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IMMIGRATION AND JOB DISAMENITIES

OSEA GIUNTELLA¹

Introduction

A popular argument in favor of immigration is that immigrants accept jobs that natives would never take. There is a growing body of literature analyzing immigrant-native differences in occupational risk across several developed economies and recent empirical evidence indicates that immigrants are more likely to hold jobs involving worse working conditions. Orrenius and Zavodny (2013) refer to these jobs as the “three D jobs”: jobs that are dirty, dangerous, and difficult. Recent research indicates that these jobs have long-lasting negative effects on health outcomes and cognitive abilities. There are several reasons why immigrants, who arrive relatively healthy and young compared to the hosting population, but who have a lower socio-economic status, human capital and wealth, may be more likely to hold these jobs than natives. However, quite surprisingly, there has been little theoretical and empirical investigation of the relationship between immigration and natives’ job risk.

Economists have long been interested in understanding the effects of immigration on the labor market. Most of the studies found evidence of little or no negative effects of immigration on native wages and employment. The debate, however, becomes more controversial when one focuses on individuals who are more likely to suffer from immigrant competition in the labor market: low-skilled workers, ethnic minorities, and previous cohorts of immigrants. Yet we know very little about how immigration affects other important labor market characteristics such as the occupational risk, physical intensity, and the type of schedule associated with a given job.

This paper attempts to summarize the evidence on immigrant-native differences in terms of their likelihood of working in riskier jobs and to present recent results on the effects of immigration on natives’ job risk with a particular focus on non-standard schedules and the physical intensity of given jobs.

The remainder of the article is organized as follows: the first section discusses the importance of non-pecuniary working conditions in determining workers’ health and well-being. The following section provides a short summary of the literature analyzing why immigrants may hold riskier jobs and discussing the evidence on immigrant-native differences in occupational risks. The last section analyzes the effects of immigration on the working conditions and health of the native population. In particular, I concentrate on the physical burden associated with a given occupation and the likelihood of working non-standard schedules (evening, night, or Sunday shifts), which have been the focus of my own work in this area.

The importance of non-pecuniary working conditions

Recent studies have documented how working conditions can have long-lasting effects on workers’ physical health (Ravesteijn, Kipperluis and Doorslaer 2013; Fletcher and Sindelar 2009; Case and Deaton 2005) and cognitive abilities (Mazzonna and Peracchi 2014). Workers employed in physically demanding jobs are at a significantly higher risk of injuries and face a steeper aging profile. Similarly, working irregular shifts or nightly schedules increases the risk of negative health outcomes and negatively affects the well-being of individuals and families (Costa 1996; Presser 2000; Strazdins et al. 2006; Davis et al. 2008; Vyas et al. 2012; Enchautegui 2013). Non-standard schedules reduce time spent with family and friends, affecting the consumption of relational goods, with important consequences for marital stability, children’s well-being and, more generally, for individual well-being. There is evidence that working non-standard hours increases the risk of obesity, ischemic heart disease and breast cancer. More generally, working conditions significantly affect the likelihood of reporting feelings of chronic fatigue, anxiety and depression.

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It is worth noting that job-disamenities are not distributed evenly among workers. As reported by Enchautegui (2013), “60 percent of workers with non-standard schedules have earnings below the median of the typical American worker, and 40 percent have earnings that are lower than those of 75 percent of all workers”. One may argue that individuals choose these jobs because of the compensating wage differential associated with worse working conditions, however, there is very little empirical evidence of risk premiums. Overall, research indicates that immigrants earn risk premiums that are similar to natives, but some groups (e.g., Mexicans in the US) earn smaller or no risk premiums (Hersch and Viscusi 2010). The wage premium for irregular shifts is relatively small. In the United States, only a small fraction of workers reported working non-standard hours because of the compensating wage differential (McMenamin 2007). This evidence suggests that, for most of the workers, non-standard schedules are the result of limited labor market opportunities.

For all of these reasons, growing attention is being paid to increasing workers’ awareness of the risks associated with particular working conditions and improving the job quality of immigrants has become an important policy issue (Enchautegui 2008).

Immigrant-native differences in job disamenities

Why immigrants may be more likely to hold riskier jobs

Media reports contributed to popularizing the idea that immigrant workers do jobs that native workers would never accept. But in addition to the anecdotal evidence, there are different reasons for why we might expect immigrants to hold riskier jobs. Coming from countries that are, on average, characterized by worse working conditions, immigrants may have a different perception of job risks than natives. Differences in risk knowledge and perception may also be explained by differences in socio-economic status and language proficiency (Dávila, Mora and González 2011). Due to language barriers, the cost of providing safety training to immigrant workers may be higher (Hersch and Viscusi 2010). Furthermore, immigrants who took the risk of migrating may have a lower risk aversion than natives (Berger and Gabriel 1991). This may explain the self-selection of immigrants in riskier jobs, but also the higher safety related costs, as these workers may be more likely to take excessive risks.

In addition, as most immigrants in the developed world arrive with lower human capital and less financial assets than natives, they have higher incentives than natives to accept worse working conditions in return for higher life-time earnings (Grossman 1972). These incentives are reinforced by the fact that immigrants are usually young and relatively healthy (“healthy immigrant effect”, see Antecol and Bedard 2006; Giuntella and Mazzonna 2014) and might therefore be willing to trade-off some of their health capital for better wages under worse economic conditions. Newly-arrived immigrants may face language barriers, and therefore may have a comparative advantage in working in more manual-intensive jobs, than in occupations requiring communication and social interaction skills. Furthermore, as the exit rates from these jobs are higher (Martin et al. 2012), there may be more opportunities and lower search costs for recent immigrants. Immigrants can therefore be expected to self-select in occupations involving higher physical intensity and worse schedules.

Immigrant-native differences in job disamenities: empirical evidence

Despite all these arguments and the anecdotal evidence on immigrants injured or killed in dangerous jobs, Berger and Gabriel (1991) and Hamermesh (1997) found little evidence that immigrants work in riskier jobs than natives. However, more recent studies have found that immigrants are, in fact, more likely to work in riskier jobs (Loh and Richardson 2004; Orrenius and Zavodny 2009, 2012; Giuntella 2012; Giuntella and Mazzonna 2014). These findings are observed across various developed countries: Canada, Germany, Italy, Spain and the United States. The differences in the results with respect to earlier research are explained by differences in the way of measuring risk, but also by the different samples analyzed. In particular, Orrenius and Zavodny (2009) argue that the increase in immigrants’ job risk in the US may be explained by a decline in the average human capital among immigrants, and by the fact that immigrants were crowded out into riskier jobs because of the increase in the immigrant population over time.

Non-standard schedules and the physical burdens of jobs

Most previous studies have focused on occupational risk analyzing the different likelihood of natives and immigrants working in jobs with high injury and fatality rates. Here, I present some results from my recent work on the topic, which focused on immigrant-native differences in the likelihood of working non-standard

schedules and in the average physical burden associated with a job.

Panel A of Table 1 reports immigrant-native differences in the likelihood of working non-standard schedules for Germany (source: German Socio-Economic Panel (SOEP)), Italy (source: Italian Labor Force Survey), and the US (source: American Time Use Survey). Immigrants in each country are more likely than natives to work night shifts, and more generally to work non-standard hours (evening, night, or Sunday shifts). The difference in the incidence of non-standard hours remains significant after conditioning for standard socio-demographic controls (age, gender, education, household characteristics, sector and occupation), year fixed effects and local area fixed-effects, ranging between 14 (Italy) and 20 (US) percent of the mean.

Panel B analyzes the physical intensity associated with a job using data from the German Socio-Economic Panel. Immigrants are more than twice as likely as Germans to work in blue-collar jobs and on average have held jobs characterized by higher physical intensity. As mentioned earlier on, these jobs are known to have significant effects on health and, indeed, we observe that ageing occurs more rapidly among immigrants working

in these occupations than among white-collar workers. While immigrants have a lower likelihood of reporting poor health status and doctor-assessed disability than their native counterparts, the health of immigrants rapidly converges to the health of the natives among workers employed in occupations characterized by high physical intensity. These patterns are reflected in Figure 1 and 2, which illustrate this process of unhealthy assimilation (Antecol and Bedard 2006). Immigrants, both men and women, are found to be healthier upon arrival, with a lower incidence of doctor-assessed disability than that observed among natives. However, over time, the average incidence of doctor-assessed disability grows significantly faster among immigrant men than among natives. Interestingly, we do not observe convergence among women. Figure 2 shows the unhealthy convergence is driven by those individuals working in high physically demanding occupations.

Effects of immigration on natives' job quality

While we are starting to find out more about how job amenities differ across groups, very few papers have investigated the causal effects of immigration on the job quality of natives (e.g., working schedules, physical burden, and risk of injury). If immigrants, for the

Table 1

Likelihood of working non-standard-hours and physical job intensity			
Panel A: Non-standard hours			
	Germany (SOEP 1984-2010)	Italy, LFS, 2006-2008	US (ATUS, 2003-2011)
Immigrant-native difference	0.0612*** 0.006	0.036*** -0.003	0.022*** (0.004)
Standard socio-demographic controls	YES	YES	YES
Local area fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Observations	50,122	720,513	45,857
Panel B: Job physical burden			
Dependent variable	Germany (SOEP 1984-2010)		
	Blue collar	Physical burden	High physical burden
Immigrant-native difference	0.299*** 0.003	1.969*** 0.017	0.205*** 0.002
Standard socio-demographic controls	YES	YES	YES
Local area fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Observations	199,167	197,003	197,003
Statistical significance: ***, p<0.01, **, p<0.05 and *, p<0.1.			

Sources: Giuntella and Mazzonna 2014; Giuntella 2012.

reasons discussed in the previous sections, are more likely to hold riskier jobs, then the question is what happens to natives, and in particular to natives who were previously working in these occupations. Are they crowded out of these jobs? And if so, what are the welfare implications of this reallocation of working conditions in the labor market?

Hamermesh (1997) was the first to provide a theoretical framework to analyze the effects of immigration on job disamenities. Finding no evidence of significant differences between immigrants and natives in the set of job amenities, he concluded that “the preconditions for the absence of direct labor-market competition between immigrants and natives do not exist” and challenged the anecdotal view that “immigrants take the jobs that, otherwise identical, natives would never take”. However, as discussed earlier on, recent evidence reached an opposite conclusion, motivating further analysis of the effects of immigration on native working conditions, health, and individual well-being.

Below, I summarize the main findings from recent research into the effects of immigration on non-standard schedules, job physical burden, and the health of natives. To identify the causal effect of immigration on these outcomes, we exploit variation over time in the share of immigrants living in a local labor market and adopt an instrumental variable approach. In practice, we exploit the fact that immigrants tend to locate in areas with a higher density of immigrants from their own country and we distribute the annual national inflow of immigrants from a given source country using the distribution of immigrants from a given country of origin across local labor markets in a base year (Card 2001). By doing so, we reduce the risk of endogeneity due to the fact that annual immigration inflows across local la-

bor markets may be driven by time-varying local labor market characteristics associated with our outcomes of interest.

Immigration and non-standard schedules

Panel A in Table 2 summarizes the finding from previous work analyzing the effects of immigration on non-standard schedules in Italy. Repeated cross-sections from the Italian Labor Force Survey (2006–2009) are merged with official records of immigrants across Italian provinces.

Figure 1

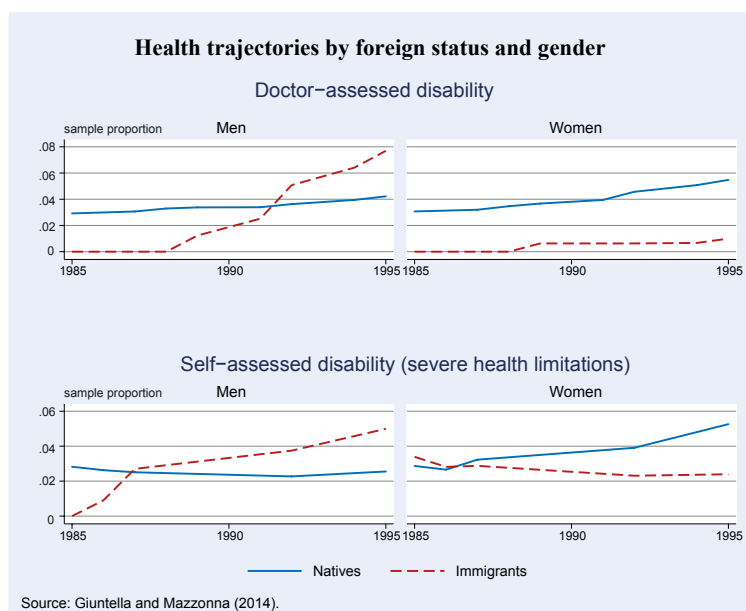
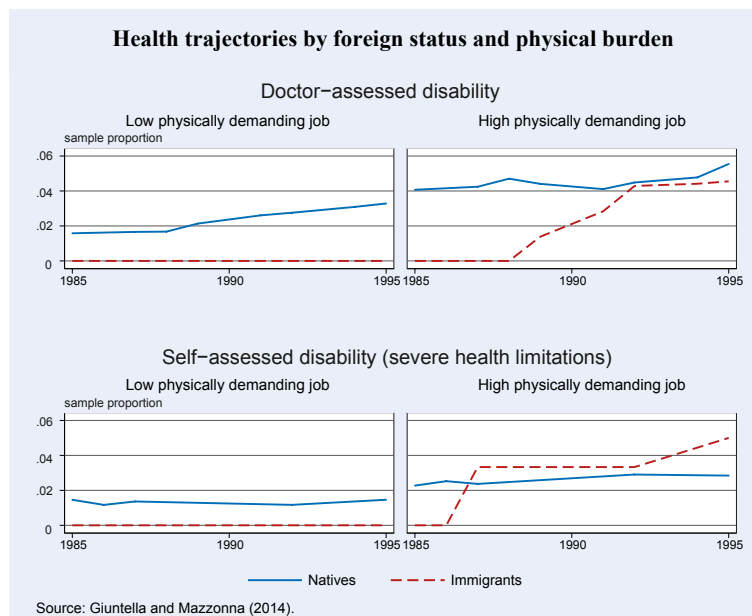


Figure 2



The dependent variable is a dummy variable equal to one for Italian citizens who report having worked non-standard hours at least once over the survey reference week. Results, obtained using the Card (2001) instrument, show an increase in the share of foreigners in the local labor market affects the work-schedule of natives. In particular doubling the share of immigrants residing in a province – a 1.3 standard deviation increase – is associated with a reduction in natives' likelihood of working non-standard hours that ranges between two and four percentage points depending on the different specifications of the model. Since on average 28 percent of natives reported working non-standard hour shifts, the coefficient implies a reduction of 7 to 15 percent in the share of natives working non-standard hours. These results are driven by workers in blue collar jobs and non-financial services, while there is no evidence of significant effects in the public and financial sectors.

Using the SOEP, one can exploit the longitudinal dimension of the data and include individual fixed-effects in

the analysis. An increase in the immigration rate significantly reduces the number of working hours, the likelihood of working overtime, and the likelihood of working nightly shifts (column 2).

The effect on nightly shifts is not precisely estimated as this information is available only in a few waves of the survey substantially reducing the identification power when including individual fixed effects. However, the estimate is significant when using quasi-fixed effects (coef. -0.015**; std.err. 0.006), which control for individual average age, education, marital status, employment status and household size. Using quasi-fixed effects, Giuntella and Mazzonna (2014) find a negative effect of immigration on the likelihood of working evening shifts, working on Sundays, and on the perceived risk of work accidents.

Interestingly, descriptive evidence is similar when analyzing recent data from the United States. In this case, given the cross-sectional nature of the data and the

Table 2

Effects of immigration on non-standard hours and on health of residents

Panel A: Effects of immigration on non-standard hours				
Dependent variable:	Italy (LFS 2006-2009)		Germany (SOEP)1996-2010	
	Men 15-64		Men 25-59	
	Non-standard hours	Night shift	Non-standard hours	Night shift
Immigration rate	-0.021*** (0.007)	-0.013** 0.003	-0.021 (0.015)	-0.015 0.011
Standard socio-demographic controls	YES	YES	YES	YES
Individual fixed effects	NO	NO	YES	YES
Local area fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	406,111	406,111	14,562	14,562
Panel B: Effects of immigration on the health of residents				
Dependent variable	Germany (SOEP, 1996-2010) , Men 25-59			
	<i>Doctor-assessed disability</i>			
	Overall	Blue collars	White collars	
Immigration rate	0.01* (0.005)	-0.017* (0.01)	-0.03 (0.006)	
Standard socio-demographic controls	YES	YES	YES	
Individual fixed effects	YES	YES	YES	
Local area fixed effects	YES	YES	YES	
Year fixed effects	YES	YES	YES	
Observations	69,654	23,499	25,999	
Statistical significance: ***, p<0.01, **, p<0.05 and *, p<0.1.				

Sources: Giuntella and Mazzonna 2014; Giuntella 2012.

limited information available on compensating wage differentials, health outcomes, and job satisfaction, we cannot conclude that the overall improvement in working schedules represents a general welfare improvement for the natives. Nevertheless, these results suggest that policy makers should not neglect the impact of immigration on natives' schedules when evaluating immigration policies.

Immigration, health, and the role of working conditions: evidence from Germany

The German Socio-Economic Panel contains detailed information on job characteristics and individual health outcomes that allow us to explore the link between immigration, working conditions, and health more directly. Figure 3 depicts a strong negative association between immigration and the average physical burden of a man's job at the local labor market level. In Figure 4, we observe only a slightly negative relationship between the share of men reporting a doctor-assessed disability higher than 30 percent and the male immigration rate (the coefficient on immigration is very small, but significant at the five percent level). These associations are consistent with the conjecture that immigration, by increasing the supply of workers willing to trade-off health for increased lifetime earnings, may induce a reallocation of tasks in the resident population and, in turn, have positive spill-overs on their physical health status.

Panel B in Table 2 illustrates the main results of Giuntella and Mazzonna (2014), who adopt the Card (2001) instrument and an individual fixed-effects model to analyze the impact of immigration on the health of natives, and explore the role of working conditions in explaining the reduce-form effect of immigration on health outcomes. They find that a higher immigration

Figure 3

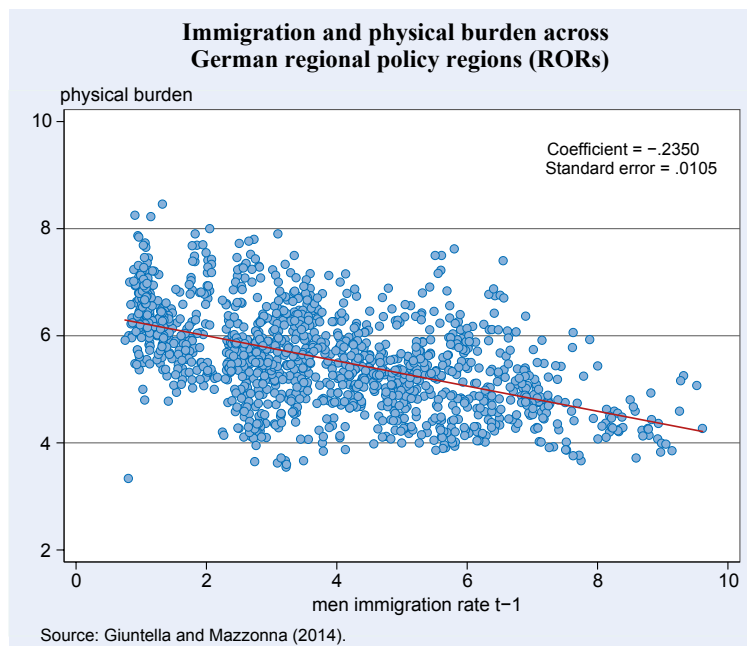
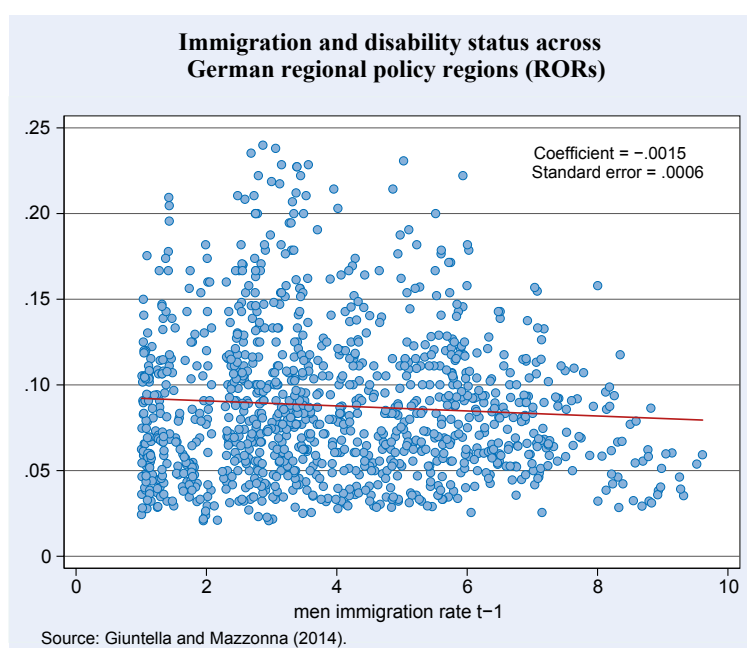


Figure 4



rate increases the likelihood of the native population reporting better health outcomes. In particular, a one standard deviation increase in the immigration rate reduces the likelihood of reporting doctor-assessed disability by approximately 16 percent, with respect to the mean of the dependent variable. While the results are driven by blue-collar workers, there is no evidence that immigration has significant effects on the allocation of blue- and white-collar jobs in the population. However, there is evidence that immigration reduces

the degree of physical intensity, the number of hours worked, and the likelihood of working at night among blue-collar workers. At the same time, consistent with several studies analyzing the effects of immigration in Germany, immigration has no detrimental effects on wages and employment. Giuntella and Mazzonna (2014) argue that the effects of immigration on these observable working conditions can explain approximately 25 percent of the reduced form effect of immigration on health. Furthermore, the authors find that immigration is associated with a significant reduction in the share of individuals reporting that they are concerned about their health status. Interestingly, using the SOEP data and following a similar approach, Akay, Constant and Giulietti (2014) show evidence of a positive effect of immigration on life-satisfaction.

Conclusion

The evidence discussed in this article suggests that immigrants are more likely than natives to hold riskier jobs. In particular, immigrants are more likely to work non-standard hours and to work in more physically demanding jobs with respect to their native counterparts. These results suggest that immigration may improve the working conditions of native workers by reducing the average number of hours worked, the physical intensity of blue-collar jobs, and the likelihood of working nightly shifts. These findings are consistent with the Grossman (1972) health capital model. Differences in the initial endowments and composition of capital (health, human, and financial endowments) between immigrant and their native counterparts can explain the reallocation of tasks in the population. Overall, the improvement observed in these working conditions may have significant effects on the health of the native population. The complementarity of tasks in the production function accounts both for the lack of detrimental effects on employment and wages, and the reallocation of natives and previous immigrants in jobs involving better working conditions. These labor market effects help to explain the positive association between immigration and health outcomes. Overall, the evidence presented suggests that policy-makers should not neglect the effects of immigration on non-pecuniary working conditions.

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