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Labour Market Penalties of New Immigrants in New and Old Receiving West European Countries

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ABSTRACT

Over the past two decades, all European societies have experienced continued and increasing migrations, albeit with very different intensities and characteristics. Our focus is on new immigrants - those who have come from abroad in the past 15 years - in both old and new receiving West European countries. Comparative analyses on this issue are rather weak as the literature on immigrant integration in the labour market is well-established in the old receiving countries, but is just beginning to be developed in the newer receiving ones. The article aims at introducing the articles collected in this special issue, which present the results of a research project that concerns six European countries - Italy, Spain, United Kingdom, the Netherlands, Germany, and Denmark. Our focus is on inequalities between immigrants and natives with respect to the risk of unemployment and to the access to highly qualified occupations. After having highlighted similarities and differences across those countries, we tried to draw some general conclusions concerning the main factors that may have shaped new immigrants' incorporation into West European labour markets. In particular, the role played by the nature of immigration and by the labour demand seems to be crucial.

INTRODUCTION

Two main waves of international migration have affected West European countries since the end of the World War II. After 1945, first massive reconstruction efforts and then huge manufacturing growth required

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immigration to satisfy labour shortages. But the recruitment policy ended abruptly in the mid-1970s as the first oil crisis triggered worldwide economic depression and the "Fordist golden age" came to an end. The second wave began in the late 1980s and is still ongoing. Over the past two decades, all European societies have experienced continued and increasing migrations, albeit with very different intensities and characteristics, and these inflows have had consequences for both the immigrants and the native populations. Because the incorporation of immigrants in the labour market is the main form of their inclusion in the receiving societies, its analysis is crucial for understanding the social impact of new migratory inflows in West European countries.

Our focus is on new immigrants – those who have come from abroad in the past 15 years – in both old and new receiving European societies. Data restrictions have severely limited research on "new" immigrants labour-market outcomes, and few studies other than purely descriptive ones have been conducted to date (Schierup, et al., 2006; Pennix, et al. 2006). Nevertheless, new immigrant waves have attracted growing interest because many of their characteristics are somewhat different from those of old migration inflows.

The old European immigration was characterized by immigrants originating either from former colonies or from Mediterranean countries. and most were recruited by firms and agencies under bilateral agreements with countries such as Italy, Yugoslavia, and Turkey. Those "targeted immigrants" entered Northern and central European countries to work as semi- or unskilled blue-collars, usually in the manufacturing and construction industries, and then most took up permanent residence. Thus, after the halt on new entries in mid-1970s, for more than a decade those countries were affected almost solely by family reunions. Although migratory policy has remained restrictive everywhere, since the late 1980s new immigrants from different countries of origin have entered those countries mainly as asylum seekers and refugees, sometimes attracted by their fairly generous welfare benefits (De Giorgi and Pellizzari, 2006), and more recently also as labour migrants, largely from Eastern Europe. Recent immigration to new receiving European countries, namely Spain, Portugal, Greece and Italy, is somewhat different in character, although a much higher proportion both of highly educated people and of women is a general feature of the contemporary inflows. The large underground economies in south European countries have exerted an important "pull" on immigrants seeking to improve their economic circumstances, whilst population booms, social, economic and

political crises have "pushed" Third World and Eastern European people from their native countries. Thus, lax controls and abundant opportunities to earn money even without documents have induced numerous migrants from North Africa, Eastern Europe, South America, and Asia to enter the south European countries without a proper permit of stay, which they have obtained only subsequently thanks to frequent regularizations (Reyneri, 2001; Levinson, 2005).

The literature on immigrant integration in the labour market is wellestablished in the old receiving countries, but it is just beginning to be developed in the newer receiving ones. Moreover, comparative analyses based on labour market data are rather scarce. Our focus is on inequalities between new immigrants (and also old ones, where they do exist) and natives, and the aim is to analyse those inequalities in different receiving countries by examining a wider range of origin groups. This perspective allows us to disentangle effects specific to a single immigrant group (for example, effects resulting from peculiar stories of migration or reception) from effects that are broader in their impact (for example, those resulting from labour market structures and welfare regimes). Moreover, we compare the experiences of old and new West European receiving countries, with their different immigration histories and policies. The former are represented by Denmark, Germany, the Netherlands and the United Kingdom, which enable us also to compare new immigrants with old ones in the same receiving country, while the new immigration countries are represented by Italy and Spain, which provide data only for new immigrants, of course¹.

The analysis is based on either labour force surveys or administrative data, which are recorded according to the same guidelines, but are not yet anonymized at the European level as regards the country of birth. Thus, each article had to use national data sources and to focus on a single national case. All of them, however, are devoted to answering the same questions, and they all adopted similar methodological approaches, so that their results are fairly comparable and let us to draft some crossnational conclusions.

THE THEORETICAL FRAMEWORK

The labour market performance of immigrants in receiving countries was analysed referring to different economic and sociological theories. The disadvantage faced by immigrants has frequently been explained

within the framework of the human capital theory, which refers to an individual's endowment of skills, abilities and job experience as well as other educational competencies. Immigrants may suffer from a poor host-country relevant human capital for many reasons. First, higher educational qualifications in sending countries may have given them competencies much lower than those required in the host society. Second, educational certificates obtained in developing nations may be difficult to transfer to a first-world country for bureaucratic impediments. Third, human capital is often country-specific and not a perfectly portable resource, because most immigrants lack knowledge about the functioning of the host labour market, as well as language fluency, so that they may find it hard to translate and adapt the educational credentials accumulated in their countries of origin to labour demand of the receiving countries (Chiswick, 1978; Borjas, 1994; Friedberg, 2000). On the other side, both immigrants and their potential employers may be reluctant to invest in country-specific human capital. If they perceive the immigrant's stay as temporary, both parties reasonably refuse to make investments in training that are not certain to pay off in the future (Dustman, 2000). Furthermore, immigrants with short-term migratory projects may have labour market strategies different from those of the local population (Heath and Ridge, 1983; Kalter and Granato, 2007). For instance, they may be reluctant to undertake long searches for higher-status jobs if the job search costs are very high or if they are unlikely to be resident in the country long enough to enjoy its rate of return (Kalter and Kogan, 2006), and they may prefer to take a job immediately even if it is low-status (Dustman, 2000). According to such an approach, as immigrants settle in the receiving country, they should assimilate into their host societies: they should get a good command of the new language, acquire local education and training and understand how the host country's labour market functions (Chiswick, 1978). Thus, their disadvantage relative to natives should weaken.

Contrarily, the segmented assimilation theories reject the hypothesis that ethnic penalties might weaken over time, because they are still based on either poor immigrants' endowment in social capital or discriminatory practises by the host society. Immigrant's social networks may play a vital role in securing employment, as once an immigrant arrives in a new country his/her ability to find a job will often be dependent on the help of family, friends or country fellows. Ethnically homogenous ties may get immigrant workers jobs that are not accessible in the host country's mainstream labour market, or they may provide self-employment in niches or ethnic enclaves that natives do not occupy (Portes, 1995;

Linn, 1999). However, an ethnically homogenous social network may also provide some significant disadvantages for immigrants because they may only provide information about jobs that are already in the ethnic community's domain. Immigrants can have a lot of ties with country fellows, but an ethnically homogenous network is not at all as useful for job-seeking as ties to the indigenous population (Portes and Rumbaut, 2001; Behtoui, 2007). The fact that highly educated second generation immigrants still suffer serious labour market disadvantages has been ascribed just to their lack of host country-specific social capital (Heath, 2007).

Furthermore, in the long run, immigrants who had chosen poor jobs to reduce the job search costs might be trapped in the secondary labour market, characterized by low-status, badly paid, dangerous or unpleasant jobs, because mobility between the primary and secondary labour market may be quite limited, as occurs in most European countries. Finally, disadvantages may result from discriminatory practices both by employers and institutions, particularly if immigrants are visibly distinct from the native population (Burstein, 1994). Immigrants face discrimination, either directly if employers choose to reward workers with equal productivity differently based on their ethnicity as they have a preference for certain groups (Kalleberg and Søresen, 1979), or indirectly when the application of a "colour-blind" approach nevertheless disadvantages certain ethnic communities (Heath and Cheung, 2007). Although experimental evidence documenting discrimination in the labour market exists, including for countries studied here (Zegers de Beijl, 2000; Taran, et al., 2004), it is impossible to prove the existence of prejudices from survey data, which record only positions in the labour market, but neither behaviours of employers and immigrants nor their motivations.

Studies using survey data tend to infer discrimination when, controlling for all relevant variables available in the dataset, ethnic status has an independent effect on labour market performance of immigrants relative to that of natives. A major problem is the fact that it is impossible to control for every single plausible variable. Various researchers, therefore, have suggested that it would be more appropriate to refer to the residual disadvantage that remains in an empirical analysis after controlling for as many variables as possible as an "ethnic penalty" (Heath and McMahon, 1997; Berthoud, 2000; Heath and Cheung, 2007). Ethnic penalty tells us, for instance, whether immigrants from a particular country have poorer chances of securing employment or higher-level

jobs than natives holding the same gender, age, education, and living in the same region (in the case of larger countries), but does not tell us anything about the reasons of such a disadvantage (which may be the fluency in language of the host country that is recorded only in specialized surveys, but never in labour force ones).

Such an approach, which is only sound using cross-sectional labour market survey data, led us to make not only cross-national comparisons between both the receiving countries and the immigrant groups, but also between immigrants who entered the same country in different years. Taking into account the year since migration, we may check the contrasting hypotheses "assimilation versus segmented assimilation", as we can compare penalties of newcomers with those of more settled immigrants, but we must be aware that this analysis is based on two assumptions. In fact, we have to assume, firstly, that unobserved characteristics of migrants do not change over time (Borjas, 1985, 1995), and, secondly, that return migration is not a selective process involving more either the "winners" (i.e., those who have succeeded in finding a good job) or the "losers" (i.e., those who have remained unemployed for a long time or who were not satisfied with their job and their social position). As regards the contemporary European immigration, the second assumption is supported by studies on guestworkers in Germany (Constant and Massey, 2003; Fertig and Shurer, 2007) and by the contrasting outcomes of ethnographic researches on return migrants (Amuedo-Dorantes and de la Rica, 2006), whilst the first one is justified only by the lack of data

Economists have focused on earnings as a measure of labour market performance for immigrants and special attention has been paid to the process of earning assimilation over time (Chiswick, 1978; Borjas, 1985, 1995). Yet, earnings are not only determined by human capital and other personal characteristics, but crucially by the characteristics of the jobs they occupy. The structural properties of the tasks individuals perform at their jobs generate different incentives for employers to implement different compensation schemes (Goldthorpe, 2000). This implies that the returns to the same stock of individual human capital can be very different depending on the nature of the job employees are employed to perform. Moreover, survey data on earnings are not reliable in some countries (such as the south European ones) and are not recorded in all European labour force surveys. For those reasons and according to the established tradition of studies on social mobility (Erikson and Goldthorpe, 1992; Breen, 2004), European sociologists are

used to focusing on occupational status as a measure of the economic performance for immigrants. Furthermore, in case host countries are not close to full employment and immigrants were not recruited, but entered the host countries of their own will, the penalty as regards labour market participation and unemployment also matters.

Thus, the focus of our research is on ethnic inequalities in the labour market with respect both to the risk of being inactive or unemployed, and to access to highly qualified occupations. In all, the host countries considered immigrants are more likely to be inactive and unemployed than natives, and they usually occupy positions on the lowest rungs of the occupational ladder. Our key question is how much these inequalities, which are more or less widespread across the countries, are due to differences in personal characteristics – such as age, gender, education and family status – between immigrants and natives, or whether the former suffer "ethnic penalties".

EXPLAINING CROSS-NATIONAL DIFFERENCES

Cross-national research has attempted to provide a framework within which it is possible to compare the labour market outcomes of groups of similar immigrants. Two approaches can be identified: the first considers people from various countries of origin in a single host country, while the second tracks a single immigrant group across two or more receiving societies. Few studies have combined both the approaches. For instance, Kesler (2006) analysed the labour market outcomes relative to those of natives for many immigrant groups, but in three old receiving European countries only; and Kogan (2007) focused on the performance of immigrants in 14 countries, but breaking down very broad categories of immigrants; whereas Tubergen, et al. (2004), considered a large number both of immigrant groups and receiving countries, also not Europeans, but they took into account the comparison with the labour market outcomes of natives only very partially.

These studies have certainly added to our understanding of the mechanisms behind immigrant incorporation into receiving labour markets. Some of them have highlighted the importance of immigration policy (Borjas, 1990) or the structure and regulation of the labour market (Piore, 1979; Castles and Kosack, 1985; Sassen 1988). Other studies (Portes and Böröcz, 1989; Portes and Rumbaut, 2001) have advanced models of immigrant performance in the receiving labour market which

take into account three macro-level factors: government policy, labour market demand and pre-existing ethnic community networks. Reitz (2003) proposed four features of the receiving society which would have an impact on the labour market performance of immigrants: (1) pre-existing ethnic relations within the host population, (2) situation in labour markets and related institutions, (3) the government policies (immigration policy, policies for immigrant integration and policies for the regulation of social institutions), and (4) the changing nature of international boundaries as part of the globalisation process. Immigration policy establishes the numbers and characteristics of labour migrants, asylum seekers and refugees usually in accordance with a predetermined set of economic, political or social criteria forged by necessity or pre-existing ethnic prejudices.

The structure of the labour market and its regulation is a vital institutional variable differing between states (Kogan, 2007). For instance, labour markets in Europe vary according to the size of their underground economy or secondary labour market, characterized by unskilled, poorly paid, and dangerous employment. The extent and success of immigrant incorporation is often determined by the relative sizes of these secondary segments, which may even "pull" unauthorised immigrants (Reyneri, 2001). Additionally, the degree of labour market flexibility is quite important in immigrant economic performance. Kogan (2007) argues that strict employment protection legislation, which imposes high firing costs on the employer, may be a deterrent in hiring immigrants as the costs of making a mistake in the hiring process leads to statistical discrimination and consequently to hiring native rather than immigrant workers.

Finally, welfare states aim to modify the labour market outcomes of their citizens providing social services, health assistance, pensions and employment protection. According to Esping-Andersen's (1990) classic distinction, two different types of institutional systems can be distinguished. The first, which includes countries falling into the "liberal" welfare state mould (United Kingdom, Ireland), is characterized by high labour flexibility, weak industrial relations and a market-based social insurance, whereas the second includes countries of social-democratic or corporatist-conservative persuasion (such as Sweden, Denmark and Germany, France, Italy respectively) and is marked, in contrast, by rigid labour markets with high labour costs and either employer-based or universal social insurance. Kogan (2007) argues that in the first system, immigrant unemployment is likely to be less (due to the freer nature of

the labour market) compared with countries falling into the second system, where labour costs are higher. In addition, more egalitarian countries with larger welfare provisions may attract less-skilled migrants who may believe that they will be insulated from unfavourable market movements, whereas immigrants to "liberal" welfare regimes may be more skilled, and confident of securing employment and gaining a high rate of return to their human capital.

GENERAL AND PARTICULAR QUESTIONS

The aim of the overall research project was to compare the ethnic penalties of new immigrants in different national labour markets and to answer some general questions. Firstly, differences between old-receiving societies and new ones are very interesting, and they are well captured by analysis that leaves aside the performance of second generations and focuses on new inflows of migrants. Secondly, our intention is to discover whether and to what extent the characteristics of labour demand affect the labour-market incorporation of immigrants. Are the crossnational differences explained mainly by differences in national occupational structures or in skill levels of immigrants? Or does the different reason for entry by new immigrants (asylum-seekers versus authorised or unauthorised labour immigrants) matter? Finally, we also look at the role of national regulation systems, doing so in terms of three factors: a) migratory policy and legislation on asylum, residence, and work permits, b) characteristics of the welfare system, and c) the extent of the underground economy. Among new immigrants the proportion of women is important and many of them migrated alone for working reasons or for asylum-seeking. Thus, all the analyses were carried out separately for men and for women

Within a common framework, the articles collected here also investigate specific issues of particular importance in their national context. Firstly, the articles on the old receiving countries pay special attention to comparison between old and new immigrants. In the cases of Spain and the Netherlands, the assimilation of migrants over time is also analysed in depth. Given the high proportion of refugees among immigrants into Denmark and to a lesser extent Germany, their labour market performance is highlighted more in the articles on these countries. The studies on Italy, Spain, Germany and the United Kingdom pay special attention to the role of education, doing so by comparing the return on education for immigrants and natives in terms of the risk of being unemployed

and the probability of getting a high-skilled job. Last but not least, the article on Denmark also analyses the wage differentials between migrants and natives.

DATA AND METHODOLOGY

The articles are similar, but they are not sufficiently standardised for comparison between statistical models to be possible. Hence, we are able to obtain only tentative answers to the above questions. Nevertheless, because the analyses are based on national labour force survey datasets (micro-census for Germany, and administrative register for Denmark as Danish survey included too few cases), they allow us to develop analysis deeper than that which would be possible with cross-country Eurostat datasets (Kogan, 2007). In particular, a) we have detailed information on the countries of origin of migrants; b) each article can also focus on specific issues, highlighting specificities of national labour markets and immigration stories better than general cross-national analysis is able to; c) for the Spanish case, data concern all migrants, even unauthorised ones; and d) for the Italian case, we have been able to use the first waves of the labour force survey providing information on foreigners.

The use of data from national labour force surveys or administrative registers has required us to discuss the coding of variables in order to standardise them as far as possible. In particular, the classic class scheme proposed by Erikson, Goldthorpe and Portocarero (1979) based on the International Standard Classification of Occupations, has been recoded in different ways according to the guidelines of Ganzeboom and Treiman (1996) and the specificities of each national context (see Methodological appendix). One variable with a crucial role in most of the models concerning immigrants is the years since migration.

The articles are based on similar statistical models. In order to investigate access to the labour market by new migrants, we use binary logistic regression models concerning the probability of being active (or employed) and the probability of avoiding unemployment (limited to people in the labour force). Because sizeable differences in activity rates between groups may distort the results on the risk of unemployment, with underestimation of the real penalties of less active groups, some articles check or even use a Heckman probit selection model so that in the same model account can be taken of both the probability of being active and that of avoiding unemployment (Maddala, 1983; Van de Ven

and Van Pragg, 1981). The Heckman probit selection model is a two-stage binary regression: in the first stage (the selection equation) the dependent variable is the probability of being active and all subjects aged 15–64 years old are included, whereas in the second stage (the outcome equation) only those selected by the first one, the active, are included, and the dependent variable is the probability of avoiding unemployment, conditional on participation. Access to highly qualified jobs is analysed with a regression model based on the EGP class scheme (see Methodological appendix).

CONTEMPORARY IMMIGRATION IN WESTERN EUROPE

In the past 15 years, the foreign population in EU15 countries has increased by 10 million people, of whom nearly 60 per cent are concentrated in four countries - Spain, Italy, Greece and Portugal - which account for only one-third of the total EU15 population. Thus, the new inflows from new and old emigration countries worldwide have impacted on the new receiving countries (which until the mid-1970s were sending countries) to a much greater extent than on the old ones. However, cross-national differences concern not only the amount of migrants, but also their main modes of entry. In fact, most immigrant entries into the EU15 countries have been against the will of the latter, because a "closed door policy" for labour immigration was adopted by nearly all such countries until the early 2000s. However, the ways in which that policy has been circumvented are very different. Very roughly speaking, immigration into Italy and Spain has been characterized by illegal or unauthorised entries; into Denmark by asylum seekers and family reunion immigrants; into Germany by asylum seekers and ethnic Germans; into the Netherlands by asylum seekers, Eastern European workers and people from ex-colonies; and into the United Kingdom by Eastern European workers, high skilled specialists, family reunion immigrants from ex-colonies and asylum seekers. In particular, Denmark and the Netherlands were the West European countries that received, in relative terms, the largest wave of asylum-seekers, whereas Italy and Spain received the smallest (UNHCR, 2004). In contrast, Spain and Italy hold the record of mass regularisations of immigrants who entered the countries illegally or much more often overstayed (Levinson, 2005).

Most migrants entering West European countries in the past two decades have not been needy and poorly educated people from rural societies, unlike those who immigrated in the past into the old receiving European countries. Today, the proportion of highly-educated immigrants is much larger (OECD, 2007), so that the gap with respect to natives is not as wide as it was in the past; and in Italy and Spain it is narrow, even when account is taken of the very different proportion of poorly-educated elderly. There are numerous possible reasons for this finding: some countries of origin (particularly in Eastern Europe) are traditionally highly educated; higher education has been recently upgraded in many developing countries; and the difficulties of entering formally closed countries (either asylum seeking, overstaying, or clandestinely) may have caused a deeply positive self-selection. Nevertheless, for these new immigrants, labour market opportunities are still scant, although differences both by country of entry and origin, and by personal characteristics, are important.

In the old receiving countries, immigrants are much less frequently in employment and much more likely to be unemployed than natives, while in the new receiving ones they are more frequently employed than natives and penalised in terms of unemployment to only a minor extent. Table 1 shows that foreign nationals record fairly favourable results compared with natives (represented by ratios greater than one for employment rates and only slightly higher than one for unemployment rates) in Italy and Spain, whereas their outcomes are rather unfavourable in Denmark, Germany, the United Kingdom and the Netherlands where the unemployment rate of foreign nationals is two to three times that of the native born. Indeed, the case study will show that in Italy,

TABLE 1

RATIOS OF EMPLOYMENT AND UNEMPLOYMENT, FOREIGN-BORN RELATIVE TO NATIVE-BORN, 2004-2005

	Employment-population ratio (15-64 yrs)				Unemployment rate			
	Non EU15		All foreign-born		Non EU15		All foreign-born	
	Men	Women	Men	Women	Men	Women	Men	Women
Italy Spain Denmark Germany Netherlands United Kingdom	1.1 1.1 0.8 0.8 0.8 0.9	1.1 1.2 0.7 0.6 0.7 0.8	1.1 1.1 0.9 0.9 0.8 0.9	1.1 1.2 0.7 0.7 0.8 0.8	1.1 1.4 2.3 2.2 3.6 1.7	1.5 1.2 2.9 2.1 2.4 2.1	1.1 1.4 1.8 1.9 3.3 1.6	1.4 1.1 2.5 1.9 2.1 1.9

Source: Our elaboration from Eurostat, Labour force surveys.

the performance of immigrants becomes more negative once their regional settlement is taken into account.

By contrast, if we look at the qualification of jobs, immigrants perform worse in the two southern European countries than in all the other countries. In fact, Table 2 shows that in Spain and Italy the proportion of new immigrants who are over-educated for their jobs (i.e., highly or medium educated immigrants working in manual jobs) is much higher than in the other countries. Hence, a trade-off between the risk of unemployment and the access to highly qualified jobs can be identified from the descriptive statistics: in the new receiving countries, lower inequality as regards unemployment is counterbalanced by higher inequality in access to highly-qualified jobs, whereas in the old receiving countries higher inequality as regards unemployment is counterbalanced by lower inequality in access to highly-qualified jobs.

What, therefore, is the explanation for these cross-national differences concerning the incorporation of new immigrants in the labour market? Are they linked to the history of immigration, which opposes old and new receiving countries? Or does the nature of inflows – asylum seekers versus unauthorised labour migrants – matter? How much do those outcomes depend on welfare provisions, which are quite generous in Denmark and the Netherlands and very poor in Italy and Spain? How and to what extent are the higher risk of unemployment and the segregation of new immigrants at the bottom of the occupational ladder due to their lower level of education? What happens once differences among countries of origin are taken into account in each national context? And to what extent does the performance of migrant women differ from that of men? Does the length of stay in the host country have a positive impact by diminishing the ethnic penalties? The articles in this special issue try to provide some answers, which we now briefly summarise.

TABLE 2

PROPORTION OF NON EU15-BORN NEW IMMIGRANT WORKERS WHO ARE EMPLOYED IN MANUAL JOBS BY EDUCATIONAL ATTAINMENT, 2005

	Italy	Spain	Denmark	Netherlands	Germany	United Kingdom
High	41.7	55.2	24.1	25.9	19.6	7.9
Medium	74.9	65.5	35.9	45.8	49.3	28.3

Source: Our elaboration from Eurostat, Labour force surveys.

THE PENALTY AS REGARDS THE RISK OF UNEMPLOYMENT

The disadvantage of new immigrants in terms of employment high-lighted by the descriptive statistics is confirmed by the statistical models used by the articles to emphasize the ethnic penalties. In fact, after controlling for age, education, family status (and for larger countries, region), immigrants still have a higher risk of being unemployed (or a lower probability of being employed) compared with natives. There are a few exceptions, namely: Asians, women from Latin America and Eastern Europe in Spain, eastern Asians and men from Centre-South Asia in Italy, people from Old Commonwealth and men from the United States, Hong Kong, China and Japan in the United Kingdom.

In Germany, Denmark, the United Kingdom and the Netherlands new immigrants are more penalised in terms of the risk of unemployment compared with the old ones, with some exceptions regarding women in Denmark, western migrants in the Netherlands, and some ethnic groups in the United Kingdom. The comparison may appear biased against new immigrants in that account is taken of the present status of old immigrants, when they are well-settled and integrated in the receiving society. However, most old immigrants were recruited to fill the labour shortages of the "golden age" and at that time their unemployment rate was really very low (Sopemi, 1975). Hence, the high unemployment of the "new entries" is a truly unknown economic and social problem for the centre-northern European countries, contrary to the case of the south European ones, where relatively few "new entries" through the "back door" are unemployed.

All the articles pay attention to female immigrants, whose penalization as regards the risk of unemployment is generally higher than for their male counterparts, although the differences by country of origin are large. Of course, differences by country of origin are also important as regards labour-market participation: supposedly for cultural reasons, the activity rate of women from Islamic countries is very low. However, it should be emphasized that, when models including all residents and models including only immigrants are compared, in Spain, Italy and the United Kingdom female immigrants living with children are much more penalised than are their native counterparts as regards labour-market participation. The main reason may be the meagre public support for children, because this is not the case of Sweden, where such support is quite generous (Bevelander, 2005). Nevertheless, this result might also reflect a more traditional division of gender roles and the

severe difficulties that immigrant mothers with small children have to face, as many of them entered the host countries very recently and have, at the same time, to look for their first job and to find a solution for the care of their children.

Generally speaking, introducing education into statistical models reduces immigrants' penalty as regards the probability of being both active and employed, but it does not remove it. We may therefore conclude that the lack of employment for immigrants is not entirely explained by their lower level of education. As regards the role of education in improving the migrants' performance, models including only migrants (controlled for age, gender, nationality and years since migration) show that there is no clear relation between the education level of immigrants and their risk of being unemployed, contrary to what always occurs in the case of natives. In Italy, highly-educated immigrants are not less likely to be unemployed than poorly-educated ones. In Spain, the relation concerns only migrants from some countries, whereas in the United Kingdom the relation is inverted U-like.

How can this poor return on education for immigrants be explained? The hypothesis that educational qualifications obtained abroad may be country-specific, or anyway cannot be a portable resource for various reasons (difficulties in gaining recognition of foreign certificates and language skills) fits for access to qualified jobs, but it should not do so for the risk of unemployment, because highly-educated immigrants can compete with poorly-educated ones if they need to earn money. A displacement effect cannot occur, of course, for highly-educated refugees, who are able to rely on quite generous benefits, as in Denmark and the Netherlands. But this should not be the case for recent labour migrants not yet well settled. There are two other possible hypotheses: on the one hand, unskilled jobs may be too few, and poorly-educated immigrants may be better able to compete for them; on the other, a higher education may be a social constraint which prevents highly-educated immigrants from excessively downgrading their occupational expectations. Given that in receiving countries like Italy and Spain the demand for unskilled labour is very large, we may surmise that the latter hypothesis prevails, which contrasts with the traditional view of the temporary labour immigrant as the perfect homo oeconomicus (Piore, 1979).

Finally, some articles focus on the impact of the length of stay in the host country on labour-market penalization. The probability of both

being active and avoiding unemployment generally increases with the number of years since migration until a turning-point where the growth stops. The cross-national differences concern this turning-point, which occurs early (2–3 years) in Spain and later in Italy (either 3–5 or 9 years). The case of Denmark is peculiar, because the most recent immigrants are the least active, but also the most employed, which may be due to the strong impact of active labour policies. However, these trends are based not on longitudinal, but on cross-sectional data, so that they may be biased not only by changes over time in the characteristics of immigrants and by a selection of those who return home, but also by changes in the conditions of the labour market.

THE PENALTY AS REGARDS CLASS ATTAINMENT

In the old European immigration of the "golden age", immigrant workers were placed in the most unskilled jobs. But this situation was essentially due to their low educational attainment, so that, if compared to natives with the same educational qualifications, the penalization of immigrants appeared less marked. But what is the situation of contemporary immigrants, who are much more educated than those of the past?

Generally speaking, penalization as regards access to more qualified occupations still occurs in all countries, for all migrant groups and for both genders, with the exception of the United Kingdom, where the penalization concerns only migrants from Eastern European countries, and men from Turkey. However, when education is included in EGP multinomial logistic models, the penalty in terms of the probability of entering the white-collar class (juxtaposed to the unskilled and semiskilled manual class) increases instead of decreasing, contrary to what occurred in the past. The fact that, in Germany, once education is included in the model, the penalization decreases for old migrants confirms the different situation of new ones. This is an important result, for it shows that today the level of education of immigrants exacerbates their ethnic penalty as regards access to the most qualified jobs instead of reducing it. Aside from minor cases, such as very poorly educated Asians, Africans and Moroccans in Spain, the real exception is the United Kingdom, where, if educational attainment is taken into account, the penalization for new immigrants decreases and for some groups their advantage relative to natives with the same characteristics indeed increases. We may presume that a good command of English and the

wide availability of highly-qualified jobs, combined with a flexible labour market, enable many medium-low educated immigrants as well as very enterprising ones to obtain good jobs more easily.

Another way to analyse the role of education is to inspect its return in terms of access to highly qualified occupations. As one would expect from the theory of human capital, the situation of new immigrants is very different from that of natives in almost all countries, because a higher education does not give them easier access to qualified jobs compared with less educated immigrants. The return on education as regards access to highly qualified occupations, in fact, is much lower for immigrants than for natives in Italy, Spain (but not for EU15 immigrants), Germany and Denmark (in the last two countries especially for migrants from outside EU15 who have entered more recently). The United Kingdom is once again an exception, which confirms what was stressed above.

Furthermore, in several country studies, analysis is made of the access of immigrants to self-employment. Immigrants are little penalised (Germany and Italy for some ethnic groups) compared to natives, or they are even advantaged (the United Kingdom and Italy for some ethnic groups) concerning access to self-employment juxtaposed to access to unskilled manual work. As the literature on "ethnic business" emphasizes, to different extents, small business may be an important option for immigrants, given the barriers against access to higher-level classes. However, once work experience is taken into account, in Denmark immigrants are significantly less likely than natives to access self-employment. This might mean that self-employment acts as an entry point for many skilled immigrants with little work experience. The fact is that in Denmark self-employment is not a means to an occupational upgrading, but is being used as a last resort to avoid non-employment (Blume et al., forthcoming).

Finally, in the case of several countries, no evidence is found to support the hypothesis that the occupational status of migrant workers improves as the length of stay in the host country increases. In the United Kingdom, the number of years since migration does not affect the probability of obtaining a qualified job; in Italy, an improvement appears only late (over 6–10 years); while in Spain, a sizeable improvement occurs after 3–4 years, then levels off. In the Netherlands, by contrast, the length of stay has a positive impact, but more for access to intermediate positions than to managerial and professional ones.

WHICH FACTORS EXPLAIN NEW IMMIGRANTS' INCORPORATION?

From the case studies included in this special issue it is not possible to build a thoroughgoing typology of new immigrant incorporation into West European labour markets. The cases are too few, and above all each author has been compelled to adopt a rather different research design, partly because of the necessity to use national datasets and partly in order to focus on problems that more closely concern his/her country. Thus, in our effort here to summarise some results of the six national analyses, we have been obliged to compare only three-four cases on each issue according to a "variable geometry" strategy of comparison. However, some general conclusions can be drawn concerning the main factors that may have shaped immigrants' incorporation into West European labour markets over the past two decades.

The first factor, which should be well known but is often neglected, concerns the nature of immigration. If we distinguish asylum-seekers, family reunion immigrants, recruited labour immigrants and unauthorised immigrants for working reasons, the western European countries can be classified according to the different mix of these categories. Asylum-seekers largely outnumber the others in Denmark, whilst the huge inflows into Spain and Italy mainly consist of labour immigrants entering those countries without the proper permits. In the other receiving countries, the mix is more complex, and the largest category of immigrants is less predominant, so that analysis should always break immigrants down by country of origin as a proxy for the mode of entry. The case studies have shown the extent to which this factor affects the incorporation of migrants, whereas the generosity of the welfare state relates largely to the proportion of asylum-seekers and cannot be considered an autonomous factor.

The paper on Denmark refutes the commonplace view that connects the incorporation of migrants into the Danish labour market to its famous flexicurity approach to labour policies. The authors, by contrast, emphasize the role of labour demand, which is so highly skilled and country-specific that even highly educated immigrants are unable to satisfy its requirements. The labour demand in the receiving countries also proves to have an important role, although in very different ways, in the articles on Spain, Italy and the United Kingdom. The professional mix of labour demand in Western European countries is too often neglected, especially by sociologists, among the factors that explain both migratory inflows and their incorporation in the receiving labour markets.

Although data on vacancies are lacking, it is likely that labour shortages are very different between countries biased towards high skilled jobs, such as the United Kingdom, the Netherlands and Denmark (where the proportion of managers and professionals is over 20%, versus less than 30% of manual workers), and countries by contrast biased towards unskilled jobs, such as Italy and Spain (where the proportion of managers and professionals is 12–15%, versus 40–45% of manual workers). In the latter countries, highly educated migrants, who form a large part of contemporary migration, can easily find jobs, albeit unskilled ones, whereas in the former countries they encounter greater difficulties in obtaining jobs because unskilled vacancies are rare, and their educational qualifications are too country-specific for them to obtain highlyskilled positions. The United Kingdom is an exception because, on the one hand, many highly-educated migrants have a good command of English even before entering the country, and, on the other, not a few of them have been specifically recruited to fill highly-qualified jobs, given that the United Kingdom had an old policy of quotas for skilled immigrants that was strengthened since the 1970s.

To conclude, the country studies, which allowed us to make a more in-depth analysis, confirm that the scenario of labour market incorporation of new immigrants in Western Europe is characterized by a trade-off between unemployment and job quality. In countries where the risk of unemployment for immigrants is hardly any greater than for natives – such as Italy and Spain – immigrants do suffer a serious penalty in terms of the level of job skills; whereas, in countries where immigrants are at a much greater risk of unemployment than natives – such as Denmark and the Netherlands - immigrants pay a relatively small penalty with respect to the level of skills. Germany and the United Kingdom occupy a halfway position in both respects. The usual explanation refers to different methods of entry used by new immigrants and the difference in access to welfare provisions. A quite large proportion of immigrants to Denmark and the Netherlands are asylum-seekers, who are entitled to receive generous assistance, so they are able to remain either inactive or unemployed even for a long term and emerge from those positions only once they manage to find a job appropriate to their educational level. Meanwhile immigrants in Italy and Spain - even those who have managed to get a work permit of stay through a regularisation - receive very meagre benefits from two of the least generous welfare states in Europe; nor are they able to rely on support from their families, as happens for numerous native unemployed youngsters, so they are forced to accept the first job they find, even if it falls well short of their educational qualifications.

This explanation is not exhaustive, however, since it neglects a fundamental aspect of the labour market situation. Indeed, the demand for labour in Italy and Spain is geared very much towards low-skilled jobs and hardly at all towards highly-skilled occupations, whereas in Denmark and the Netherlands the opposite trend applies. Economic growth in Italy and Spain has been based on low-tech and unskilled labour-intensive production processes, and the scant supply of public care services has caused a growing demand of domestic and elderly care-providers by families. This has led to shortages of low-skilled or unskilled labour. At the other end of the scale, the trend in Denmark and the Netherlands has been very different as concerns not only manufacturing industry and business services but also public and private personal services, so much so that shortages of unskilled labour have been very limited; if anything, there has been a real need for workers with highly qualified skills. The situation in Germany and the United Kingdom is in the middle, as labour shortages have tended to become polarised; hence the demand for immigrants has focused less on a single group – either low-skilled or highly skilled.

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NOTE

1. The studies regarding Italy, Spain, Denmark and Germany are included in this issue, whereas those regarding the Netherlands and the United Kingdom were published elsewhere (Zorlu and Hartog, 2008; Demireva, forthcoming).

REFERENCES

Amuedo-Dorantes, C., and S. de la Rica

2006 "Labour market assimilation of recent immigrants in Spain", *IZA Discussion Paper*, No. 2104, Institute for the Study of Labour, Bonn.

Berthoud, R.

2000 "Ethnic employment penalties in Britain", Journal of Ethnic and Migration Studies, 26(3): 389–416.

Behtoui, A.

2007 "The distribution and return of social capital: evidence from Sweden", *European Societies*, 3: 383–407.

Bevelander, P.

2005 "The employment status of immigrant women: the case of Sweden", *International Migration Review*, 39(1): 173–202.

Blume, K., et al.

(forthcoming) "Labor market transitions of immigrants with emphasis on marginalization and self-employment", *Journal of Population Economics*.

Borjas, G.

1985 "Assimilation, changes in cohort quality, and the earnings of immigrants", *Journal of Labor Economics*, 3(4): 463–489.

1990 Friends or Strangers: The Impact of Immigration on the US Economy, Basic Books, New York.

1994 "The economics of immigration", *Journal of Economic Literature*, 32: 1667–1717.

1995 "Assimilation and changes in cohort quality revisited - what happened to immigrant earnings in the 1980s", *Journal of Labor Economics*, 13(2): 201–245.

Breen, R (Ed.)

2004 Social mobility in Europe, Oxford University Press, Oxford.

Burstein, P.

1994 Equal Employment Opportunity, Aldine, New York.

Castles, S., and G. Kosack

1985 Immigrant Workers and Class Structure in Western Europe, Oxford University Press, Oxford.

Chiswick, B.

1978 "The effect of Americanisation on the earnings of foreign-born men", *Journal of Political Economy*, 86(5): 897–921.

Constant, A., and D.S. Massey

2003 "Self-selection, earnings, and out-migrations: a longitudinal study of immigrants to Germany", *Journal of Population Economics*, 16(4): 631–653.

De Giorgi, G., and M. Pellizzari

2006 "Welfare migration in Europe and the cost of a harmonised social assistance", *IZA Discussion Paper* No. 2094, Institute for the Study of Labour, Bonn.

Demireva, N.

(forthcoming) "New Immigrants in the United Kingdom: Employment Patterns and Occupational Attainment", Journal of Ethnic and Migration Studies.

Dustman, C.

2000 "Temporary migration and economic assimilation", *IZA Discussion Paper*, No. 186, Institute for the Study of Labour, Bonn.

Erikson, R., and J.H. Goldthorpe

1992 The Constant Flux: A Study of Class Mobility in Industrial Societies, Clarendon Press, Oxford.

Erikson, R., J.H. Goldthorpe, and L. Portocarero

1979 "Intergenerational class mobility in three western European societies: England, France and Sweden", *British Journal of Sociology*, 30: 303–343.

Esping-Andersen, G.

1990 The Three World of Welfare Capitalism, Polity Press, Cambridge.

Fertig, M., and S. Shurer

2007 "Labour markets outcomes of immigrants in Germany: the importance of heterogeneity and attrition bias", *IZA Discussion Paper*, No. 2915, Institute for the Study of Labour, Bonn.

Friedberg, R.M.

2000 "You can't take it with you? Immigrant assimilation and the portability of human capital", *Journal of Labor Economics*, 18: 221–251.

Ganzeboom, H.B.G., and D.J. Treiman

"Internationally comparable measures of occupational status for the 1988 International Standard Classification of Occupations", Social Science Research, 25: 201–239.

Goldthorpe, J.

2000 On Sociology. Numbers, Narratives and the Integration of Research and Theory, Oxford University Press, Oxford.

Kalleberg, A.L., and A.B. Søresen

1979 "The sociology of labor markets", *Annual Review of Sociology*, 5: 351–379.

Kalter, F., and N. Granato

2007 "Educational hurdles on the way to structural assimilation in Germany", in A. Heath and S.-Y. Cheung, (Eds.), *Unequal Chances: Ethnic Minorities in Western Labour Markets*, Oxford University Press, Oxford: 271–319.

Kalter, F., and I. Kogan

2006 "Ethnic inequalities at the transition from school to work in Belgium and Spain: discrimination or self-exclusion?" *Research in Social Stratification and Mobility*, 24: 259–74.

Kesler, C.

2006 "Social policy and immigrant joblessness in Britain, Germany and Sweden", *Social Forces*, 85(2): 743–770.

Kogan, I.

2007 Working Through Barriers. Host Countries Institutions and Immigrant Labour Market Performance in Europe, Springer, Dordrecht.

Kogan, I., and F. Kalter

2006 "The effects of relative group size on occupational outcomes: Turks and ex-Yugoslavs in Austria", *European Sociological Review*, 22(1): 35–48.

Heath, A.

2007 "Cross-national patterns and processes of ethnic disadvantage", in A. Heath and S.-Y. Cheung (Eds), *Unequal Chances. Ethnic Minorities in Western Labour Markets*, Oxford University Press, Oxford: 639–695.

Heath, A., and S.-Y. Cheung (Eds)

2007 Unequal Chances. Ethnic Minorities in Western Labour Markets, Oxford University Press, Oxford.

Heath, A., and D. McMahon

"Education and occupational attainments: the impact of ethnic origins", in V. Karn (Ed.), *Ethnicity in the 1991 Census*, vol. 4: Education, Employment and Housing, HMSO, London: 91–113.

Heath, A., and J. Ridge

1983 "Social mobility of ethnic minorities", *Journal of Biosocial Science Supplement*, 8: 169–184.

Levinson, A.

2005 The Regularisation of Unauthorised Migrants: Literature Survey and Country Case Studies, Centre on Migration, Policy and Society, University of Oxford, Oxford.

Linn, N.

1999 "Social networks and status attainment", *Annual Review of Sociology*, 25: 467–487.

Maddala, G.

1983 Limited Dependent and Qualitative Variables in Econometrics, Cambridge University Press, Cambridge.

Pennix, R., M. Berger, and K. Kraal (Eds.)

2006 The Dynamics of International Migration and Settlement in Europe.
A State of Art, Amsterdam University Press, Amsterdam.

Piore, M.

1979 Birds of Passage. Migrant Labor and Industrial Societies, Cambridge University Press, Cambridge.

Portes, A.

1995 The Economic Sociology of Immigration: Essays on Networks. Ethnicity, and Entrepreneurship, Russell Sage Foundation, New York.

Portes, A., and J. Böröcz

"Contemporary immigration: theoretical perspectives on its determinants and models of incorporation", *International Migration Review*, 23(3): 606–627.

Portes, A., and R.G. Rumbaut

2001 Legacies, University of California Press, Berkeley.

Reitz, J.G.

2003 Host Societies and the Reception of Immigrants, Center for Comparative Immigration Research, San Diego.

Revneri, E.

2001 "Migrants' involvement in irregular employment in the Mediterranean countries of the European Union", *International Migration Papers*, No. 39, ILO, Geneva.

Sassen, S.

1988 The Mobility of Labor and Capital: A Study in International Investments and Labor Flow, Cambridge University Press, Cambridge.

Schierup, C.-U., P. Hansen, and S. Castles

2006 Migration, Citizenship and the European Welfare State, Oxford University Press, Oxford.

Sopemi

1975 Tendances des migrations internationales, SOPEMI, Paris.

Taran, P., R. Zegers de Beijl, and I. McClure

2004 "Challenging discrimination in employment: a summary of research and a typology of measures", *International Migrations Papers*, No. 68, ILO, Geneva.

Tubergen, F., I. Maas, and H. Flap

2004 "The economic incorporation of immigrants in 18 western societies: origin, destination and community effect", *American Sociological Review*, 69(4): 704–727.

Van de Ven, W.P.M., and B.M.S. Van Pragg

"The demand for deductibles in private health insurance: a probit model with sample selection", *Journal of Econometrics*, 17: 229–252.

UNHCR

2004 Statistical Yearbook, UNHCR, New York.

Zegers de Beijl, R.

2000 Documenting Discrimination against Migrant Workers in the Labour Market, International Labour Office, Geneva.

Zorlu, A., and J. Hartog,

2008 "Employment assimilation of immigrants in the Netherlands: Catching up and the irrelevance of education", *IZA Discussion Paper*, no. 3534, IZA, Bonn, June.

METHODOLOGICAL APPENDIX

THE HECKMAN MODEL

Individual's *i* propensity to work can be described by the following latent function:

$$E_{i}^{*} = X_{i}\beta + e_{1i} \quad (employment \ equation) \tag{1}$$

where X_i is a vector of explanatory variables affecting employment, β is a vector of parameters to be estimated and e_{1i} is a random variable with distribution $e_{1i} \sim N(0,1)$ that captures unobserved characteristics. The latent employment propensity can only be manifested as a binary outcome: [1] either the individual is employed $(E_i^*>0)$ and then $E_i^*=1$; or [2] s/hes is unemployed $(E_i^*\leq0)$ and then $E_i^*=0$. Yet this binary outcome is only observed if the individual has previously decided to participate in the labour market. That is, if [3]:

$$Z_i \gamma + e_{\gamma_i} > 0$$
 (selection equation) (2)

where Z_i is a vector of variables affecting the decision to participate in the labour market, γ is a vector of parameters to estimate; e_{2i} is a random variable with $e_{2i} \sim N(0,1)$ that captures unobserved characteristics affecting such decision. It is assumed that e_{1i} and e_{2i} are jointly distributed and have correlation ρ . If $\rho \neq 0$, standard equation techniques applied to the employment equation will yield biased results. Using the Heckman *probit* method we can estimate the following log likelihood function³:

$$\begin{split} Log \ L = & \sum i: [1] log \, \Phi 2(X_i \beta, Z_i \gamma, \rho) + \sum i: [2] log \, \Phi 2(Z_i \gamma, -X_i \beta, -\rho) \\ & + \sum i: [3] log \, \Phi(-Z_i \gamma) \end{split} \tag{3} \label{eq:definition}$$

where the numbers in [] refer to situations 1–3 described above, Φ_2 is the distribution function of the bivariate normal and Φ is the distribution function of the univariate normal distribution.

THE EGP CLASSIFICATION OF OCCUPATIONAL STATUS

The classification of occupational status proposed by Erikson, Goldthorpe and Portocarero (1979) and revised by Erikson and Goldthorpe (1992) includes eleven categories, but for international comparative purpose a seven-category classification is strongly suggested. The categories are the following:

1	Higher services (salariat)
	includes mostly professionals, large enterprise employers and higher managers (over 10 employees)
II	Lower services
	Includes mostly associate professionals, lower managers (1–10 employees), higher sales
III a	Routine non manual employees – Higher grade
	Includes routine clerical
III b	Routine non manual employees – Lower grade
	Includes sale workers
IV a	Small employers
	Includes small entrepreneurs (1–10 employees)
IV b	Independent
	Own account workers, no employees
IV c	Farmer/Farm manager
	Self-employed and supervisory farm workers, irrespective of skill level
V	Manual foremen
	Manual workers with supervisory status (over 1 employee)
VI	Skilled manual
	Mostly craft workers, some skilled service and skilled machine operators
VIIa	Semi – Unskilled manual
	Mostly machine operators, elementary labourers, elementary sales and services
VIIb	Farm workers
	Employed farm workers, irrespective of skill level, also family farm workers

The EGP classification combines occupational information with information on employment status and is to be regarded as non-ordered (or only partially ordered) typology. According to Ganzeboom and Treiman (1996) guidelines, we recoded our data by using the 1988 International Standard Classification of Occupations (ISCO). The eleven EGP categories have been collapsed in different ways, according to the specificities of each national context.

THE OCCUPATIONAL ATTAIMENT MODEL

According to Erikson and Goldthorpe (1992), determinants of occupying a certain class position are modelled as relative odds ratios in a multinomial choice process, assuming that classes are independent and unranked categories. Formally:

$$P(\text{Class} = j | X_i) = \frac{\exp(X_i \delta_j)}{1 + \sum_{j=1}^{n} \exp(X_i \delta_j)}$$
(4)

where X_i is the vector of explanatory variables affecting the relative probability of individual i to be in state j rather than in j=1 (which is the reference category), and δ_j is a vector of parameter coefficients to estimate for each of the class positions considered.

In case the length of stay in the receiving country is taken into account, individual i's attainment of an occupational class is determined by YSM (years since migration) and a vector of other observed characteristic x by

$$Occ^* = x\delta_k + YSM\lambda_k + v \tag{5}$$

where δ and λ are a vector of parameters to be estimated, and ν is error term. Considering the unordered structure of the occupational categories, we applied a multinomial logit model to estimate the likelihood of being in state k, given by

$$\ln P_{k|b}(x, YSM) = \ln \frac{\Pr(Occ = k|x, YSM)}{\Pr(Occ = b|x, YSM)}$$
(6)

where k=1,...,J, and b is the base category. Using J equations, the predicted probabilities of having one of the selected occupations can be computed by

$$\Pr(Occ = k|X_i, YSM) = \frac{\exp(x\delta_{k|b} + YSM\lambda_{k|b})}{\sum_{j=1}^{J} \exp(x\delta_{j|b} + YSM\lambda_{j|b})}$$
(7)

where x is a vector of explanatory variables for individual i, δ_j is a vector of coefficients varying with the alternative outcomes and the coefficients for the reference outcome are normalised to zero.