.138*** (0.010)	0.183*** (0.015)	0.085*** (0.015)
Observations	96,407	96,407	48,508	47,899

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 5b. Job satisfaction and Partner Income: Panel.**

	<b>(1) All</b>	<b>(2) All</b>	<b>(3) Men</b>	<b>(4) Women</b>
Gross monthly labour income (€000)	0.079*** (0.011)	0.068*** (0.011)	0.074*** (0.014)	0.057*** (0.022)
Spouse's Gross monthly labour income	-0.037*** (0.011)	-0.026** (0.011)	-0.013 (0.021)	-0.036*** (0.014)
Earn more than Spouse		0.091*** (0.023)	0.167*** (0.033)	0.016 (0.035)
Observations	96,407	96,407	48,508	47,899

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 6a: Job satisfaction and Income Changes Compared to Partner: Pooled.**

	(1) All	(2) Men	(3) Women	(4) All
Gross monthly labour income (000)	0.063*** (0.004)	0.076*** (0.006)	0.058*** (0.009)	0.063*** (0.005)
Yearly Up Change in Gross monthly labour income	0.048*** (0.012)	0.014 (0.014)	0.107*** (0.023)	0.043*** (0.012)
Yearly Down Change in Gross monthly labour income	-0.000 (0.013)	0.002 (0.015)	-0.004 (0.024)	-0.000 (0.013)
Own Change > Spouse's Change	0.017** (0.008)	0.023* (0.012)	0.010 (0.012)	0.024*** (0.009)
Spouse's Gross monthly labour income				-0.000 (0.004)
Spouse Yearly Up Change in Gross monthly labour income				0.039*** (0.012)
Spouse Yearly Down Change in Gross monthly labour income				-0.020 (0.013)
Observations	70,266	35,234	35,032	70,266

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 6b: Job satisfaction and Income Changes Compared to Partner: Panel.**

	(1) All	(2) Men	(3) Women	(4) All
Gross monthly labour income (€000)	0.067*** (0.016)	0.086*** (0.020)	0.029 (0.029)	0.068*** (0.016)
Yearly Up Change in Gross monthly labour income	0.061*** (0.022)	0.021 (0.026)	0.149*** (0.041)	0.054** (0.022)
Yearly Down Change in Gross monthly labour income	0.047** (0.022)	0.012 (0.026)	0.127*** (0.044)	0.044* (0.022)
Own Change > Spouse's Change	0.030** (0.013)	0.061*** (0.019)	-0.005 (0.019)	0.041*** (0.015)
Spouse's Gross monthly labour income				-0.025 (0.016)
Spouse Yearly Up Change in Gross monthly labour income				0.050** (0.022)
Spouse Yearly Down Change in Gross monthly labour income				0.016 (0.023)
Observations	70,266	35,234	35,032	70,266

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 7a: Job satisfaction and Income Changes Compared to Occupation: Pooled.**

	(1) All	(2) Men	(3) Women	(4) All
Gross monthly labour income (€000)	0.055*** (0.003)	0.054*** (0.006)	0.063*** (0.004)	0.055*** (0.003)
Yearly Up Change in Gross monthly labour income	0.048*** (0.011)	0.095*** (0.018)	0.025** (0.013)	0.018 (0.011)
Yearly Down Change in Gross monthly labour income	-0.001 (0.007)	-0.011 (0.018)	0.002 (0.007)	-0.018*** (0.007)
Occupational Yearly Change in Gross monthly labour income	-0.044 (0.030)	-0.106** (0.050)	-0.017 (0.036)	0.029 (0.031)
Own yearly change > occupational yearly change				0.062*** (0.022)
Observations	168,917	72,025	96,892	168,917

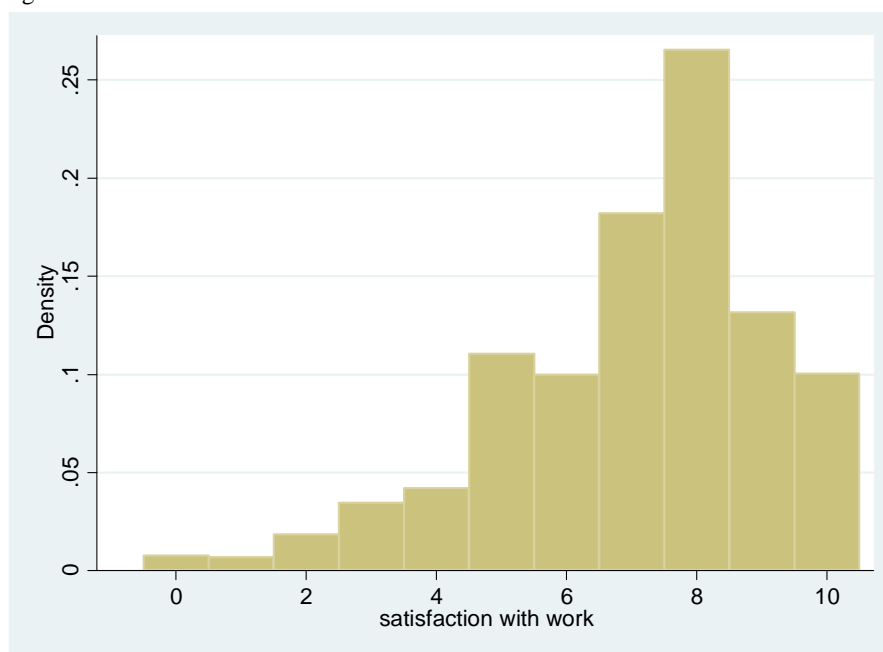
+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Table 7b: Job satisfaction and Income Changes Compared to Occupation: Panel.**

	(1) All	(2) Men	(3) Women	(4) All
Gross monthly labour income (€000)	0.072*** (0.009)	0.070*** (0.018)	0.070*** (0.011)	0.076*** (0.009)
Yearly Up Change in Gross monthly labour income	0.058*** (0.015)	0.082*** (0.028)	0.051*** (0.017)	0.003 (0.015)
Yearly Down Change in Gross monthly labour income	0.016 (0.013)	0.083*** (0.031)	-0.002 (0.014)	-0.011 (0.012)
Occupational Yearly Change in Gross monthly labour income	-0.042 (0.046)	-0.141* (0.078)	0.007 (0.053)	0.083* (0.047)
Own yearly change > occupational yearly change				0.105*** (0.010)
Observations	168,917	72,025	96,892	168,917

+ sign. at 10%; \* at 5%; \*\* at 1%. (Std. err. in par). All regressions include all of Table 1's other control variables.

**Figure 1: The Distribution of Job Satisfaction in the SOEP.**



Satisfaction is measured on a 11-point scale from 0=completely dissatisfied to 10=completely satisfied. The numbers here refer to our estimation sample.