

Chapter 8

Winners and Losers

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8.1 Introduction

The preceding chapters look at the outcomes of higher education in European countries, each from a particular perspective. In this chapter we adopt a more holistic view, attempting to determine to what extent particular groups of graduates can be identified as “winners” or “losers” in the labour market. Analyses of labour market successes and failures normally focus on predicting objective measures such as unemployment, overeducation and wages. This chapter will also analyse such factors, which implicitly treat participation in higher education as an economic investment on which both individual graduates and societies as a whole hope to recoup a satisfactory economic return. Given the huge sums invested in higher education, this focus on economic returns to education is understandable and legitimate. However, it is important to recognise that there are other ways of looking at success of graduates in the labour market. What if graduates strive for other things than secure employment with high earnings and succeed in reaching those other goals? Are those graduates not also “winners”? More generally, what makes someone a winner (loser) in one dimension does not necessarily imply that he or she is a winner (loser) in other dimensions as well.

In this chapter we will look at determinants of success and failure on both objective and subjective measures. The indicators of objective success or failure are the employment situation – have graduates managed to secure paid work, and if so, does this match their own attained level and field of higher education? – and the wages earned. The subjective measures concern work values and the realisation of these values and job satisfaction. We will explore to what extent the objective and subjective indicators have similar predictors. In other words, we will explore to what extent these different indicators overlap or not. Moreover, we will explore to what extent objective success predicts success in the subjective dimensions. Attention will be paid throughout the chapter to country differences in terms of success or failure and

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how these differences might be explained, as well as possible gender differences and differences by fields and types of higher education. Before presenting the empirical results, we will briefly outline the foundations on which our analyses are based.

Different forms of education–job (mis)match will be studied as indicators of labour market success or failure: both the most extreme form of mismatch such as unemployment and vertical educational mismatch which refers to the lack of correspondence between the level of the education acquired and the level required in the job. Also a third form of possible mismatch will be studied, which we call horizontal mismatch, that is, working in a job matching one’s own level but not one’s own field of education. This *may* be a flexible and rewarding way of labour market adaptation, or it might be a situation that is more or less forced upon the individual and represents a kind of mismatch with possibly negative consequences on wages, realisation of work orientations or job satisfaction. The identification of horizontal mismatch is of special interest for our fourth form of mismatch; those being both vertically and horizontally mismatched. This refers to graduate persons holding jobs such as that of a taxi-driver or shop assistant. In addition to labour market match or mismatch, our second objective measure of the extent to which the graduates are successful is *wages*.

Different theories have different explanations of success and failures in the labour market. According to the assignment theory (Sattinger, 1993), the existence of labour market phenomena such as unemployment and overeducation can be motivated as labour market responses to the problem of assigning workers to jobs. Both individuals and jobs can be ranked in terms of skills. Individuals will be ranked according to the skill level they possess and jobs in accordance with the skill level they require. If there are more skilled workers than there are complex jobs, some individuals will end up in jobs for which they are overqualified. This implies that persons with non-matching jobs will be overeducated, have reduced productivity and receive lower wages.

Problems in the education to work transition are often explained by the search theory (Hammermesh & Rees, 1984), which among other things points to a lack of information. Hartog (2000) also points out that the search process takes time and is based on imperfect information, so that unemployment and overeducation may be temporary phenomena resulting from a “waiting room effect”. Since we look at the labour market situation five to six years after graduation, we can assume that the impact of any such waiting room effect will be minor. However, initial problems in finding suitable work might have long-lasting effects; thus, theories of “state dependence” may be relevant to explaining the occurrence of unemployment and overeducation. According to such theories (Andress, 1989; Heckman & Borjas, 1980; Heckman, 1981), unemployment experiences early in the career may have negative effects at a later stage. Persons who have experienced previous periods of unemployment, overeducation and the like may have an increased risk of similar problems later in the career as a result of a self-enforcing process.

Although there has been considerable research into overeducation, there has been little attention paid in the literature to the extent to which overeducation – or job–worker mismatches in general – varies by type of education. In this chapter,

mismatch by field of study and other characteristics of the study programme will be taken into account. Green and McIntosh (2002) find that graduates of business and management studies and social sciences have the highest rates of overqualification for their jobs. Heijke, Meng and Ris (2002) examine the role of “generic” or “vocational” competences in the transition to the labour market. They found, among other things, that those with high levels of vocational competences more often had a job within their own educational domain than those with good generic competencies and also that there was a negative wage effect of having work outside one’s own domain (being horizontally mismatched).

The human capital perspective is to some extent also compatible with overeducation, for example, when the choice of a low-level job is seen as a good investment opportunity (Hartog, 2000). The human capital theory (Becker, 1964; Mincer, 1974) asserts that workers are paid according to their human capital, but in the case of overeducation, workers will not be paid the full value of their potential marginal product (Green, McIntosh, & Vignoles, 1999, 2002). Empirical research has shown that overeducated workers receive lower wages than appropriately educated workers (Hartog, 2000) and also that human capital factors account for only part of the observed wage variance. For instance, it does not account for gender differences in wages found in many studies. In addition to human capital, social capital (Bourdieu, 1985; Coleman, 1988) may also have an influence on labour market opportunities. This refers to resources situated in social networks.

A job confers both pecuniary and non-pecuniary rewards in the labour market, and most graduates do not strive only for secure work or high wages. Mathios (1989) argues, for example, that when analysing wage differentials among highly educated persons, one should take into account the non-pecuniary factors of a job as well. The analysis of realisation of work orientations which will be undertaken in this chapter is one way to take non-pecuniary factors into account.

8.2 Labour Market Situation – Match or Mismatch

To investigate the labour market situation among the graduates, we have constructed a variable which we call “mismatch”. This variable is based on the respondent’s self-assessment of his/her job in relation to his/her education. Self-assessment is viewed as the best *available*¹ measure concerning the measurement of education–job mismatch (Hartog, 2000).²

¹A job analyst might do a better job, but self-assessment is the most economic method and it is probably as valid as job analyses because the content of jobs change faster than the available instruments for standard classifications of jobs.

²See Hartog (2000), Allen and van der Velden (2005) and van der Velden and van Smoorenburg (1997) for a discussion of methods concerning the measurement of skills and education–job (mis)match.

The graduates are grouped into five categories, ranked in ascending order of presumed severity of mismatch:³

1. *Employed with relevant work, that is, no mismatch.*
2. *Horizontally mismatched, that is, working in a job matching one's own level but not one's own field of education.*
3. *Vertically mismatched, that is, working in a job matching one's own field but not one's own level of education.*
4. *Both vertically and horizontally mismatched.*
5. *Unemployed.*

We will investigate the labour market situation at the time of the survey by educational level, and because of this, we will base our analysis on the educational level the graduates had achieved at the time of the survey. We use the label “first-level” for graduates who have completed a programme in higher education (equivalent to bachelors in some countries) *not providing direct access to a doctorate*. We use the term “second level” for graduates who have completed a programme that does *provide direct access to a doctorate*.

The number of observations in the analyses below refers to those who belong to the *labour force*, that is, those who are either employed or unemployed and seeking work. Some 94% of respondents belong to the labour force, varying from 91% in Finland; 92% in the Czech Republic, Austria and the UK; 93% in Estonia; 94% in France and Italy and 95% in Germany to 96% in Switzerland and Spain; 97% in the Netherlands and Norway and 98% in Belgium.

Of those who are in the labour force, 4% are unemployed (weighted average for 13 countries), 73% *hold relevant employment* and the rest are either vertically mismatched (9%), both vertically and horizontally mismatched (6%) or horizontally mismatched (8%) according to the definition above. These shares differ a lot by country and level of education, as can be seen below.

8.2.1 Labour Market Situation by Country, Education Level and Field of Study

Second-level graduates are somewhat more often mismatched than first-level graduates, but this applies only to vertical mismatch, which mainly involves lower-level tertiary jobs in the case of second-level graduates, but mostly jobs below tertiary level for first-level graduates. The share of unemployed is the same in both cases (see Table 8.1). Figures 8.1 and 8.2 show how this varies between countries. Those with relevant work are not included in the graphs, to facilitate comparison of the often small proportions in the other categories.

³See further definition in Appendix 1.

Table 8.1 Percentage mismatch, total sample, by education level

	Horizontally mismatched	Vertically mismatched	Both horizontally and vertically mismatched	Unemployed
First level	10	5	6	4
Second level	7	11	6	4

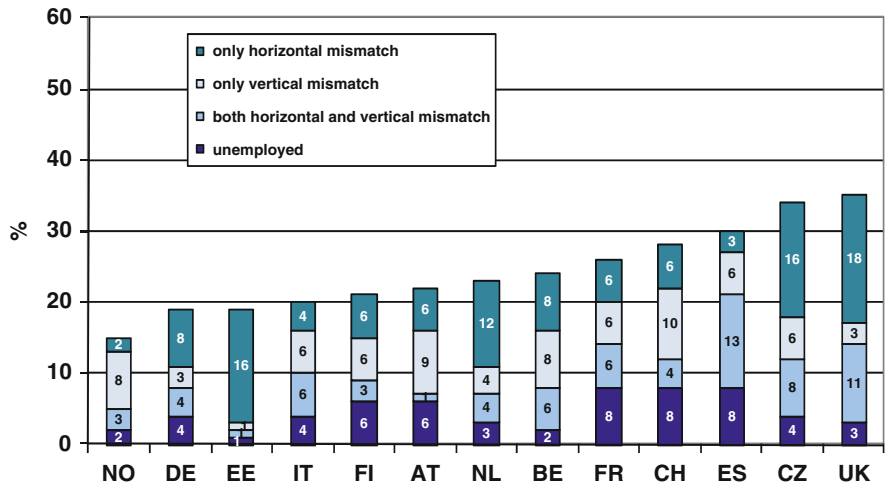


Fig. 8.1 Mismatch at the time of the survey, first-level graduates

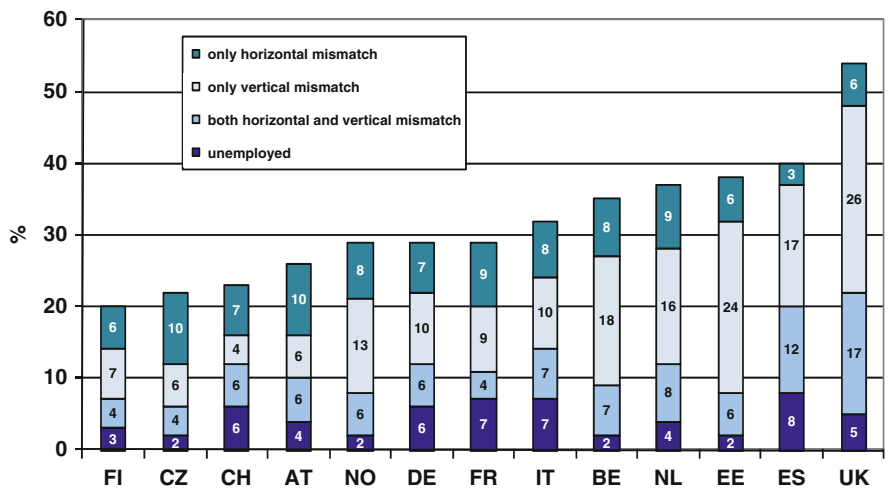


Fig. 8.2 Mismatch at the time of the survey, second-level graduates

Both among the first- and second-level graduates, British and Spanish graduates have higher shares that are mismatched than those in most of the other countries. Finnish and Norwegian graduates are among those with the lowest percentages who are mismatched at both levels, followed by German and Austrian graduates. In other countries, the proportion of mismatches varies between the two levels. Among first-level graduates, both Italian and Estonian graduates have low shares and are mismatched and Czech high shares, while the opposite is the case for second-level graduates.

The *type* of mismatch differs a lot by country. Czech and British first-level graduates are quite often horizontally mismatched, while Spanish graduates more often experience the most severe forms of mismatch, namely, being either unemployed or both horizontally and vertically mismatched. British and Czech first-level graduates also have high shares that are both vertically and horizontally mismatched, suggesting that their high shares of (only) horizontally mismatch may imply labour market problems.

We see that a relatively high proportion of second-level graduates experience vertical mismatch. As remarked above, most of these graduates are less severely vertically mismatched than their first-level peers, holding jobs for which some form of tertiary education is considered appropriate. Some of them have taken further education after graduating in the reference year (in most countries 1999/2000), only obtaining their second level later during the period 2001–2005 (2006). If these graduates are overeducated, this may be due to the fact that they still hold the same position that they held before completing their second-level programme. Table 8.2 shows whether late achievement of second-level degree has an impact of the mismatch variable.

Table 8.2 shows that graduates who received a second-level degree only after the reference year were indeed much more likely to be vertically mismatched than those who already obtained a second-level degree in the reference year. However, even those who received a second-level degree in the reference year were clearly more often vertically mismatched than those with only first-level qualifications. The

Table 8.2 Labour market situation among first- and second-level graduates. Total sample of 13 countries

	Horizontally mismatched	Vertically mismatched	Horizontally and vertically mismatched	Unemployed
First-level graduates	10	5	6	4
Second-level graduates				
Degree obtained after reference year ^a	4	29	9	6
Degree obtained in reference year ^a	8	9	6	4

^aThe year in which the higher-education degree referred to in the questionnaire was obtained (in most countries 1999/2000).

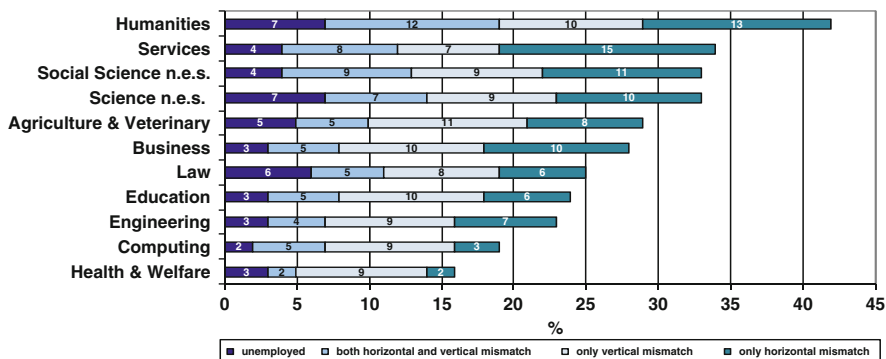


Fig. 8.3 Mismatch by field of study

returns to education for those who increased their qualification level after the reference year do not (yet) fully correspond to their investment in further education.⁴ We will later see whether this also applies to their wages.

Figure 8.3 shows how the labour market situation varies by field of study.⁵ The chart shows that Humanities and arts on the one hand and Health and welfare on the other constitute the extreme points in terms of overall mismatch. The shares of those who are only vertically mismatched differ very little by field of study, but the proportions of those who are unemployed, both horizontally and vertically mismatched, and especially only horizontally mismatched, vary strongly. The results in Fig. 8.3 also suggest that horizontal mismatches *may* represent something negative (a real mismatch), because those fields that have the highest share of those who are horizontally mismatched (Humanities, Services, Social Science and Science) also have highest shares of other forms of mismatch.

8.2.2 Which Factors Increase the Probability of a Good Match?

We have seen above the results of bivariate relations between education level and field of study and the mismatch variable, based on weighted averages. There are many individual variables that may be important for the chance of experiencing one or more forms of mismatch. In this section, we will explore the effects of such variables, controlling for country differences. This will be done using multinomial logistic regression models, the results of which have been converted into estimated probabilities and presented in graphs. The dependent variable is the mismatch variable described above, with reference category being those holding relevant work, against which the change in odds of each of the four forms of mismatch related to

⁴The proportion of vertical mismatch among this group does not depend on whether the degree was obtained shortly after the reference year or later, around the time of the survey.

⁵Based on a mixture of ISCED broad and narrow fields of study.

various predictors has been estimated. The predictors include demographic variables, educational background variables (field of study, level, grades, vocational study, prestigious study programme, further education) and variables related to the graduates' working career, both during education and after graduation, as well as parents' education and indicators of social network. It is important to note that all estimated probabilities have been controlled for the effects of all other variables. The full results and method used for calculating estimated probabilities are available on request from the authors.

Figure 8.4 shows the effect of study-related work experience during study, having graduated from a prestigious or a vocationally oriented study programme, respectively.

We see that all the three mentioned factors increase the probability of holding relevant work. Although the effects on unemployment, horizontal mismatch, vertical mismatch and both vertical and horizontal mismatch are individually small, they all go in the same direction, so that the cumulative effect on the probability of holding relevant work is quite strong. Study-related work experience reduces all kinds of mismatch, but especially the risk of being both horizontally and vertically mismatched. Graduating from an academically prestigious study programme reduces the risk of being vertically mismatched or both vertically and horizontally mismatched, whereas a vocationally oriented study mainly reduces the risk of being horizontally mismatched or both horizontally and vertically mismatched. The latter result is a confirmation of the results of Heijke et al. (2002), mentioned in the introduction. Below we will look at effects of other variables that might affect the labour market situation, starting in Fig. 8.5 with the effect of gender.

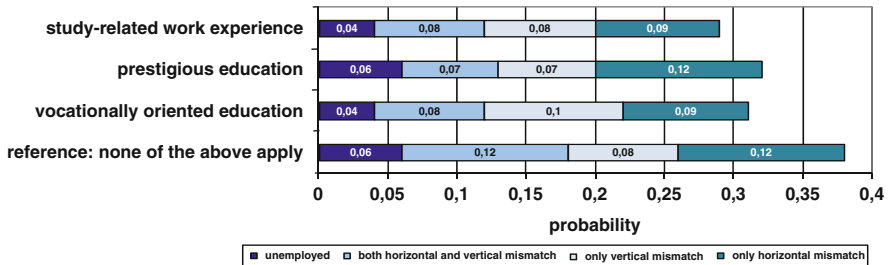


Fig. 8.4 Mismatch by characteristics of study programme and relevant work experience before graduating, estimated probabilities

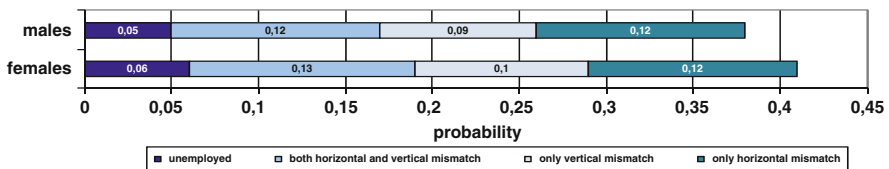


Fig. 8.5 Mismatch by gender, estimated probabilities

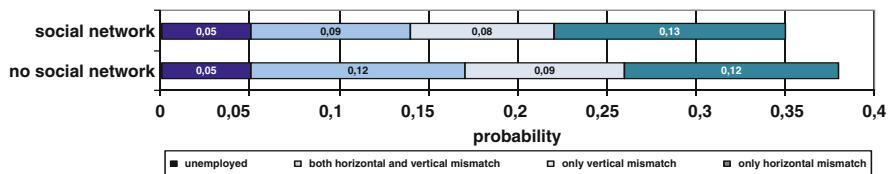


Fig. 8.6 Mismatch by social network, estimated probabilities

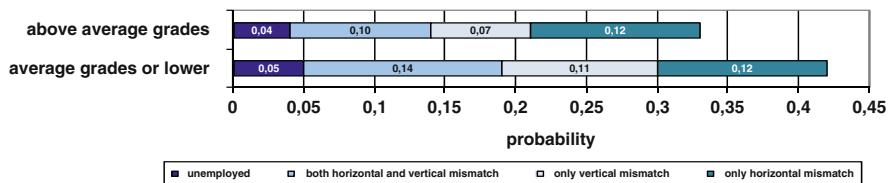


Fig. 8.7 Mismatch by grades, estimated probabilities

Figure 8.5 shows that the difference between male and female graduates is very small, although it is statistically significant. Females have somewhat higher risk of being unemployed or overeducated than males (all other things kept constant). Figure 8.6 shows the effect of a good social network on mismatch.

Having a useful social network also has only a small impact and mainly reduces the risk of being both horizontally and vertically mismatched. Figure 8.7 shows the effect of having above-average grades.

Figure 8.7 shows that getting good grades has a strong effect on the chance of mismatch. Those who report having above-average grades clearly have less risk of being vertically mismatched or both horizontally and vertically mismatched than those who do not report this.

We now turn to the effects of work and unemployment experience since graduation.⁶ We should note that in these models we have controlled for whether graduates have followed further education, since this could potentially have a confounding effect on the results. The results of these analyses, shown in Figs. 8.8 and 8.9, therefore, show the net effect of work experience and unemployment experience. The net effect of employment experience may be seen as an effect of acquired human and social capital. Any residual effect of unemployment experience after controlling for employment experience can be interpreted as an indication of state dependence (see Section 8.1).

Although there is an effect both of the amount of work experience and of the duration and number of unemployment spells, the latter seem to have the greatest effect. Figure 8.8 shows that the risk of being unemployed is only 2% among those

⁶Based on an extended model including controls for number of months with unemployment experience and the number of times unemployed. These variables are not included in the other models.

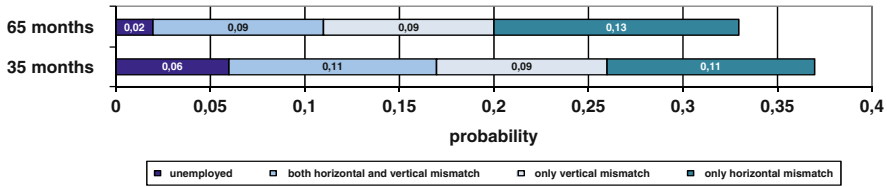


Fig. 8.8 Mismatch at the time of the survey by work experience after graduation, estimated probabilities

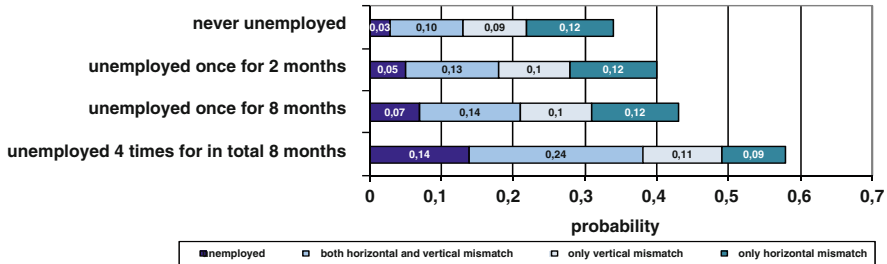


Fig. 8.9 Mismatch at the time of the survey by unemployment experience after graduation, estimated probabilities

with 65 months of work experience, compared to 6% among those with 35 months of work experience. Work experience has little effect on the other forms of mismatch. The strong effect of work experience on the risk of unemployment is almost trivial, since those with more work experience can be expected to have a lower chance of being unemployed at any time since graduation, including the time of the survey.

Similarly, unemployment experience also has a strong effect on the chance of being unemployed at the time of the survey (see Fig. 8.9). Compared to those with no unemployment spells, those with only one unemployment spell with a duration of two months have 2% points higher risk of being unemployed at the time of the survey (5% versus 3%). This chance rises with both the duration of unemployment and the number of unemployment spells. Work and unemployment experience not only affect the chance of being unemployed at the time of the survey but also the risk of being both vertically and horizontally mismatched. Especially the number of unemployment spells appears to have a strong effect on this risk. There is little or no effect of work and unemployment experience on the risk of horizontal or vertical mismatch separately.

These results indicate that problems in the initial phase of transition from education to work may result in more long-lasting problems in getting relevant and stable work for a substantial proportion of graduates due to reduced opportunities for human capital accumulation and/or to so-called “state dependence” (Heckman & Borjas, 1980; Pedersen & Westergaard-Nielsen, 1993), as mentioned in Section 8.1. The controls for work experience and unemployment spells also contribute to explaining the country differences depicted in Figs. 8.1 and 8.2. After including

these controls, the effects of the country dummy variables change. For instance, after these controls, Italian and Spanish graduates have a rather low risk of being unemployed, which implies that a considerable part of the country differences shown in Figs. 8.1 and 8.2 is caused by differences in the initial transition phase and early career experiences and by extension by country differences in the general labour market situation.

For brevity's sake, we do not present graphs for all the results of the multinomial regression estimations, but some other results are worth mentioning briefly. Respondents who have (at least one) parent with a higher-education degree have a (somewhat) decreased risk of being vertically mismatched and being unemployed, but the probability of being (only) horizontally mismatched is somewhat increased if one or both parents have completed higher education. This latter result may indicate a greater horizontal flexibility of graduates from higher social strata, possibly with the direct assistance of their relative well-connected parents. Even after controlling for relevant characteristics, graduates who obtained a second-level degree after the reference year have an increased risk of vertical mismatch compared to those who obtained a second-level degree in the reference year and first-level graduates. Similarly, those who obtained a PhD/specialist degree after the reference year have a large risk of being vertically mismatched and also an increased risk of being unemployed. However, those who had obtained a higher-level degree after the reference year are less likely to be horizontally mismatched, suggesting that further education tightens graduates' bonds to their field of study.

8.3 Wages

Wages are the pecuniary reward of being employed. When comparing wages across countries, it is important to take into account that it is not only the wage level that differs but also the cost of living. It could be meaningless to compare wages across countries without taking these differences into account. In order to do cross-country comparisons, we have converted the wages to purchasing power parity (PPP) to correct for the differences in costs of living. One has to keep in mind that this type of adjustment is far from perfect because of the difficulty in finding "baskets" of goods and services that are strictly comparable across countries. Nonetheless, using even an imperfect PPP correction provides a much better basis for comparing wages across countries than no correction at all.

Figure 8.10 shows the hourly wages converted to PPP and Euro for each country. The average hourly wage across all countries is 14 Euros, but the wage level varies a lot between countries.

Broadly speaking, the countries can be divided into three groups, those with the highest wages, the middle group and those with the lowest wages. The figure shows that graduates from Switzerland, Germany and Norway have the highest wages. It is not so surprising that graduates from Switzerland and Norway are on the top, but it is somewhat surprising that wages in Germany are so high. As expected, graduates

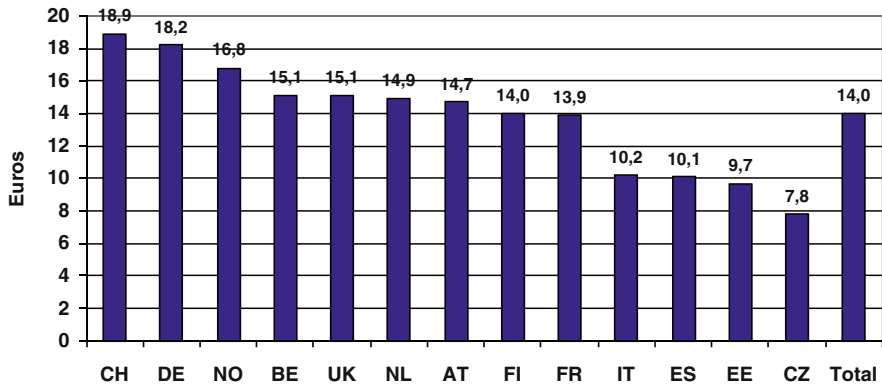


Fig. 8.10 Hourly wages converted to PPP and Euro

from Italy, Spain, Estonia and the Czech Republic have the lowest wages. Graduates from the Czech Republic earn less than half of what graduates from Switzerland do and might be considered as “losers” on this dimension. The middle group consists of graduates from Belgium, the UK, the Netherlands, Austria, Finland and France.

We are interested in factors that have a positive or negative effect on wages. To identify such factors, we have performed regression analyses of the logarithm of hourly wage⁷ on a set of explanatory variables.⁸ Our main focus is on to what extent gender, human capital–related factors (educational level, field of study, whether the study programme is academically prestigious, grades), mismatch in the labour market and type of job contract have an impact on the graduates’ wages. We have performed analyses where we look at all countries together as well as separate analyses for each country. The results of the analysis are summed up in Appendix 2, which shows the percentage change in wages for each of the variables when the other variables are held constant, and the main results are also illustrated in graphs below.

The wage differences between countries remain large after controlling for differences between the country samples with regard to human capital–related variables and other factors that might cause wage differences. This is shown in Fig. 8.11, which shows the controlled and estimated differences between the countries, with the Dutch sample serving as the reference category. The difference between the

⁷The respondents gave information on gross monthly wages in their main job. The monthly wage has been converted to hourly wages by correcting for contract working hours.

⁸We have estimated two models. In model 1, we have included gender, age, relative grades, level of education, field of study, vocationally oriented study, prestigious study programme, relevant work experience before and after graduation, working hour, parents with higher education and position in students or other voluntary organisations is used in model 1. In model 2, we have in addition to the variables already mentioned mismatch variables and a variable indicating whether the job is permanent or not. The regression coefficients and the method for converting the coefficients into percentage wage increments are available on request from the authors.

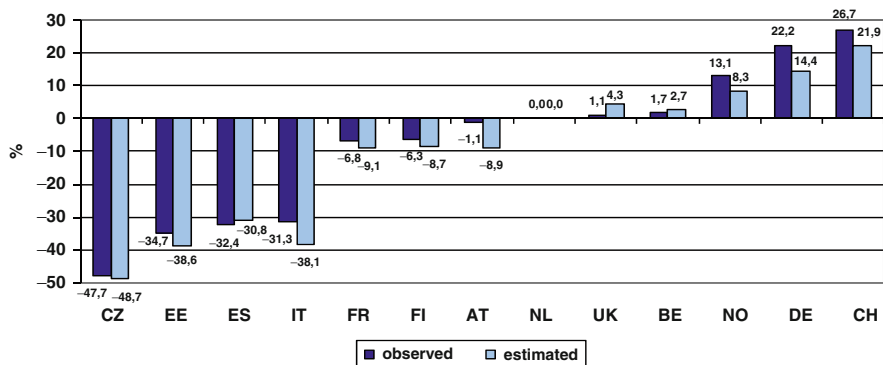


Fig. 8.11 Wage differences between countries, estimated and observed

Netherlands and the high-income countries Switzerland, Germany and Norway is somewhat reduced after controlling for the independent variables; however, the difference is somewhat increased with regard to several other countries (especially Austria, Italy and Estonia).

8.3.1 Gender and Wages

There is a huge literature documenting lower wages among females compared to males. Parts of the wage differentials have been explained by the fact that males and females choose different fields of study, where females choose education that qualifies for jobs with lower wages than do men (Rumberger & Thomas, 1993). In most countries, male-dominated fields of study generally have higher wages than female-dominated fields (Polachek, 1978; Rumberger & Thomas, 1993). Also among individuals with identical education, males and females tend to have different careers. Women tend to be channelled into jobs with lower wages compared to those held by men (Wood, Corcoran, & Courant, 1993). Men have a greater tendency to work in jobs associated with high wages and good career prospects, whereas women tend to work more in jobs that make it easy to combine family obligations and work. In this section, we will examine both whether or not we find gender differences in wages (after controlling for human capital factors) and whether or not there are gender differences in work orientations and the realisation of these orientations.

The general finding that women have lower wages than men is confirmed for the graduates who participated in the REFLEX survey (see Fig. 8.12). In terms of uncorrected (“observed”) wages, females earn on average 15% less than males. Although the gender gap varies across countries, females receive lower wages than males in all countries. The differences are smallest in Switzerland and Belgium (5 and 6%, respectively) and greatest in Estonia and France (18 and 20%, respectively). It is important to keep in mind that the figures mentioned refer to the actual observed difference and do not take into account that males and females might have

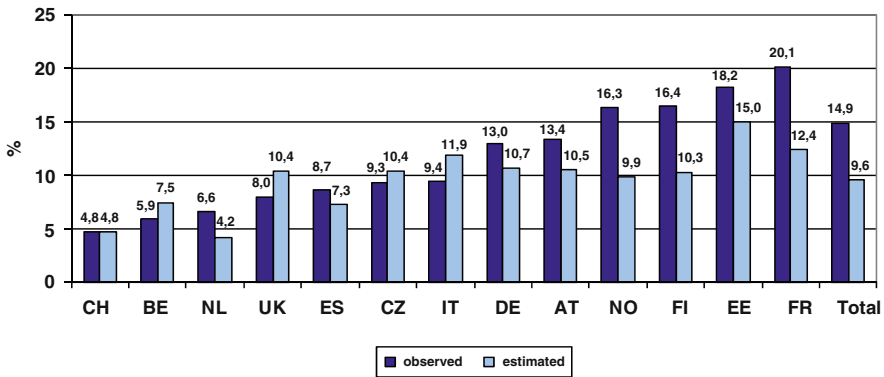


Fig. 8.12 Wage differences between males and females by country

different level of education or different field of study. Females have shorter education than males (are more likely to have a first-level as opposed to a second-level degree), are concentrated in fields of study that pay less and may have less work experience. This might explain some of the wage differences between males and females. Although controlling for factors that might influence the wages reduces the wage gap for females considerably, females still receive significantly lower wages than males (“estimated wages”), about 10% across all countries. Significantly lower wages among females still apply in all countries. The most striking result of controlling for relevant other variables is that the country differences in the gender gap are reduced dramatically. In countries with a small observed gender gap, controlling for other variables makes little differences. In some of these countries (Belgium, the UK, the Czech Republic and Italy), the estimated gender gap is even somewhat higher than the observed gender gap. In contrast, controlling for other variables makes a big difference in most of the countries where the observed gender gap was large. The Nordic countries, which often are considered as leading countries when it comes to equal opportunity policy, have an estimated gender wage gap around the average for all countries. The highest estimated gender gap is found in Estonia. Although the gender gap in earnings varies between countries, we can conclude that women in general might be considered as wage “losers” and men as wage “winners”.

8.3.2 Education and Wages

Wages differ both between different levels of education and between different fields of study. Previous research has found that there is a tendency for professionally oriented fields of study such as Business and Engineering to have the highest wages, whereas those in “softer” fields of study such as Humanities have lower earnings (Finnie & Frenette, 2003). This will also be examined below.

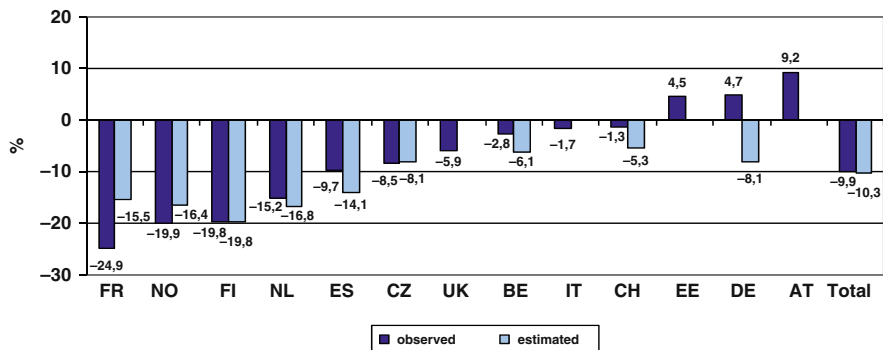


Fig. 8.13 Wage differentials between first- and second-level degree graduates

Another prediction of the human capital theory is that a higher level of education is associated with higher wages. We will now examine to what extent this applies to our graduates as well. Figure 8.13 shows the average difference in wages between first- and second-level degree graduates as a percentage of the wages of second-level degree graduates.⁹ Again, the column “observed” is based on the uncontrolled average wages, while the column “estimated” is based on the regression analyses.

If we look at the column “observed”, we see, as expected, that the wage level is highest among second-level graduates both in general across all countries as well as in most of countries separately. On average, graduates with a first-level degree have 10% lower wages than those with a second-level degree, but the differences vary a lot across countries. The largest differences between first- and second-level degree graduates are found in France (25%), Norway and Finland (both 20%). Surprisingly, in Germany, Austria and Estonia, graduates with a first-level degree have the highest wages. In Italy, Switzerland and Belgium, the wages among second-level degree graduates are only slightly higher than among first-level degree graduates. After controlling for other variables – including whether or not one has gone on to complete a higher-level degree after 2000 – the country differences become somewhat smaller, but the overall differential remains about the same. The initially large differential in France and Norway is considerably reduced, while the apparent anomaly of higher wages for first-level graduates in Estonia, Germany and Austria disappears (in the case of Germany is even reversed) after controlling for other variables.

Having undertaken further education increases a person’s human capital, and we are interested in the degree to which this is reflected in wages. The regression analyses indicate that having undertaken further education results in higher wages. Graduates who gained a first-level degree in the reference year and have

⁹The educational level refers to the level in 1999/2000. We have not taken into account whether the graduate had finished a second-level or PhD/specialist degree during the years from 2000 to the time of the survey in the column “observed”. However, in the column “estimated”, information on further education is used as explanatory variables.

since completed a second-level degree show an average wage gain of 12% after controlling for relevant other characteristics, including whether they are experiencing a labour market mismatch. The resulting wage is almost in line with those who gained a second-level degree in the reference year. If we do not control for labour market mismatch, the wage gain is smaller (8%), and those who gained their second-level degree after the reference year earn on average 2% less than those with a second-level degree from the reference year. The reason for this difference is presumably that those who raised their qualification level since the reference year are more often newcomers to the labour market and are therefore more exposed to mismatch. The wage gain associated with completing a second-level degree since the reference year is seen in most countries after controlling for mismatch. The exceptions are Italy, Austria, United Kingdom and Estonia. Those who have completed a PhD degree since initial graduation also show a wage gain of 9% after controlling for labour market mismatch. This effect is significant in Italy, Austria, Finland, the Czech Republic and Estonia, varying between 9 and 12%. If we do not control for labour market mismatch, there is in general no wage gain associated with a PhD. The reason is again that those who have completed a PhD are (even more than those with a “new” second-level degree) relative newcomers to the labour market.

As mentioned earlier, wages differ between different fields of study. Previous research has shown that professionally oriented fields of study such as Business and Engineering tend to yield high wages, whereas “softer” fields of study such as Humanities yield lower earnings (Finnie & Frenette, 2003). Figure 8.14 shows the wages by field of study, both before (“observed”) and after (“estimated”) controlling for relevant characteristics.

If we look at the column “observed” in Fig. 8.14, we see that, in general, graduates in Computing, Engineering and Science have the highest average wages compared to graduates in Social science, while graduates in Agriculture, Education and Humanities have the lowest. These results are mainly in line with results from

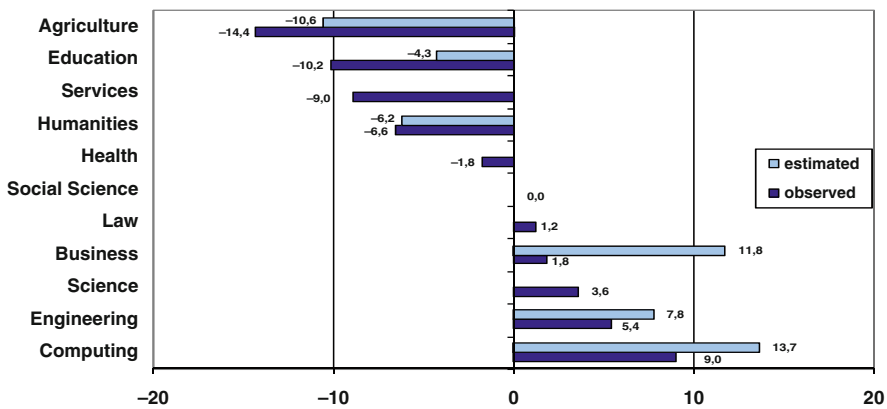


Fig. 8.14 Wage differentials between fields of study (Only significant results shown for estimated wages)

previous research and indicate that graduates in Computing and Engineering are wage winners and graduates in Agriculture and Education wage losers. However, the results are not universal but vary across countries.

The column “estimated” shows that the field of study a person graduates from has impact on his/her wage even after controlling for other factors. The results resemble the differences in observed wages, but there are some notable changes. To some extent, the changes are due to a shift in the relative position of the reference category Social Science: Most fields have improved their wage position vis-à-vis this category. Business and Computing graduates now emerge as clear wage winners, together with Computing and Engineering graduates, and the main losers seem to be graduates in Agriculture and Humanities. Again, there are some differences between countries.

The regression analyses also indicate that those graduating from a prestigious study programme in general have higher wages than those who are not graduating from such programmes (5%). However, this is not the case in Austria, Germany and the Netherlands, where there is no significant effect. The wage gain for the other countries varies between 2 and 12% (the Czech Republic and Estonia, respectively).

8.3.3 Mismatch and Wages

One important objective of this chapter is to study whether those experiencing labour market mismatch are also losers on other outcome indicators such as wages. Figure 8.15 shows the wage differentials between graduates experiencing labour market mismatch and graduates with relevant work.

Those graduates who are *both* horizontally and vertically mismatched seem to be really losers when we look at the uncontrolled average across all countries. They have on average wages that are 24% lower than those in relevant work. After controlling for the other factors that have impact of wages, the wage gap is reduced to 11%, which is still considerable and about the same as for those who are only vertically mismatched. Both groups can therefore be regarded as losers in this respect. Interestingly, controlling for other variables makes little difference for those who are only vertically or horizontally mismatched. The differential is increased slightly in the case of vertical mismatches and even switches from a small negative to a small positive differential in the case of horizontal mismatches. Consequently, the latter group cannot be regarded as losers in this respect.

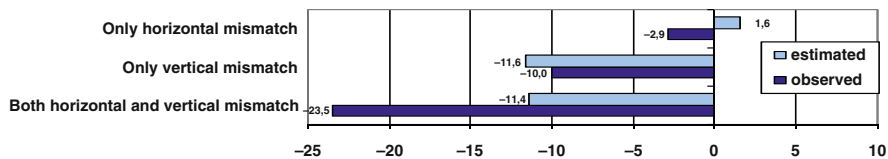


Fig. 8.15 Wage differentials between mismatched graduates and graduates in relevant work

The general pattern of effects is replicated in most countries, with some small differences. The wages for those who are both horizontally and vertically mismatched are not significantly lower than those with relevant work in Italy, the UK, the Czech Republic, Belgium and Estonia where there is no significant effect. The wage loss for the rest of the countries varies between 8 (Finland) and 19% (Norway). The negative effect on wages of being vertically mismatched applies to all countries except for Italy and Estonia and indicates that vertically mismatched persons in most countries are losers. The wage loss varies between 4 (Switzerland) and 17 (Finland). In some countries like Finland, Norway, the Czech Republic and Switzerland, the positive estimated effect of being only horizontally mismatched was substantial, these graduates earning between 4 and 12% more than those not experiencing any kind of mismatch. In contrast, horizontally mismatched graduates earned 8% less than relevantly employed graduates in Spain.

Another simple way to study the relation between mismatch and wages is to see to what extent the wage distribution depends on the status of the mismatch variable. We have distributed the graduates in each country on three different wage groups, depending on whether they were among the bottom 25%, the middle 50% or the top 25%. Table 8.3 shows the relation between mismatch and wage group.

The table shows that half of those who are both horizontally and vertically mismatched have wages among the bottom 25%, whereas a little over one-third of those vertically mismatched fall in the same group. These groups are also less frequently observed among the top 25%. This indicates that the groups are wage losers. Those horizontally mismatched do not deviate much from those who are not mismatched, and the results support the conclusion that the horizontally mismatched should not be considered as wage losers.

8.3.4 Temporary Jobs and Wages

Temporary jobs are often considered as bad jobs because they tend to pay less and because workers in temporary jobs tend to be less satisfied with their job than workers in permanent jobs (OECD, 2002). However, among persons with higher education, prestigious jobs in areas such as scientific research are based on temporary contracts and pay rather modest wages in most countries, indicating that temporary jobs might be quite heterogeneous and not necessarily bad. Figure 8.16

Table 8.3 Mismatch and wages (bottom 25%, middle 50% and top 25%)

	Bottom 25%	Middle 50%	Top 25%
Horizontal mismatch	21.3	53.9	25.0
Vertical mismatch	35.2	47.2	17.6
Horizontal and vertical mismatch	49.8	41.2	9.0
No mismatch	22.7	50.8	26.5
Total	25.4	50.1	24.4

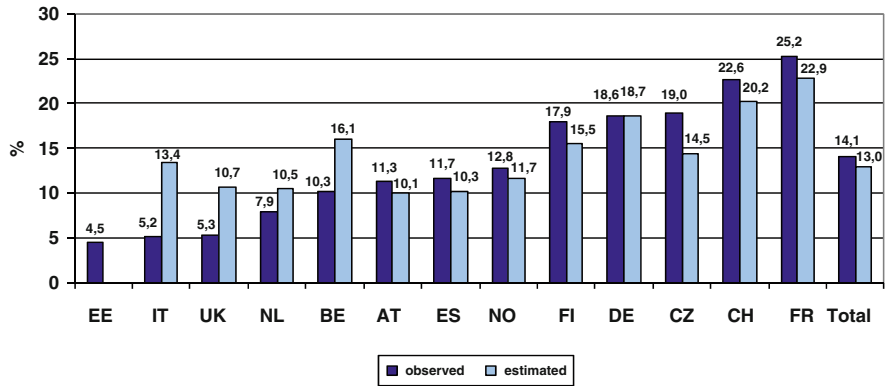


Fig. 8.16 Wage differentials between persons in temporary and permanent jobs, percentage

shows to what extent there are wage differentials between those in temporary and permanent job in our sample. The graph shows that both the uncontrolled (“observed”) and controlled (“estimated”) wage is higher among those in permanent jobs compared to those in temporary jobs. This is the case in all countries, but the size of the difference differs between countries. The uncontrolled average for all countries shows that those in permanent jobs earn 14% more than those in temporary jobs. The average wage gap is almost unaltered after controlling for other factors that might affect wages, indicating that those in temporary jobs might be considered as wage losers. As Fig. 8.16 shows, the size of the wage differential between those in permanent and temporary jobs varies a lot between countries, with no significant wage differences in Estonia to 23% in France. The differences between countries are somewhat reduced after controlling for other variables.

8.3.5 Other Factors That Have Impact on Wages

Several other factors were included in the wage analyses which are not represented in a graph. Above-average grades increase wages by 3%, and having graduated from an academically prestigious study programme increases wages by a little over 5%. Having at least one parent with higher-education degree increases wages by about 2%. These are net effects for the total sample after controlling for all other variables, and the effects vary across countries.

8.4 Work Orientations

There are good reasons to expect that graduates’ satisfaction with their work is determined by a range of different factors. Most of the graduates who participated in the REFLEX survey live in a part of the world that, according to Inglehart, Basáñes,

Díez-Medrano, Halman and Luijckx (2004), is characterised as having a predominantly postmodern character, where the cultural values of the population are more strongly characterised by “self expression values” than by “survival values”. Most of the REFLEX countries are advanced industrial societies with high and growing material wealth, “which reduces the basic existential constraints on human choices” (Inglehart et al., 2004:8). Further, according to Inglehart et al. (ibid.), “[T]he rise of a knowledge-based economy makes people intellectually independent, widening the areas in which people have to rely on their own choices.”

Nearly all the countries in our sample belong to the part of the world where “self-expression values” *and* secular-rational values (the latter as opposed to traditional values) are highly important. However, there are also differences between our countries that may be of interest. All participating countries except Estonia and the Czech Republic can be characterised as relatively high-income countries. Norway, Germany, Estonia and the Czech Republic can be characterised as the countries that are most marked by secular-rational values, while Spain and Italy are the least secularised (Inglehart et al., 2004). The Netherlands, Norway, Austria, Switzerland and the UK are the countries that are most characterised by self-expression values and Estonia the least. If we consider self-expression values and secular-rational values together, Norway and the Netherlands are the two countries that have the highest combined scores and Spain and Italy (especially Spain) the lowest. This may be due to differences in cultural heritage and also to some degree due to differences in countries’ economic development and situation during the last century. The differences between the high-income countries are, however, not large, because, as Inglehart et al., 2004, p. 13) say, “[A]ll high income countries rank relatively high on both dimensions” and “economic development seems to push societies in a predictable common direction, regardless of their cultural heritage”.

Another, related, way of studying work values is by contrasting “extrinsic” and “intrinsic” work values (Wang, 1996, in Farag & Allen, 2003). Extrinsic work orientations are related to survival (pecuniary returns, career prospects, cf., survival values mentioned above), while intrinsic values are things that employees seek from their work activities to satisfy their “higher-order needs” (Maslow, 1954) such as autonomy, interesting work, use of skills and knowledge, variety and social needs (Farag & Allen, 2003), compare the “self-expression values” mentioned above.

Later in this chapter we will see whether such a dichotomisation is meaningful when we examine the response to questions of work values in the REFLEX survey, and we will see to what extent these types of values differ between our country samples and between females and males. We will also investigate the extent to which work orientations are realised and look at whether this influences the graduates’ job satisfaction.

8.4.1 Factor Analyses of Work Values

The REFLEX questionnaire contains ten questions pertaining to work orientations (values), with answers on a five-point scale indicating the extent to which the

Table 8.4 Work values, results of factor analysis

Values	Career/status (Factor 1)	Professional/innovative (Factor 2)	Social/family (Factor 3)
Work autonomy	-0,018	0,565	0,087
Job security	0,384	-0,123	0,532
Learn new things	0,177	0,754	0,088
High earnings	0,820	0,025	0,067
New challenges	0,310	0,735	-0,132
Good career prospects	0,743	0,319	-0,061
Leisure activities	0,130	0,010	0,691
Social status	0,609	0,089	0,238
Useful for society	-0,121	0,441	0,515
Combine work with family tasks	0,018	0,092	0,758

Note: The Czech sample is not included in the analyses, because of lack of information on some of the items. Only graduates who gave valid responses to all ten items have been included.

respondent attached importance to each items. Respondents were also asked to indicate to what extent these aspects apply to their current work. The first set of questions on values has been clustered into a smaller set of items using the method of factor analyses. Table 8.4 shows the results of the factor analysis.

The factor analysis of work values clearly distinguishes three types of work orientations, namely: Factor 1: career and status orientation (19% of item variance¹⁰), Factor 2: professional/innovative (flexible) orientation (17.5%) and Factor 3: Social/family orientation (17%). The three factors thus account for 53.6% of the total variance in the ten items.

This clustering of values fits quite well with the characterisations of values based on Inglehart et al. (2004) and Wang (1996) mentioned above. Factor 2, “Innovative/professional”, contains the values “work autonomy”, “new challenges” and “opportunity to learn new things” and thus covers the “self-expression values” of Inglehart and the “intrinsic” values of Wang. Factor 1, “Career/status”, is comparable to Inglehart’s “survival values” and Wang’s “extrinsic” values. Factor 3 can be viewed as a combination of the two dimensions, whereby “job security” can be seen as an extrinsic/survival value, and “combining work and family tasks” and “Leisure activities” as extrinsic when viewed from the point of view of work and career, but possibly more intrinsic when viewed from the point of view of life values in general.¹¹ “Useful for society” should probably be seen as an intrinsic (self-expression) value spanning both work and life in general.

Figure 8.17 shows how the factor scores differ between countries. For clarity of presentation, the scores have been converted such that the value 0 represents the

¹⁰Percentage of variance based on rotation sums of squared loadings.

¹¹Farag and Allen (2003) take the former view, because these values are not related to work as such. However, these kinds of values may *also* be interpreted as “post-modern self-expression” (and as such intrinsic values) to satisfy “higher-order” psychological needs.

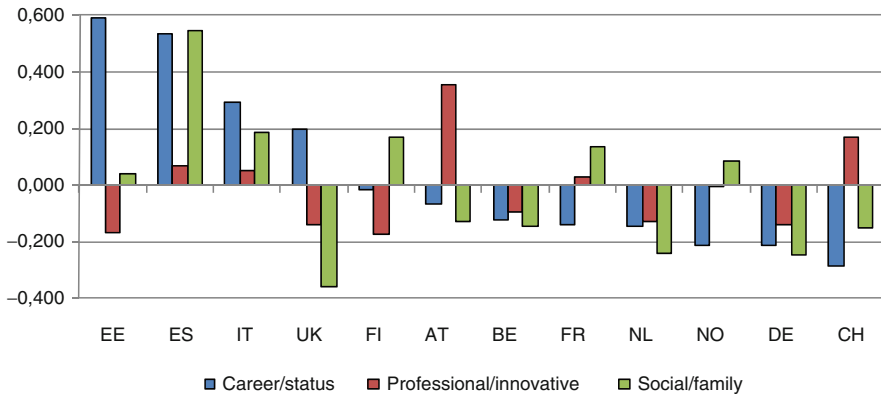


Fig. 8.17 Mean factor scores by country, career/status, professional/innovative and social/family-oriented values

average score for the total sample of 12 countries for each of the three dimensions. Those with positive values score above the average on the dimension in question, those with negative values score below the average.

The results show that Estonian and Spanish graduates score far above average on Factor 1 (Career/status orientation). Italian graduates also score above average on this factor. This fits well with the position assigned to Spain, Estonia and Italy in Inglehart et al.'s (2004) cultural map mentioned in the introduction. It also fits well with the results in Fig. 8.10, which showed that these three countries were among those with the lowest wages. Interestingly, the UK also scores above average on this factor. Switzerland and Germany, the two countries with the highest wages, score below the average on the career factor.

When it comes to Factor 2 (Professional/innovative values), the country differences are much smaller; such orientations seem to be common values that are shared by the vast majority of respondents. Only Austrian and Swiss graduates score clearly above average on this value. These results do not show any clear relation with Inglehart et al.'s cultural map.

In terms of social/family values, the clearest difference in Fig. 8.17 is that between Spanish graduates on one hand and British graduates on the other, the Spanish sample scoring especially high and the British rather low. In general, there seems to be a rough (but far from perfect) correspondence in the position of the countries according to Factor 1 and Factor 3. This might lend weight to the notion that both dimensions represent predominantly “extrinsic” (survival) values.

There are gender differences in addition to country differences in work orientations. This is shown in Figs. 8.18, 8.19 and 8.20. Figure 8.18 shows the relative level of career/status orientations for men and women.

In general, the country differences apply both to males and females. In most countries, males score higher than females. It is conceivable that the lower weight put on career and earnings by women may partly explain the gender wage differentials seen in Fig. 8.12. However, it is noticeable that the strongest differences

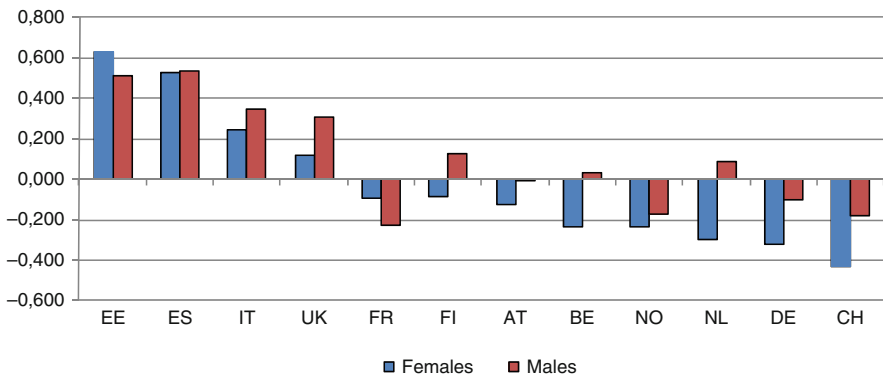


Fig. 8.18 Career/status orientations. Mean factor scores, males and females by country

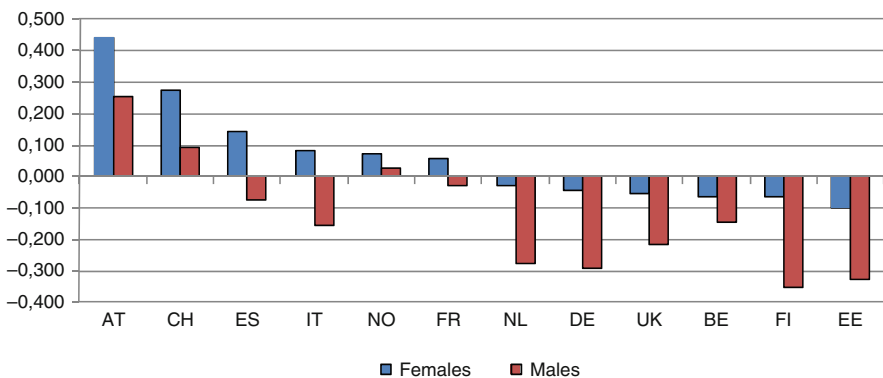


Fig. 8.19 Professional/innovative orientations. Mean factor scores, males and females by country

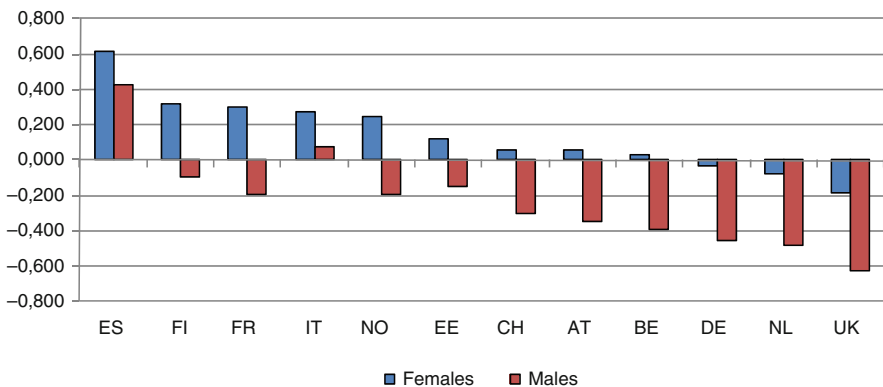


Fig. 8.20 Social/family orientations. Mean factor scores, males and females by country

between women and men can mainly be observed in countries where the gender wage differential is low, especially Switzerland, the Netherlands and Germany. Conversely, France and Estonia, which show the strongest gender wage differentials, are the only countries where males score lower than females. This pattern cannot be explained in terms of an effect of career orientation on earnings and is, in fact, more consistent with an effect of earnings differences on career orientations. It may be that, although women are generally less focused on career success than men, this becomes more of an issue for them when they experience a stronger wage disadvantage vis-à-vis men. We will return to this issue later in this chapter.

When it comes to Factor 2, Professional/innovative orientations, the pattern is again similar for men and women, but women now score considerably higher in all countries than men (see Fig. 8.19). The gender difference is largest in Finland, the UK, the Netherlands and Estonia. The results indicate that males are more driven by extrinsic values than females and that females are driven more by intrinsic values than males.

The results for Factor 3 (Social/family orientations) show large gender differences, with females scoring much higher than males in most countries (see Fig. 8.20). Despite this, the pattern of country differences is quite similar for males and females.

8.4.2 Three Types of “Winners” and “Losers”

The existence of distinct kinds of work values suggests that there may be three types of winners or losers, depending on whether or not the values are realised in the graduates’ current job. We investigate this by examining the graduates’ responses to the items that refer to the extent to which these aspects actually apply to their work. It is important to note that simply realising or not realising a given work value does not necessarily make one a winner or a loser. Only graduates who have indicated that they find the cluster of items important or very important¹² and that the items in question have either been realised to a fairly high extent (winners) or hardly or not at all (losers). The precise definition of winners and losers is outlined in Appendix 3. Table 8.5 shows the *total* distribution of the three types of winners and losers.

Almost three quarters of the sample are winners on at least one of the three dimensions. Only 7% are winners on all three dimensions. Most of the “winners” are winners on the dimension “professional/innovative” (new challenges, learn new things, work autonomy), while the career dimension (high earnings, good career prospects, social status) has the lowest share (21.5%).

¹²Most of the respondents found at least one of the items connected to one of these three dimensions important or very important. Of those who had answered all the questions concerning work values, 82% found the career values important (at least one of the career items), 97% found the social values dimension (at least one of the items) important and 98% found the professional/innovative dimension important. Only 0.2% did not find any of the dimensions important, and 79% found all the three dimensions important.

Table 8.5 Types of winners and losers, percentage of total response^a

Winner <i>Career/status</i>	21.5
Winner <i>Social/family</i>	29.5
Winner <i>Professional/innovative</i>	61.9
Winner on all <i>three</i> dimensions	7.2
Winner on <i>two</i> of the dimensions	34.6
Winner on <i>one</i> dimension	31.9
Loser on all <i>three</i> dimensions	0.4
Loser on <i>two</i> dimensions	3.3
Loser on <i>one</i> dimension	11.9

^aOnly observations with a valid response to all ten items on both sets of work value questions are included. The results are based on a weight that gives all the country samples the same size (that is 2,000 graduates) and N is based on this weight.

There are few losers. Only 16% can be classed as a loser on at least one dimension, and most of these are only a loser on one dimension. Less than a half percent can be categorised losers on all three dimensions. Those who are neither losers nor winners are categorised as “neutral”, and large proportions of graduates are in this group. Especially on the career dimension and the social values dimension, there are large proportions of “neutrals”.

8.4.3 Realisation of Work Orientations by Gender

The gender distribution of the three groups differs somewhat. There is a clear predominance of females among the winners in the social-values group, and a slight predominance of males among the winners on the career dimension, as shown in Fig. 8.21.¹³ There is no gender difference in the realisation of professional/innovative orientations.

In Section 8.4.1, the possibility was mentioned that gender wage differences may be partly due to a difference in work orientations. We saw in Fig. 8.18 that women are usually less career-oriented than men. To establish whether gender wage differences are partly due to a difference in work orientations, an additional wage analysis has been conducted in which the effect on wages of the subjective measure “finding high earnings important or very important” has been estimated for men and for women. The result is shown in the Fig. 8.22.

The graph indicates that those who find high wages important *do* obtain higher wages but that the effect is much stronger for men than for women. In fact, women who find high earnings important earn just 1% more than men who do not find high earnings important. This result does not seem to be consistent with the idea that

¹³These gender differences are statistically significant after control for relevant background variables (detailed results available on request from the authors), and based on such regressions, the probability of being a career winner is estimated to be 4% points less among females than males (the same as in bivariate relationship in Fig. 8.21).

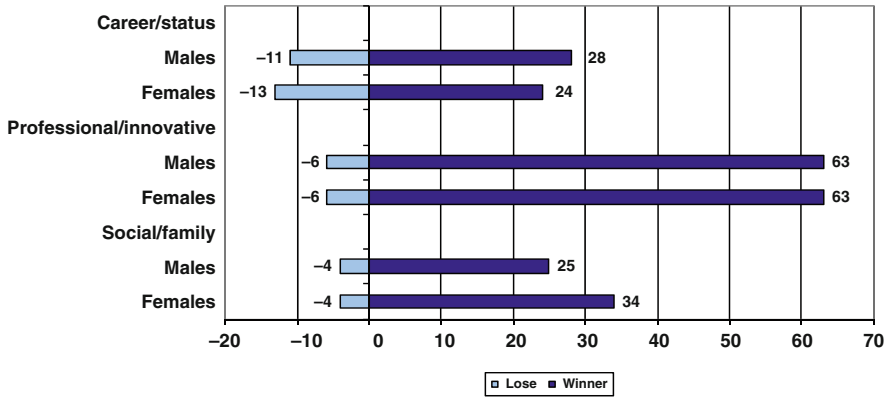


Fig. 8.21 Realisation of work values. Winners/losers on three dimensions, by gender

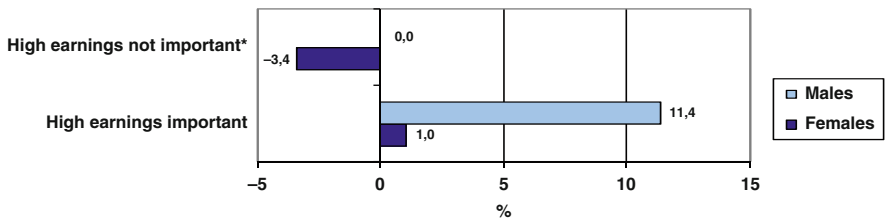


Fig. 8.22 The effect on wages of finding high earnings important, by gender. *Males not interested in high earnings are the reference category

gender differences in work orientations may explain gender differences in wages. However, as remarked earlier when comparing Figs. 8.12 and 8.18, it is conceivable that strong career orientations of women sometimes arise in response to a perceived wage disadvantage. This would make it difficult to draw any firm conclusions from Fig. 8.22.

8.4.4 Realisation of Work Orientations by Country and Field of Study

We now turn to country differences in the proportions of winners and losers on each. Table 8.6 shows this.

Three of the most career-oriented countries, Estonia, Spain and the UK, have higher shares of winners on the career dimension than the other country samples. Interestingly, Spanish graduates are also more often losers on this dimension than graduates in most other countries, highlighting the high salience of this dimension in that country. As we have seen from Fig. 8.10, the Spanish and the Estonians are anything but winners in terms of actual wages. This suggests that graduates' subjective experience of being winners depends more on how they fare compared to

Table 8.6 Winners/losers by country. Realisation of career orientations, professional orientations and social values orientations

	ES	IT	FR	CH	AT	DE	NL	BE	UK	NO	FI	EE
Career/status orientations (N=15,680)												
Winner	34	19	22	22	27	20	24	24	31	21	18	43
Neutral	50	60	64	68	61	67	68	69	59	69	68	49
Loser	16	21	15	10	12	13	8	7	10	10	14	8
Professional/innovative orientations (N=18,602)												
Winner	56	51	55	67	73	65	60	63	61	68	67	64
Neutral	33	41	38	28	23	30	32	32	33	28	28	32
Loser	11	9	7	5	5	6	7	5	6	4	5	4
Social/family orientations (N=18,344)												
Winner	36	23	34	24	27	21	33	30	24	40	34	35
Neutral	56	69	62	72	70	76	66	66	73	58	63	62
Loser	8	8	4	4	3	3	1	4	3	2	3	2

Note: Those who did not find the orientation in question important are excluded from the calculation.

lower-educated workers in their home country than on a comparison with graduates in other countries. A similar story may apply in the three high-income countries Switzerland, Germany and Norway, which do not stand out as having high percentages of those who report being career winners (in fact the percentages are rather low). The country with fewest winners and most losers is Italy.

The country differences in the realisation of professional/innovative orientations are less striking. Italian and Spanish graduates more often see themselves as losers on this dimension and together with the French are less likely to see themselves as winners. Austrians are clear winners in this respect, followed by Norwegian, Swiss and Finnish graduates.

The extent to which social/family-orientated values are realised differs a lot between countries. There are very few losers in any of the countries on this dimension, but also not a very high proportion of winners. The Norwegians have the highest share of winners, followed by Spain. These countries fared best across the three dimensions, with Spanish graduates having a high share of winners on both the career dimension and the social-values dimension and Norwegian graduates on professional/innovative orientations and social/family values. Germany has fewest winners, tightly followed by Italy, which fares quite poorly on all three dimensions.

We now turn to differences in the realisation of work orientations by field of study. Table 8.7 shows these differences.

Those educated in Business and in Law are the main winners in terms of career orientations. Graduates in the field of Education are most often losers on this dimension. It is interesting to note that those educated in Computing are not among the clear winners on the career dimension, despite their favourable position in terms of wages. This may have something to do with expectations.

Table 8.7 Winners/losers by field of study. Realisation of career orientations, professional orientations and social values orientations

	EDU	HUM	SOC Rest	BUS	LAW	SCI Rest	COMPUT	ENG	AGR+VE	HE+WEL	SER	TOT
Career/status orientations (N=15,680)												
Winner	21	21	26	34	31	23	25	26	21	23	26	26
Neutral	63	67	62	57	58	64	65	63	65	65	61	62
Loser	16	13	12	9	11	12	10	11	14	12	13	12
Professional/innovative orientations (N=18,602)												
Winner	64	61	64	60	64	67	68	63	61	63	57	63
Neutral	30	32	30	33	31	28	27	32	37	31	36	31
Loser	6	7	6	7	5	5	6	5	3	6	7	6
Social/family orientations (N=18,344)												
Winner	48	31	31	25	28	27	23	21	26	37	38	30
Neutral	51	66	65	71	67	68	74	74	71	60	59	66
Loser	2	4	4	4	5	5	3	5	3	3	3	4

Note: Those who did not find the orientation in question important are excluded from the calculation.

When it comes to the professional/innovative dimension, there are only quite small differences by field of study. The differences are greater on the social/family dimension. Education graduates are far more often winners on this dimension than the other groups,¹⁴ while those educated in Computing, Engineering and Business are less often winners.

8.4.5 Realisation of Work Orientations: Which Factors Increase the Probability of Being a Winner?

In this section, we discuss the results of a series of multinomial regression analyses in which the effect of various factors on the probability of being a winner or a loser on the three dimensions described above has been estimated. We start by looking at the effects of characteristics of the study programme, achieving above-average grades and having a useful social network. These results are shown in Fig. 8.23.

Prestigious education has the largest positive effect on the probability of being a *career* winner, increasing this from 23% (*the reference group*) to 31%. Having a good social network is also clearly helpful in this respect, while having followed a vocational study programme and achieving above-average grades only have rather modest effects. All these variables mainly affect the probability of being a winner rather than that of being a “loser”, although having graduated from a prestigious study programme does decrease this chance by 2% points.

Having a useful social network has the largest effect on the probability of being a winner on the *professional/innovative* dimension, increasing this probability from 59 to 69%. There is also a clear effect of graduating from a prestigious study programme (65%), but again achieving good grades and having followed a vocationally oriented study programme have only rather modest effects. Again, these variables mainly affect the probability of being a winner rather than the risk of being a loser.

The results of the analysis of the third dimension, *social/family* oriented values, are very different from those of the other two. Only graduating from a vocationally oriented study programme has a significant positive effect on the probability of being a winner on this dimension, and this effect is quite small. None of the variables affect the risk of being a loser on this dimension.

We have also investigated whether *educational level* has an effect on the chance of being a winner or a loser on any of these dimensions. The results – not shown in a graph – show that, compared to second-level graduates, being a first-level graduate increases the risk of being a loser on the career dimension but has no significant effect on the probability of being a winner. Interestingly, those who have gone on to attain a PhD or specialist degree also have an increased risk of being loser on the career dimension, and again there is no significant effect on the chance of being a career winner. By contrast, this group has an increased chance of being a

¹⁴Additional analysis also shows that the social values dimension is particularly important for this group.

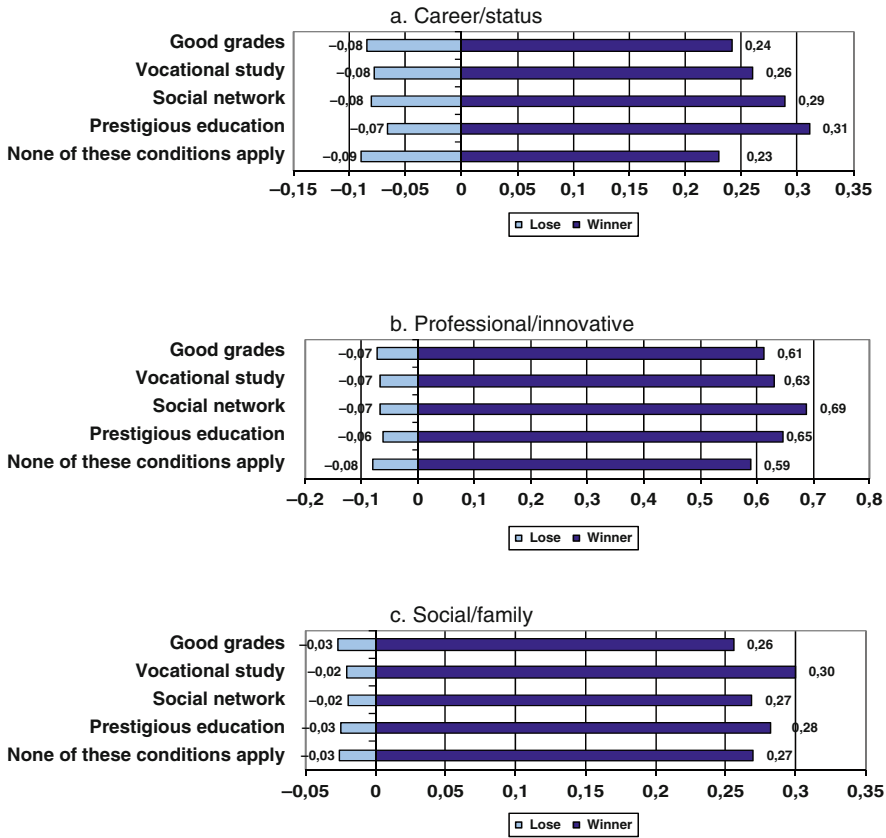


Fig. 8.23 The effect of study programme characteristics, grades and social network on the probability of being a winner/loser. Three dimensions of work orientations

winner on the professional dimension, but a reduced chance to be a winner on the social/family-values dimension.

8.4.6 *Winners and Losers by Job Characteristics and Labour Market Situation*

It is also of interest to see how the chances of being a winner or loser on these three dimensions is related to characteristics of the graduates' labour market situation and job characteristics. To examine this, additional analyses have been conducted. The main results based on these analyses are presented in Figs. 8.24, 8.25 and 8.26.¹⁵

¹⁵Detailed results available on request from the authors.

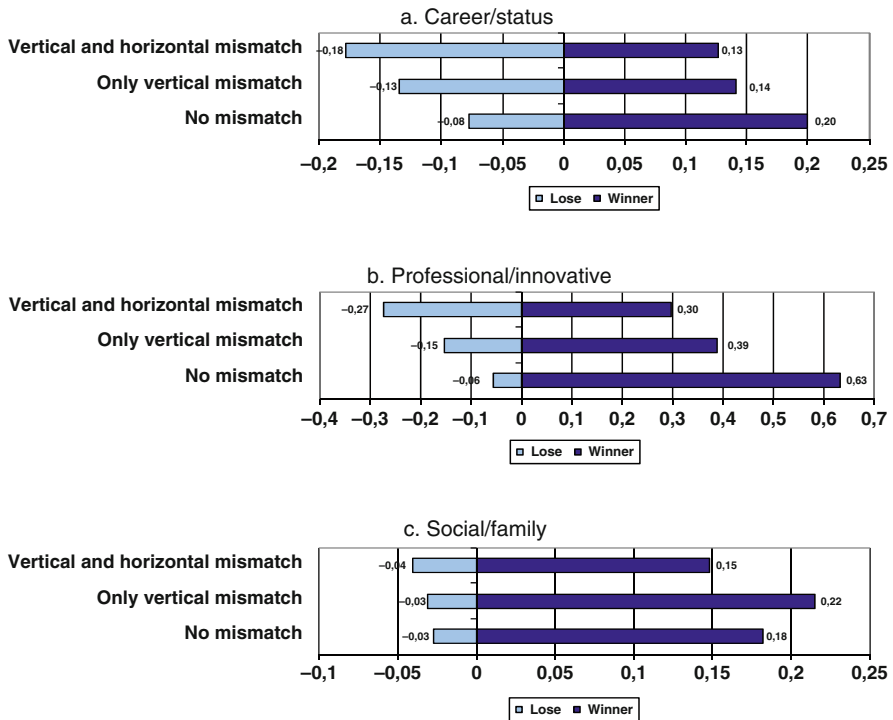


Fig. 8.24 The effect of mismatch on the probability of being a winner/loser. Three dimensions of work orientations

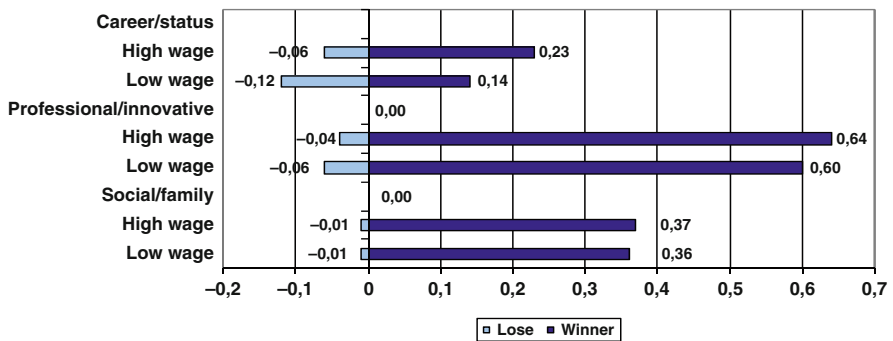


Fig. 8.25 The effect of wage level on the probability of being a winner/loser. Three dimensions of work orientations

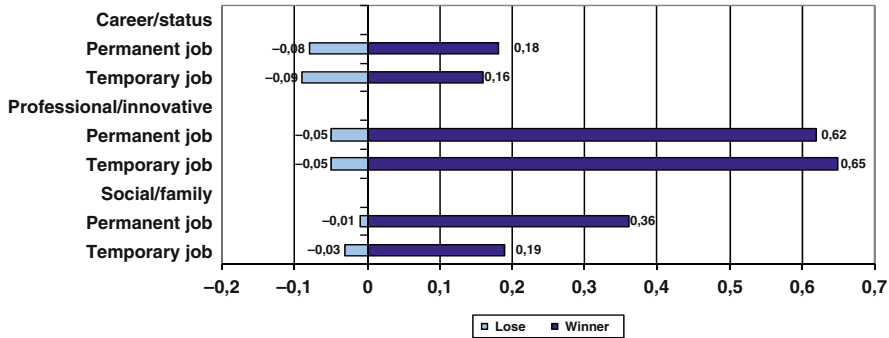


Fig. 8.26 The effect of contract type on the probability of being a winner/loser. Three dimensions of work orientations

Being both horizontally and vertically mismatched has a large negative effect on the probability of being a winner for *all* three winner categories and a correspondingly positive effect on the risk of being a loser on the career¹⁶ and professional dimensions. It seems that being a “loser” on objective measures of labour market position also to a very large extent implies being a “loser” on these two subjective indicators.

Being (only) vertically mismatched strongly reduces the chance of being a winner on the career and professional dimensions. For the third dimension, the social-values dimension, being vertically mismatched has no negative effect on the probability of being a winner on this dimension, and even has a small positive effect. It may be that some graduates prefer a less demanding work situation because this makes it easier for them to combine work with family tasks.

Figure 8.25 shows the effect of wages on the probability of being a winner/loser on the three dimensions.

High wages have a strong effect on the probability of being a career winner. Wages also have some impact on the probability of being a winner or a loser on the professional dimension, but the effect is not very strong. The impact of wages on the social-values dimension is negligible.

Figure 8.26 shows the effect of having a temporary versus a permanent contract on the chances of being a winner or a loser on the three dimensions.

Having a permanent versus a temporary job is mainly important for the chance of being a winner or a loser on the social-values dimension. Having a permanent contract almost doubles the chances of being a winner on this dimension (36% versus 19%) and clearly reduces the (already small) chance of being a loser. Since this dimension consists among other things of an indicator of subjective job security, this is not surprising. The type of contract only has rather modest effects on the other

¹⁶In the regressions on which the estimates are based, we have also controlled for wages. This reduces the effect of being mismatched on the career dimension but has little impact on the other two dimensions.

two dimensions, whereby the most striking result is that having a temporary contract appears to increase the chance of being a winner on the professional dimension. In reality this is almost certainly a case of a spurious correlation, whereby scientists and related professions are more likely to be winners on this dimension but enjoy less job security on average than those working in other occupations.

Summing up, the most important determinants of being a winner on the professional dimension are having a good match between education and work and having useful social network. Being a winner on the career dimension depends mainly on wages and graduating from a prestigious study programme, while a permanent job is the most important factor determining success on the social-values dimension. In the next section, we will see to what extent such factors have an impact on graduates' *job satisfaction*.

8.5 Job Satisfaction

Farag and Allen (2003) point out that “there are a number of factors or dimensions of work orientations and their realisation which may need to be taken into account when looking at the determinants of an individual’s job satisfaction”. In this section, we look at the effects of a range of factors on job satisfaction, including the aspects dealt with in the previous section. Figure 8.27 shows the proportion of graduates per country who are satisfied or very satisfied with their current job.

Austria, Norway, Belgium, Estonia, Switzerland and the Czech Republic show relatively high levels of job satisfaction, while Italy and Spain have the lowest shares. It is not surprising that these two countries score lowest on job satisfaction, since they were not among the winners according to objective criteria, although Spanish graduates did score strongly on the subjective social-values dimension and the career dimension.

One of Farag and Allen’s (2003) findings was that “intrinsic and social orientations were more important as determinants of overall satisfaction than (other)

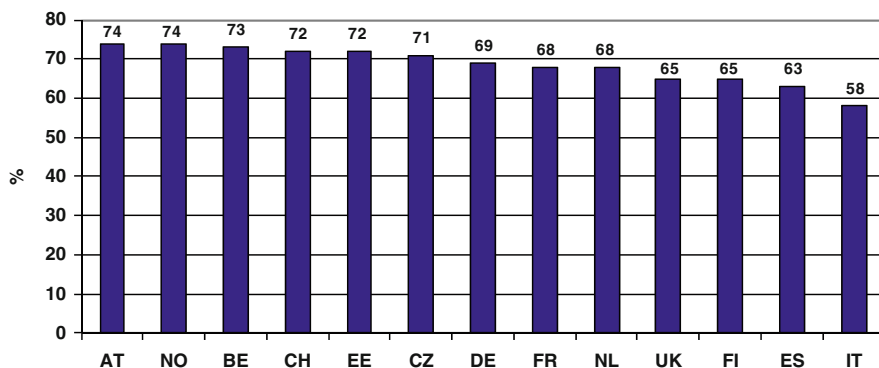


Fig. 8.27 Percentage satisfied with their job, by country

extrinsic orientations”. This was in accordance Maslow’s hierarchy of needs, which, as Farag and Allen (2003) put it, “leads to the expectation that intrinsically motivated individuals will tend to be more satisfied with their work than extrinsically motivated individuals, since intrinsic motivations will only arise once the (lower order) extrinsic needs have been sufficiently satisfied.” Below (Fig. 8.28), we will illustrate the effects of being winners/losers on the three dimensions described above on the probability of being satisfied with the job. The graph is based on separate analyses for the three low-income country samples (Estonia, Italy and Spain) and for the nine high- or medium-income countries. The reason for separating the countries into two groups is to see whether the intrinsic values are less important for job satisfaction in the low-income countries than in the high- or medium-income countries.

In both types of countries, those who are winners on the professional/innovative dimension are most often satisfied with their job, followed by winners on the career dimension and close behind winners on the social-values dimension. However, both the professional dimension and the social values dimension are more important for job satisfaction in the nine medium- or high-income countries than in the three low-income countries (cf., the difference between the winner and loser categories is largest in the high- or medium-income countries), whereas winning or losing on the career dimension has more or less the same effect in the two types of countries. This suggests that intrinsic values are indeed (somewhat) more important in the high- or medium-income countries than in the low-income countries.

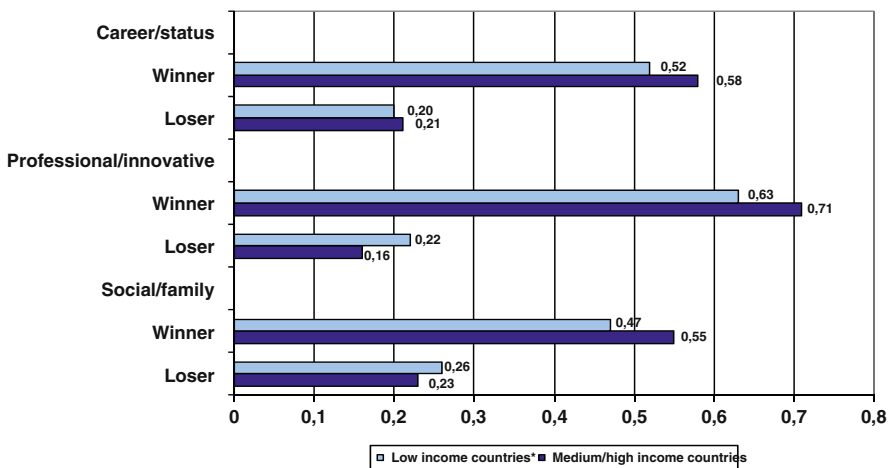


Fig. 8.28 Estimated probability of being satisfied with the job. Effects of being a winner or loser on the career dimension, the professional dimension and the social-values dimension. The reference category for the estimates in the graph has relevant work and median income (i.e., 9.5 and 15.3 Euro per hour (ppp converted) in the low- and medium-high-income countries, respectively), is a male, Dutch (in high- or medium-income countries) or Italian (in low-income countries) with average age, educated in Law, works in the private sector in a permanent job.
*Estonia, Italy and Spain

Do we find differences in effects on job satisfaction between low- and high-income countries also when it comes to other aspects of work? Figure 8.29 shows the effect of wage level on satisfaction.

We see that although the wage level has a clear effect in both groups of countries, it has a much larger impact on job satisfaction in the low-income countries than in the other nine countries.

Figure 8.30 shows the effects of the match between education and job.

Being mismatched has a large impact on job satisfaction in both types of countries. Especially being both horizontally and vertically mismatched is related to much lower levels of job satisfaction. Being only horizontally mismatched has a negative effect in the nine high- or medium-income countries, but has no effect in the three low-income countries.

Figure 8.31 shows the effects of working in the public versus the private sector.

From Fig. 8.31, we can see that those who work in the public sector are somewhat more satisfied with their work than those working in the private sector. This applies especially in the low-wage countries. This may be related to the greater job security afforded by the public sector, a feature of work that is more salient in low-income

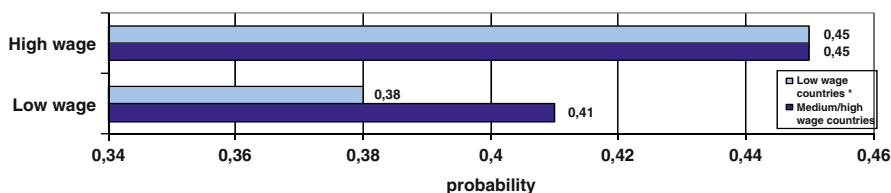


Fig. 8.29 Estimated probability of being satisfied with the job. Effects of wage level

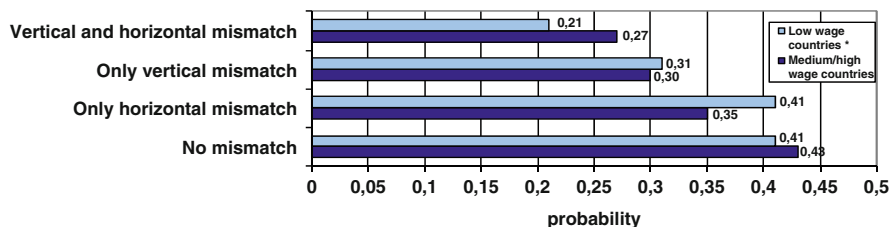


Fig. 8.30 Estimated probability of being satisfied with the job. Effects of job mismatch

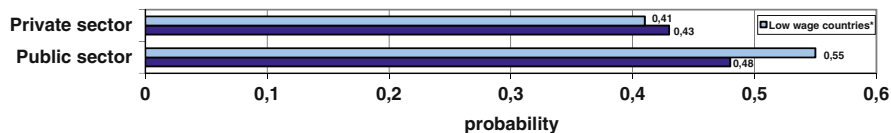


Fig. 8.31 Estimated probability of being satisfied with the job. Effects of public versus private sector

countries than in high-income countries. It may also be due to the fact that working in the private sector results in a wage gain in the high-income countries while the opposite is true in the low-income countries (additional analyses indicate that this is the case, available on request from the authors).

After controlling for the variables described above, some of the country differences in job satisfaction shown in Fig. 8.27 are reduced or changed. For instance, Spanish graduates turn out to be very often satisfied with their job when other factors are held constant. Despite the controls, Austrians are still most often satisfied with their job. It also appears that the effect of gender is minor, and that there are no differences between first and second levels of education, with one exception, although those with PhDs or specialists degrees are more often satisfied with their jobs than first- and second-level graduates. The differences between fields of study are also small, with one exception: *Graduates in the field of Education are more often satisfied with their work than the other groups*. This applies to both types of countries but especially in the high- or medium-income countries.

Overall, both the subjective measures of being a winner or loser on the three dimensions of work orientations and the objective measures of labour market situation and returns to education and (overeducation/mismatch; wages) are highly relevant for job satisfaction in both types of countries. However, wages are less important and intrinsic values more important in the high- or medium-income countries compared to the low-income countries.

8.6 Summary and Conclusions

In this chapter, we looked at a range of indicators of labour market success in an attempt to determine to what extent particular groups of graduates can be identified as “winners” or “losers” in the labour market. We looked at both objective indicators – unemployment, overeducation and wages – as well as more subjective indicators – aspects of work graduates themselves find important.

What is notable when looking at the results of this chapter as a whole is that, although groups that emerge as winners or losers on a given dimension often show similar results on some of the other dimensions, the overlap is far from perfect. Few groups are winners or losers across all dimensions, and some groups are winners on some dimensions and losers on others. The situation for female graduates is a clear illustration of this, with women being clear losers in terms of labour market outcomes as well as extrinsic (career) work values, but winners in terms of social-family work values.

Similarly, there are no fields of study that are clear winners or losers on all dimensions. However, graduates in the fields of Humanities and Agriculture and Veterinary studies are losers on several dimensions and do not emerge as winners on any of the dimensions. Graduates in the field of Education are winners when it comes to job satisfaction, relevant work and social values, but losers on wages and career orientations. There is a general tendency for winners on career orientations

and/or wages (Business, Computing and Engineering) *not* to be winners on other, more subjective dimensions.

Perhaps the most consistent factors influencing graduates' chances of being a winner on most dimensions are graduating from a vocationally oriented and/or prestigious study programme. Graduates of vocationally oriented programmes are winners on all dimensions, especially in terms of the chance of having relevant work (i.e., not being vertically or horizontally mismatched or unemployed) and the chance of being a winner on professional-innovative work values. Graduates of prestigious programmes were clear winners on all dimensions except social-family work values, on which they are neither winners nor losers. Graduates who achieve high grades are also more likely to be winners on most dimensions. Relevant work experience during higher education helps graduates in terms of objective labour market outcomes at the time of the survey, as do work experience and avoidance of unemployment since graduation.

Cultural and social capital show mixed effects on the chances of being a winner or a loser on different dimensions. Graduates with one or both parents having a higher education degree are more likely to be wage winners. Graduates with a good social network are likely to be winners on professional-innovative work values.

There are some strong relations between the indicators themselves. Labour market mismatch, especially when graduates are both horizontally and vertically mismatched, is a strong predictor of low wages and of the chance of being a loser in terms of all three types of subjective work values. Mismatched graduates are also clearly less satisfied with their work than graduates with relevant work. High wages are associated with being a winner in terms of career and professional-innovative work values and in terms of overall work satisfaction.

Finally, there are some clear differences between countries in terms of the chances of being a winner or a loser on the various dimensions. It should be stressed that country differences are to a large extent attributable to macroeconomic conditions and to resulting differences in the conditions encountered by graduates in the period of transition from higher education to work. With this in mind, we can summarise the country differences as follows: Italian graduates are least often among the winners on all indicators, both objective and subjective. The same applies to Spanish graduates in terms of objective measures, but they are among the winners on some of the subjective indicators. Norwegian graduates are successful on most of the indicators, especially the objective measures, but in general also on the subjective measures. Swiss and Austrian graduates score high on several indicators, the Swiss especially on wages and labour market match, and the Austrians on job satisfaction and the realisation of professional/innovative work values. In looking at the country differences in determinants of job satisfaction, we found evidence for the notion of a hierarchy of needs, with the satisfaction of graduates in high- or medium-income countries depending less on wages and more on intrinsic work values than is the case for graduates in low-income countries. However, overall, both the subjective measures of being a winner/loser on the three dimensions of work orientations and the objective measures of labour market situation and returns to

education (overeducation/mismatch; wages) are highly relevant for job satisfaction in both low-income countries and in high- or medium-income countries.

Appendix 1: Definition of Mismatch

1. *Employed with relevant work*, that is, persons not belonging to one of the four groups below.
2. *Horizontally mismatched* (and not vertically mismatched). This refers to persons who gave an answer to the question “*What field of study do you feel is most appropriate for this work?*” that indicated that their work did not correspond to their own or a related field.
3. *Vertically mismatched* (and not horizontally mismatched). This group is *overeducated* (overqualified) and the definition refers to those who gave an answer to the question “*What type of education do you feel is most appropriate for this work?*” (“type” refers to “level” according to the response options in the questionnaire) that indicated a level below their educational level. We have taken into account the fact that some have acquired a higher educational level after their graduation in 1999/2000 (as masters or second-level graduates or PhDs/specialists). First-level graduate/bachelors who had taken further education and have become masters or second-degree graduates and hold a job that corresponds to the first level/bachelor level are regarded as vertically mismatched and vice versa for master or second-degree graduates who have obtained a PhD/specialist degree.
4. *Both vertically and horizontally mismatched*.
5. *Unemployed*. This refers to respondents who answered that they were not currently employed and who reported that they had actively tried to obtain paid work in the past four weeks, or who reported that they were awaiting the results of earlier job applications.

Appendix 2: The Effect on Wages of Gender, Grades, Level of Education, Field of Education, Field of Study, Mismatch and Type of Job Contract, Percentage

	All countries													
	Italy	Spain	France	Austria	Germany	Netherlands	UK	Finland	Norway	Czech rep.	Switzerland	Belgium	Estonia	
<i>Gender</i>														
Females/males	-9.6	-11.9	-7.3	-12.4	-10.5	-10.7	-4.2	-10.4	-10.3	-9.9	-10.4	-4.8	-7.5	-15.0
<i>Grades</i>														
Grades above average/average and below	3.1	3.7	8.7	3.4	3.6	3.8	1.7	7.8	-0.3	4.4	1.5	2.2	-1.1	7.5
<i>Level of education</i>														
First level/second level	-10.3	-3.6	-14.1	-15.5	6.2	-8.1	-16.8	-2.9	-19.8	-16.4	-8.1	-5.3	-6.1	-2.5
<i>Field of study</i>														
Education/social science	-4.3	-10.2	8.4	-4.4	-5.5	-5.2	-6.5	0.8	1.4	-9.1	-14.7	3.4	-11.9	-8.0
Human/social science	-6.2	-3.5	-1.1	3.8	-10.4	-9.6	-9.2	-6.7	-1.4	-15.1	-20.9	-2.9	-10.4	-8.7
Law/social science	-0.1	-12.1	-1.2	6.8	-4.7	-13.7	8.7	2.4	24.8	-7.3	-0.3	4.0	0.9	21.8
Business/social science	11.8	7.0	2.7	21.0	16.7	26.4	7.1	15.2	9.3	18.5	5.8	8.6	3.9	26.4
Computing/social science	13.7	11.2	11.6	4.2	21.1	10.2	8.7	-5.8	20.5	4.0	8.4	0.0	2.8	27.4
Science rest/social science	1.0	6.5	-1.6	13.1	4.0	5.0	-5.4	8.2	-1.8	-7.2	-12.0	-4.1	0.4	-8.9
Engineering/social science	7.8	9.6	15.6	22.3	8.7	11.7	1.5	10.0	16.1	0.6	-5.8	-2.9	1.5	19.1
Agriculture/social science	-10.6	-28.3	0.2	-5.0	-1.2	-4.6	-2.6	-18.6	-5.6	-16.6	-21.4	-9.3	-7.5	-25.2
Health/social science	-0.3	8.2	7.3	7.4	7.9	4.7	-0.9	12.5	2.0	-4.2	-12.7	-4.8	-1.1	-9.7
Service/social science	0.7	15.5	16.2	13.9	-8.3	5.2	1.3	-0.9	4.8	-7.5	-7.2	-18.5	-18.0	-9.0
<i>Graduated from a prestigious education</i>	5.4	5.4	4.1	7.5	-0.6	3.3	0.0	8.7	2.7	5.4	2.1	2.6	5.5	11.9
<i>Further education</i>														
Master as further education	12.1	0.5	11.7	16.2	-0.2	19.1	15.6	3.7	27.7	13.1	6.0	9.0	9.1	5.8
PhD as further education	8.7	11.3	0.2	9.1	11.9	7.3	4.9	4.5	11.1	6.1	9.2	1.6	11.5	6.1
Other further education	1.7	-0.4	2.3	1.7	1.8	5.7	1.2	5.7	0.5	-0.3	-0.5	2.7	0.7	5.1
<i>Mismatch</i>														
Horizontal mismatch/relevant job	1.6	-0.4	-7.6	-2.7	3.6	1.4	2.2	-0.5	5.4	11.9	5.0	3.8	-1.1	7.5
Vertical mismatch /relevant job	-11.6	-3.9	-14.7	-12.6	-11.8	-6.8	-13.3	-15.8	-17.0	-6.2	-13.2	-4.0	-11.3	-3.6
Horizontal and vertical mismatch /relevant job	-11.4	-6.3	-9.3	-12.1	-10.4	-17.1	-10.3	-9.7	-8.1	-18.5	0.7	-10.4	-0.5	7.0
<i>Type of contract</i>														
Permanent job /temporary job	13.0	13.4	10.3	22.9	10.1	18.7	10.5	10.7	15.5	11.7	14.5	20.2	16.1	-1.6
Country (compared to the Netherlands)		-38.1	-30.8	-9.1	-8.9	14.4	Ref. cat.	4.3	-8.7	8.3	-48.7	21.9	2.7	-38.6

Coefficients in bold are significant at 0.1 level or below.

Appendix 3: Definition of Winners and Losers According to the Graduates' Response to the Questions on Work Values and Job Characteristics (Realisation of Work Values)

1. For all the ten work values items, a variable was created according to whether or not the item was important for the respondent. Value 4 (important) + 5 (very important) on a scale from 1 to 5 were recoded as important (assigned value 1, else 0).
2. Losers and winners variables were created for each of the ten items of job characteristics (to what extent the work values apply to current work). If the respondent had value 1 on the variable mentioned above, that is, finds the item important, and value 1 or 2 on corresponding item for job characteristics, he/she was coded as a loser on this variable. If the respondent finds the item important and value 4 or 5 on corresponding item for job characteristics, he/she was coded as a winner on this variable.

From the results of the factor analyses of work values, we knew that the work values clustered into three dimensions, allowing us to identify three groups that are career oriented, professional oriented and "social values" oriented. The next step was then:

3. Three new variables were created "lose/win-career", "lose/win-innovative" and "lose/win-social", all with three values; value 1=lose, value 2=win, value 9=neutral, the latter as the reference category to be used in multinomial regression. These variables were created according to the following:
 - Based on step 1 and 2, a respondent was categorised as a winner on the "lose/win-career" variable if she/he had value 1 on (at least) two of the three job-characteristic variables "win-earnings", "win-career-prospects" or "win-social-status", and she/he was categorised as "loser" on the "lose/win-career" variable if he/she had value 1 on (at least) two of the variables "lose-earnings", "lose-career-prospects" or "lose-social-status". Else, the respondent was categorised as neutral.
 - Likewise values were assigned on the "lose/win-innovative" variable according to the response to the three job-characteristic variables that concern autonomy, new challenges or learn new things.
 - Finally, values were assigned in the same way on the "lose/win-social" variable according to the respondent's answers to the four job-characteristic variables that concern job security, leisure activities, do something useful for society and combine work and family. (The coding of "lose/win-social" variable was based on the respondent being a winner/loser, respectively, on three of the *four* items covered by this dimension.)

Multinomial logistic regressions for each of the three winner situations (dimensions) were run. For each of the regressions, respondents who found one of the three (four) items connected to the particular dimension important were selected.

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