

Risk Preferences of Immigrants in the United Kingdom: Comparison of Financial and Health Domains

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Abstract

Background. Immigrant population accounts for 13.1% of the total population in the United Kingdom (UK) in 2014. Decision to migrate involves risk and uncertainty. Consequently, migrants are commonly perceived as risk takers. Existing literature highlights that risk attitudes are different between immigrant and native populations, although the results are not consistent and there are no studies specific to the UK immigrant population. Immigrants also tend to use less health care services and are more engaged in risky health behaviours compared to native population.

Research questions. The objective of the study is to explore general and domain-specific risk preferences and engagement in risky health behaviours of immigrant population in the UK, and make a comparison with the native population.

Methods. We exploit Understanding Society Innovation Panel, containing the module on risk preferences, to answer the questions of interest. We focus on the self-assessed measures of risk attitude. They were experimentally validated and shown to be good predictors of individuals' actual behaviour. The exploratory analysis was supported by regression analysis.

Results. We provide evidence in favour of immigrants being more willing to take risks than native UK population. This holds for risks in general, for the financial and health domains. Distinguishing by the country of origin, we found non-EU immigrants are more likely (by 12 percentage points) to report high willingness to take risks, whereas EU immigrants tend not to be significantly different from the native population. Non-EU immigrants are more likely to engage in heavy and binge drinking, while EU immigrants smoke 1.5 cigarettes per day more than native citizens.

Conclusion. Determining whether immigrants have higher risk tolerance will contribute to the design of targeted programmes that will save future healthcare costs and wellbeing by promoting prevention and healthy lifestyle among immigrants.

1. Introduction

Decision to migrate involves risk and uncertainty. Consequently, migrants are commonly perceived as risk takers. They have imperfect information on labour market including wages, unemployment benefits; opportunities to spend their leisure time; social mobility and the general environment in the destination country. They also have to give up of close relationship with family and friends they leave behind. Hence, a rational individual would decide to immigrate only if his or her risk tolerance is significantly high (Akguc et al. 2015; Balaz and Williams, 2011).

Immigrant population accounted for 13.1 per cent of the total population in the United Kingdom (UK) in 2014 (Migrants in the UK, 2016). Specifically for Inner London, it accounted for striking 39 per cent. The immigrant population is diverse with people coming from all over the world. The top three countries of origin are Poland, India and Pakistan (ONS, 2015). They are followed by two European countries, i.e. Ireland and Germany. South Africa, Nigeria, Bangladesh and Romania comprise about 2 per cent of immigrant population in the UK.

Despite a common stereotype, the majority of immigrants in the UK are women and not men. This fact is true since 1993 (Migrants in the UK, 2016). This makes UK different from other developed countries' immigrant population, e.g. Germany, where

there is lower share of women in the immigrant compared to the native population (Bonin et al., 2012). The most common reason to immigrate is work, with formal studies being the second most common (Immigration by Category, 2016). The eligibility of immigrants for unemployment benefits, social housing and health care access is largely determined by whether a person comes from a country-member of the European Union (EU) or not. EU nationals classified as workers are eligible for the same welfare benefits (tax credits, housing benefits) as UK nationals. EU nationals, who are long-term UK residents, have free access to the National Health Service (NHS). They also have free access if their country of citizenship has reciprocal health care agreement with the UK. Such agreement is made with all European Economic Area countries, which includes all EU countries and, in addition, Iceland, Lichtenstein and Norway.

The eligibility for free access to the NHS used to be the same for non-EU nationals ordinarily resident in the UK. Department of Health estimated cost of services provided to immigrants and visitors in 2013. The total gross estimate was £2 billion a year, however it included EU nationals as well (The King's Fund, 2015). In order to recover costs from visitors and immigrants, the NHS surcharge was introduced in April 2015. Now each non-EU national has to pay £200 per year together with his or her application for a long-term visa.

There is evidence that immigrants arrive being healthier compared to the native population (Marmot et al., 1984; Rechel et al., 2013). Nevertheless, their health deteriorates more rapidly over time compared to that of natives (Ronellenfitsch & Rasum, 2004; Rechel et al., 2013). Despite this fact, immigrants tend to use less health care services compared to native UK citizens (Jayaweera & Quingley, 2010; King's Fund). Interestingly, socio-demographic characteristics of immigrants improve linearly over time but their engagement in risky health behaviours does not follow this trend. Therefore, the effect of acculturation based on the length of residence on immigrants' health behaviour has less straightforward interpretation.

The objective of the study is to explore general and domain-specific risk preferences of immigrant population in the UK, and make a comparison with the native population. We also aim to investigate how immigrants' engagement in risky health behaviours is different from that of native UK population and whether it can be explained by the difference in risk attitudes. We exploit Understanding Society Innovation Panel (IP), which includes information on risk preferences and health behaviours, to answer the questions of interest. To our best knowledge, this is the first study comparing risk attitudes of UK native and immigrant population. The existing literature on native-migrant difference in risk attitude is scarce and does not provide consistent results. The studies predominantly use secondary data (eg. Bonin et al., 2006; Jaeger et al., 2010; Fang et al., 2013) or have experimental design (Balaz & Williams, 2011; Hao et al., 2014) and mainly focus on risks in general despite the recent empirical evidence on risk attitude being domain-specific. We benefit from a unique dataset that incorporates different risk attitude measures (self-reported and experimental) and a wide profile of potentially risky and preventative health behaviours such as smoking, alcohol consumption, nutrition and physical activity. In this paper, we focused on self-reported measure of risk attitude and self-reported health behaviours. Descriptive analysis of the data was supported by regression analysis.

We found evidence in favour of immigrants being more willing to take risks in general, in the financial and health domains compared to native UK population. Distinguishing by the country of origin (EU vs. non-EU countries) we found that non-EU immigrants are, indeed, more willing to take risks consistently in all domains of interest.

However, EU immigrants were not statistically different from the native population. Comparison of socio-economic characteristics of EU and non-EU nationals together with the difference in eligibility for benefits and health care access supports the hypothesis of EU nationals facing less uncertainty while making decision to immigrate compared to non-EU nationals. Therefore, the latter are likely to be more willing to take risks. Engagement in potentially risky health behaviours varies with natives being more engaged in certain behaviours (eg. alcohol consumption and eating fast food) and immigrants being more engaged in others (eg. smoking). Risk attitude was significantly associated with engagement in risky health behaviours.

The paper is organised as follows. Section 2 provides a short review of related literature. Section 3 describes the data and provides its descriptive analysis. Section 4 presents the results of regression analysis. Section 5 discusses the results and section 6 concludes.

2. Literature Review

The existing studies exploring the differences in risk attitude between immigrants and natives provide inconsistent results. Hao et al. (2014) in their experiment do not find any differences in risk attitude between immigrants and natives. Halek and Eisenhauer (2001) study the demography of risk aversion and among others include immigrant status as explanatory variable. Migrants are shown to be more risk loving than the native population. However, Bonin et al. (2006) and Fang et al. (2013) obtain the opposite conclusion. The first study finds German immigrants to be more risk averse than native population, which can be explained by the guest worker programme. The latter reports Hispanic immigrants having lower risk tolerance than non-immigrant Whites. The literature search did not identify any similar studies conducted in the UK. Williams and Balaz (2014) conducted a survey of UK population but they focus their analysis on mobility profiles and their association with risk attitude. The most mobile individuals are shown to be highly risk taking, especially with respect to mobility risks.

The process of assimilation has a strong influence on individuals' behaviour and there is a growing literature on the association between length of residence and immigrants' risk attitude as well as comparing first and second-generation migrants. Constant et al. (2010) find that second-generation immigrants are less risk averse than natives but not different in the probability of being employed. Bonin et al. (2012) similarly to their earlier study find German immigrants more risk averse compared to native population. However, second generation immigrants are less risk averse than those of first generation and not significantly different from native population. Ethnic persistence has positive effect on risk aversion and when included as a covariate makes the difference between first and second-generation immigrants not significant. This is an argument in favour of personal traits being inherited from parents and this effect is more important than country of birth.

There is an on-going debate whether risk attitude is generic or domain-specific. Warshawsky-Livne et al. (2012) did not observe any inconsistencies between money and health domains and claim that it is possible to predict health-risk attitude based on monetary-risk attitude. In contrast, Prosser and Wittenberg (2007) found that patients and community members were predominantly risk neutral with respect to health outcomes and risk averse with respect to money. Galizzi et al. (2016) showed that people exposed to both health and financial distress tend to be less risk averse in the financial than in the health domain. Van der Pol and Ruggeri (2008) found out that general public is risk averse with respect to financial matters and life-years lottery involving risk of

immediate death. The majority of individuals were risk seeking with respect to other health lotteries, including the one incorporating quality of life.

Risk attitude is likely to affect individual's health behaviour. There is empirical evidence in the literature that migrants engage in risky health behaviours. For example, Burns et al. (2011) found that Central and Eastern European migrants in London tend to engage in behaviours associated with substantial risk of HIV transmission. Pylypchuk and Hudson (2009) observed that migrants are less likely to use preventive care than native United States population. The studies of UK immigrants provide evidence of immigrants being less likely to smoke or consume alcohol than the general population (Jayaweera and Quingley, 2010). Immigrant mothers are also more likely to initiate breast feeding and less likely to smoke and drink alcohol during pregnancy. This supports a phenomenon known as "healthy migrant" effect, although Jayaweera and Quingley (2010) observed immigrant mothers reporting poorer general health than UK mothers. With respect to assimilation, the probability of smoking during pregnancy increased and the duration of breast-feeding decreased with the length of residence (Hawkins et al. 2008). Nevertheless, immigrants are shown to use less health care than the native population (Jayaweera and Quingley, 2010).

3. Data

To answer the questions of interest, we exploit the Understanding Society IP dataset. This is a household longitudinal study started in 2010 aimed at developing further its predecessor, the British Household Panel Survey, in some research areas. The IP collects data on all major aspects of individuals' life as well as incorporating various experiments across the waves. The IP is a stratified, clustered, equal probability sample of residential addresses. It was drawn from the whole UK, excluding the Northern Ireland and Scotland north of the Caledonian Canal (Buck & McFall, 2012). Data were collected using computer assisted personal interviewing. The two major parts of the survey are a household interview and individual interview. One member of a household completes the household interview, while all members 16 years and older complete the individual adult interview and self-completed questionnaire.

Wave 6 includes the module on risk and time preferences⁴. A target sample of around 580 respondents was selected such that only one respondent participated per household. Households were randomly selected and then selection of respondents within households was made with a Kish grid of enumerated adults.

Wave 6 also contains information on participants' engagement in potentially risky health behaviours: smoking, alcohol consumption and eating fast food.

3.1 Risk attitude measure

The dataset contains two measures of risk preferences: multiple price list method based on Holt and Laury (2002) and self-assessed scale-based questions on willingness to take risks introduced in German Socio-Economic Panel and validated by Dohmen et al. (2005). The paper will focus on the self-assessed scale-based questions as a measure of risk attitude.

IP wave 6 includes three self-assessed questions: on general and domain-specific (finance and health) risk attitudes. The respondents have to indicate their willingness to

⁴ The data were collected under the Future Research Leader project titled "Linking Experimental and Survey Data: Behavioural Experiments in Health and Wellbeing" funded by ESRC.

take risks on a scale from 0 (unwilling to take risks) to 10 (fully prepared to take risks). The reported value (from 0 to 10) is referred to as risk index. In turn, risk indicator is a binary variable that takes value 1 if reported willingness to take risks is six or greater and 0 otherwise (Jaeger et al., 2010). The exact wording of the questions is shown on Figure 1.

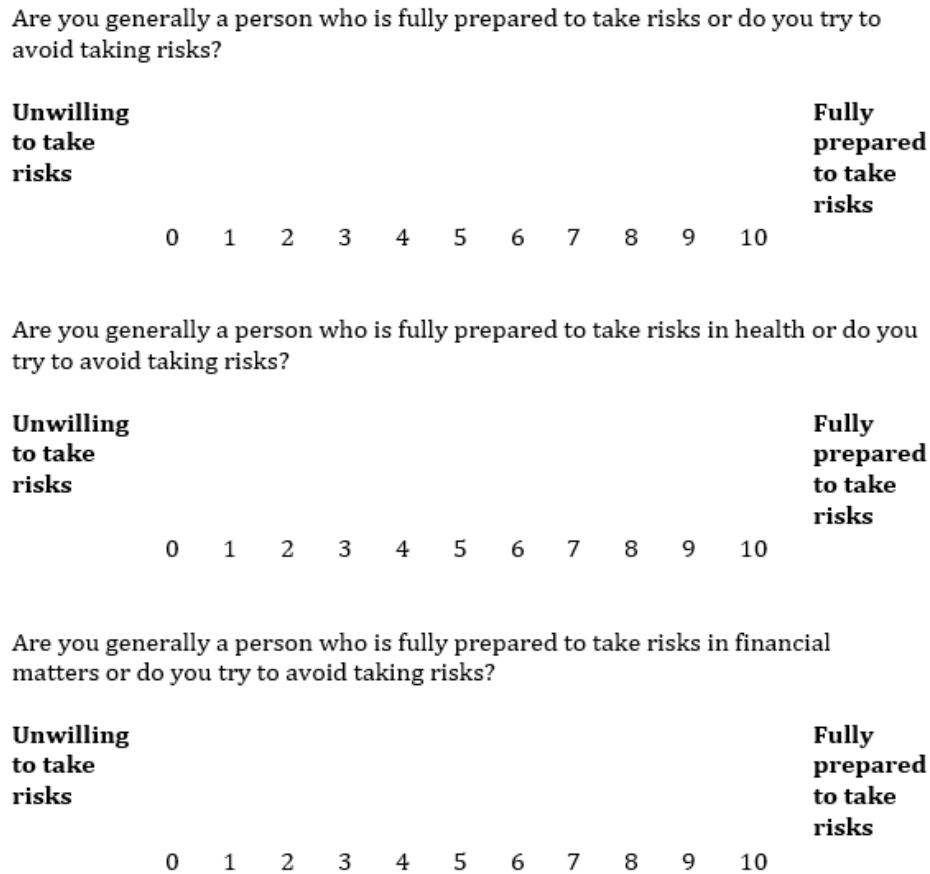


Figure 1. Self-assessed scale-based questions on risk attitude

Dohmen et al. (2005) validated the self-assessed questions experimentally and proved the responses to general questions are the best predictors of individuals' actual behaviour. This provides a highly cost-effective way to elicit risk preferences. The questions can be easily included in questionnaires without any monetary incentives required. The domain-specific questions were also able to predict people's financial behaviour (based on portfolio choice) and health behaviour (based on smoking).

We conduct a small validation exercise to support the evidence presented in Dohmen et al. (2005) and ensure that it is true for our dataset. Moreover, compared to original validation, we have a different observed behaviour for the financial domain (self-employment) and richer data on health behaviours. Self-employed people are expected to report greater willingness to take risks in the financial domain. Entrepreneurship is characterised by considerable degree of uncertainty and financial risks. Table 1 presents the comparison between self-employed individuals and those who are involved in some other type of economic activity. The fourth column reports the results of mean-comparison test.

Table 1. Validation of self-assessed risk questions

Observed behaviour	Average risk index	t-test (p-value)
Financial domain		
Self-employed	3.6	0.04**
Non-self-employed	3.0	
Health domain		
Smokers	3.5	0.06*
Non-smokers	3.0	
Consume alcohol regularly	3.4	0.03**
Do not consume alcohol regularly	2.9	
Eat fast food regularly	3.5	0.08*
Do not eat fast food regularly	3.1	

, ** and * indicate significance level of 10%, 5% and 1% respectively

The mean risk index is greater for self-employed individuals than those who are in some other form of economic activity. This difference is statistically significant at 5 per cent significance level. Smokers also revealed greater willingness to take health risks compared to non-smokers. Engagement in other risky health behaviours (alcohol consumption and eating fast food regularly) is also associated with greater willingness to take health risks. This simple exploratory analysis indicates that the two measures are likely to reflect individuals' actual behaviour in the financial and health domain.

The variables forming the final dataset are described in Table 2. The statistical analysis was conducted using STATA version 13.0.

Table 2. Summary statistics

Variable	Variable description	Mean	SD	Min	Max
risk index	Willingness to take risks in general	4.5	2.4	0	10
risk index (finance)	Willingness to take financial risks	3.07	2.27	0	10
risk index (health)	Willingness to take health risks	3.11	2.37	0	10
risk indicator	High willingness to take risks (1=reported value 6 or higher, 0 otherwise)	0.37	0.48	0	1
risk indicator (finance)	High willingness to take financial risks (1=reported value 6 or higher, 0 otherwise)	0.21	0.41	0	1
risk indicator (health)	High willingness to take health risks (1=reported value 6 or higher, 0 otherwise)	0.23	0.42	0	1
age	Age in years	51.6	18.5	16	97
height	Height in cms	169.1	10.1	142	196
female	Gender (1=female, 0=male)	0.55	0.49	0	1

married	Marital status (1=married, 0 otherwise)	0.46	0.49	0	1
immigrant	Foreign-born (1=yes, 0=no)	0.082	0.27	0	1
white	Individual's ethnical background (1=white, 0 otherwise)	0.93	0.25	0	1
employed	Employment status (1=employed, 0 otherwise)	0.54	0.50	0	1
uni	The level of education (1=having a university degree or higher, 0 otherwise)	0.33	0.47	0	1
smoking	Smoking regularly (1=yes, 0=no)	0.19	0.39	0	1
alcohol	Had a drink most days in the last month (1=yes, 0=no)	0.14	0.35	0	1
n_heavy	Number of days had alcoholic drink last month	2.9	1.4	1	5
n_binge	Number of days did binge drinking last month	2.1	1.4	1	5
fast food	Eat fast food every day or nearly every day (1=yes, 0=no)	0.12	0.33	0	1
n_fastfood	Number of days a week eat fast food	1.6	0.7	1	4

3.2 Descriptive analysis

The sample of wave 6 will be treated as a cross-section for the purpose of the analysis. The total sample includes 2,149 individuals. 175 (8.14 per cent) of them are foreign-born individuals. So the term 'migrant' is used here as a synonym for a foreign-born individual. Initially, 809 individuals were eligible for the Time and Risk Preference module. However, 746 individuals actually participated in the experiment (61 foreign-born), which consists of lottery questions, self-assessed risk preference and questions on risky health-related behaviours. The further analysis and figures in Table 2 are based on this sample of participants. As can be seen, 55 per cent of the sample are females, and 8.2 per cent are immigrants. Participants' average age is 51 years (range 16-97). Over half of people (53.6 per cent) are employed, 46 per cent are married. Only 662 participants answered lottery questions of which 50 (7.6 per cent) are foreign-born individuals. Table 3 shows the ethnic distribution of the sample separately for immigrants and natives.

Table 3. Ethnic distribution in immigrant and native group

Ethnicity	Proportion, %	
	Migrants	Natives
White	49.18	96.50
Asian	31.15	1.02
African American	13.11	0.58
Mixed	3.28	0.58
Other	3.28	0.58

The vast majority of natives are of white background. In contrast, slightly less than half of immigrant population (49.2 per cent) is of white background. Asian and African American backgrounds are the next common ones in the immigrant group. In many cases ethnicity has a greater impact on individual's behaviour than immigrant status (Jayaweera and Quingley, 2010; Bonin et al., 2012). As we progress with the analysis, it will be important to check whether the effect of immigrant status changes if we control for ethnicity. The majority of foreign-born individuals have spent in the UK over 15 years. Approximately 73 per cent of immigrants were born in non-EU countries.

The comparison of immigrant and native groups is represented in Table 4. The third column shows the p-values of two-group mean-comparison test.

Table 4. Summary statistics (immigrants vs. natives)

Individual characteristics	Immigrants	Natives	t-test (p-value)
Average risk index	5.0	4.4	0.10*
Average risk index (finance)	3.4	3.1	0.37
Average risk index (health)	3.2	3.1	0.90
Average risk indicator	36.2%	31.5%	0.10*
Risk indicator (finance)	26.2%	20.7%	0.09*
Risk indicator (health)	31.2%	22.6%	0.39
Smoking	21%	18%	0.68
Heavy drinking	10.3%	14.7%	0.30
Binge drinking	12.5%	22.8%	0.05**
Fast food	17.2%	22.4%	0.33
Age	45 (17-89)	52 (16-97)	0.004***
Female	62%	54%	0.23
Height	167.1	169.3	0.10*
White	49.2%	96.5%	0.00***
Married	49.2%	45.7%	0.61
Employed	60.6%	53%	0.25
Kids	37.7%	26.7%	0.09*
Income Q1	16.4%	25.6%	0.07*
Income Q2	34.4%	24.1%	0.10*
Income Q3	21.3%	25.4%	0.46
Income Q4	27.9%	24.8%	0.61
SAH			
Excellent	21.3%	14.3%	0.20
Very good	34.4%	34.6%	0.98
Good	24.6%	31.7%	0.23
Fair	11.5%	14.9%	0.43
Poor	8.2%	4.5%	0.32

, ** and * indicate significance level of 10%, 5% and 1% respectively

The difference in both general risk index and risk indicator is significant at 10 per cent significance level. The difference in domain-specific risk index is not statistically

significant, however the average values are slightly higher in the immigrant group. Risk indicator in the financial domain is significantly higher in the immigrant group compared to native group. With respect to the health domain, there are more immigrants willing to take health risks, although the difference is not statistically significant. Nevertheless, immigrants are more engaged in smoking. In contrast, smaller percentage of immigrants eat fast food regularly, engaged in heavy and binge drinking compared to native citizens. According to the t-test, the vast majority of these differences is not statistically significant.

With respect to socio-economic characteristics, immigrants are significantly younger than native citizens and are more likely to have children. Interestingly, there are more immigrants who are employed than native citizens. It can be potentially related to the fact that significantly more immigrants have higher education compared to native citizens. With respect to income, there are significantly less people in the first quartile and significantly more people in the second quartile. With respect to health, the proportions are ambiguous. There are more people reporting excellent health but also more people reporting Poor health in the immigrant population.

The distributions of risk index for risks in general, financial and health domains are shown in Figure 2.

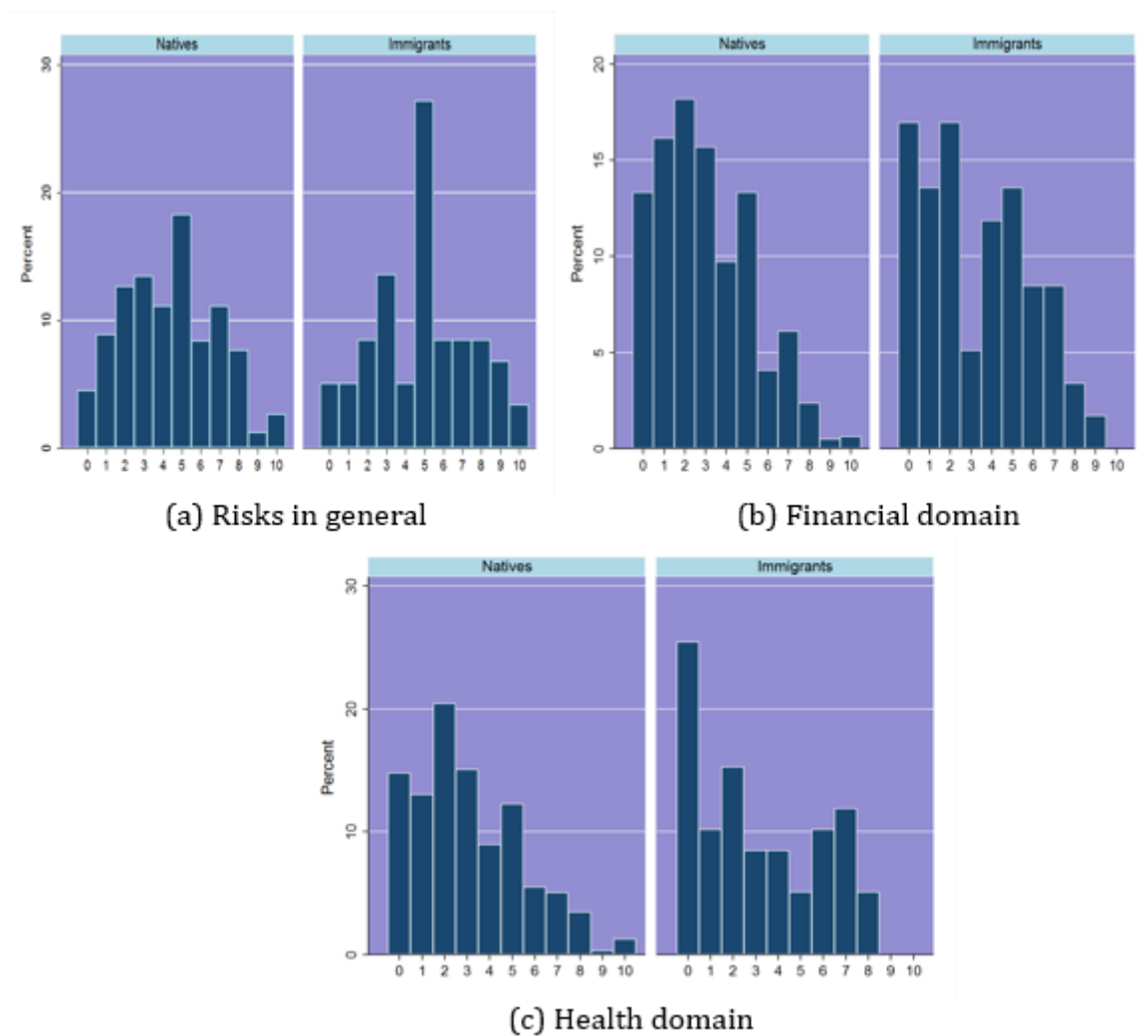


Figure 2. Willingness to take risks

The distributions of responses are similar for immigrants and natives. Especially in case of risks in general, both distributions have mode equal to five. However in the financial and health domains, we can notice that immigrants are mostly at the extremes: there are more people reporting low (below five) willingness to take risks but also more people reporting high (above six) willingness to take risks in both domains compared to native population. The distributions of natives' responses are right-skewed, whereas immigrants have bimodal distributions in both domains.

EU vs. non-EU immigrants

Based on the discussion in the introduction, we expect EU and non-EU immigrants to be different in their risk attitude. Being eligible for unemployment benefits, social housing and free health care access, EU nationals have lower uncertainty when making decision to immigrate compared to non-EU nationals. Therefore, it is reasonable to suggest that EU immigrants' self-reported willingness to take risks will be lower than that of non-EU immigrants. Table 5 presents the summary statistics comparing EU and non-EU immigrants.

Table 5. Summary statistics (EU vs. non-EU immigrants)

Individual characteristics	EU immigrants	Non-EU immigrants	Non-parametric tests (p-value)
Average risk index	4.7	5.6	0.31
Average risk index (finance)	2.5	3.9	0.18
Average risk index (health)	2.4	3.2	0.42
Average risk indicator	36.4%	53.3%	0.48
Risk indicator (finance)	27.3%	30.0%	1.00
Risk indicator (health)	27.3%	30.0%	1.00
Smoking	40.0%	13.8%	0.09*
Heavy drinking	0%	17.2%	0.30
Binge drinking	0%	10.7%	1.00
Fast food	10.0%	17.2%	0.30
Age	46.3	45.1	0.84
Female	64.0%	56.7%	0.74
Height	168.0	168.1	0.96
White	100%	16.7%	0.00***
Married	18.2%	60.0%	0.03**
Employed	45.5%	70.0%	0.27
Kids	54.5%	43.3%	0.73
Income Q1	27.3%	36.7%	0.72
Income Q2	27.3%	36.7%	0.72
Income Q3	36.4%	10.0%	0.07*
Income Q4	9.1%	36.7%	0.13

SAH			
Excellent	18.2%	16.7%	1.00
Very good	36.4%	40.0%	1.00
Good	18.2%	30.0%	0.69
Fair	9.1%	3.3%	0.47
Poor	18.2%	10.0%	0.60

, ** and * indicate significance level of 10%, 5% and 1% respectively

The difference in immigration policy for EU and non-EU nationals is reflected in risk attitude and socio-demographic characteristics. Non-EU immigrants are more willing to take risks in general, in financial and health domains. This holds both for risk indices and risk indicators. The difference can be explained by significantly higher share of individuals with university degree and higher. As it has been confirmed by existing empirical studies (Dohmen et al., 2005), higher education level is associated with higher willingness to take risks. However, higher education level of non-EU immigrants can be also explained by competition with EU nationals. To secure a job in the UK, non-EU nationals have to be issued a certificate of sponsorship by an employer that has a license to hire international workers. There are also restrictions with respect to the level of salary and only limited number of non-EU immigrants can be hired each year. In contrast, EU nationals are free to apply for any job in the UK. Therefore, to successfully compete with EU nationals, non-EU individuals have to stand out by means of education. Even though surprising at the first glance, higher share of employed individuals among non-EU immigrants can be explained in a similar way. In order to legally stay in the UK, non-EU nationals have to secure a job and, as it has been mentioned above, work is the most common reason for immigration. Higher employment rate can partially contribute to differences in income distribution, in particular higher proportion of non-EU citizens in the last (richest) quartile of income compared to EU citizens. Non-EU immigrants are more likely to be married than EU immigrants. This can be another legal channel of immigration - marriage with EU or UK national. Marriage would also simplify immigration for non-EU nationals because if one spouse receives a job offer, the second spouse can also move to the UK as a dependant. Last but not least, cultural differences can explain higher marriage rate among non-EU nationals. Considerable difference in the proportion of individuals of white background between two groups highlights the importance of considering ethnicity as a factor contributing to the difference in risk attitudes between immigrants and natives. With regards to other socio-economic characteristics EU and non-EU nationals are similar, namely age, height, gender distribution and probability of having children. The distribution of self-assessed health (SAH) is largely similar for the two groups, however non-EU immigrants seem to report slightly better health than EU immigrants. Similar situation is with health behaviours, non-EU nationals are significantly less likely to smoke but they are more engaged in alcohol consumption.

Based on the review of the literature and results of the descriptive analysis above, we can expect immigrants to be riskier in both financial and health domain. Interestingly, descriptive analysis shows that immigrants tend to engage less in potentially risky health behaviour such as alcohol consumption and eating fast food regularly. This observation is in accordance with the existing evidence in favour of "healthy migrant" effect (Jayaweera and Quingley, 2010; Hawkins et al., 2008). However, the vast majority of immigrants have been living in the UK for over 15 years and assimilation is likely to affect

their health behaviour as well. The country of origin and individuals' ethnicity were shown to have impact on their risk attitude. Therefore, we will carefully control for these characteristics in the regression analysis.

4. Results

We analysed the data separately for risks in general, financial and health risks. The primary goal was to explore whether there is an association between immigrant status and individuals' willingness to take risks. We do not aim to prove causality in this study due to a small sample of immigrants.

The responses to self-assessed willingness to take risk questions in all domains were analysed using interval regression to account for the nature of the risk index, which can take only values from 0 to 10 and, therefore, is interval-censored. The model has been used in similar studies that used self-assessed scale-based questions to measure willingness to take risks (Dohmen et al. 2005, 2016).

OLS, where the dependent variable is risk index defined in section 3.1, and Probit model, where the dependent variable was risk indicator, were used as a robustness check. Because the coefficients of Probit model can be interpreted only with respect to the direction of relationship between two variables, marginal effects were calculated to quantify the effect.

4.1 Risks in general

Interval regression model was specified as follows:

$$y^* = \alpha_0 + \alpha_1 \cdot \text{immigrant} + \alpha_2 \cdot x + \epsilon$$

where y^* is the latent variable, x is a vector of covariates; ϵ is an error term. We do not observe y , we only observe lower and upper bounds of y because risk index is both left- and right-censored. The interval regression is based on maximum likelihood estimation that is a generalisation of a Tobit model (Dohmen et al. 2005).

Motivation for migration is likely to differ with immigrants' country of origin. Therefore, we specified a model to control for the country of origin, whether it is an EU or non-EU country. The specified model is shown below:

$$y^* = \alpha_0 + \alpha_3 \cdot \text{EU} + \alpha_4 \cdot \text{non_EU} + \alpha_5 \cdot x + \epsilon$$

where the reference category is native UK citizens.

It is also important to distinguish by immigrants' length of stay in the UK because the process of assimilation is likely to affect their preferences and behaviours. Length of stay is represented by 3 categories: those who arrived before 1990, those arrived from 1990 to 2003 and those who arrived in 2004 and later. The last group includes the A8 countries that joined the EU in 2004⁵. The model controlling for the length of stay is shown below:

$$y^* = \alpha_0 + \alpha_6 \cdot \text{before 1990} + \alpha_7 \cdot \text{1990 - 2003} + \alpha_8 \cdot \text{2004 and later} + \alpha_9 \cdot x + \epsilon$$

Table 6 shows the results of the estimation of three models mentioned above.

⁵ The A8 countries: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Table 6. Self-assessed willingness to take risks in general - Interval regression

	Model 1			Model 2			Model 3		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.18	0.19	0.15						
	(0.35)	(0.41)	(0.41)						
<i>Non-EU</i>				0.99**	1.53**	1.50**			
				(0.48)	(0.62)	(0.62)			
<i>EU</i>				-0.15	-0.19	-0.24			
				(0.79)	(0.79)	(0.78)			
<i>Before 1990</i>							0.40	0.42	0.35
							(0.50)	(0.55)	(0.55)
<i>1990-2003</i>							0.05	0.06	0.01
							(0.55)	(0.59)	(0.59)
<i>2004 and later</i>							-0.14	-0.15	-0.09
							(0.85)	(0.87)	(0.86)
<i>White</i>		0.04	-0.04		0.70	0.63		0.05	-0.03
		(0.45)	(0.45)		(0.49)	(0.49)		(0.45)	(0.45)
<i>N</i>	672	670	670	672	670	670	672	670	670
χ^2	56.75	57.38	67.92	60.74	63.32	73.72	57.15	57.82	68.23

*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

For each model there are three specifications with different controls: the first one is the benchmark model; the second one also controls for ethnicity and the third one controls for SAH that can be considered endogenous but is often included in the models of risk preferences (Galizzi et al., 2016).

Immigrant status does not seem to be associated with willingness to take risks in general, however the values of the coefficients suggest that immigrants reported higher willingness to take risks compared to native UK citizens. The size of the effect does not change a lot across specifications. When we control for the country of origin, the result is more striking. Non-EU immigrants report their willingness to take risks by almost one unit higher than natives and this is statistically significant at 5 per cent significance level. When we control for ethnicity and SAH, the effect increases up to 1.5 units. In contrast, EU immigrants seem to be even less willing to take risks than native UK citizens, however the coefficients are not statistically significant. Distinguishing by the length of stay does not result in significant coefficients. Interestingly, those who arrived before 1990 seem

to be riskier than natives, while those who arrived later seem to be either not different at all or even less risky than native citizens. The effect was reduced when we controlled for ethnicity and SAH.

OLS model was specified as follows:

$$risk\ index = \beta_0 + \beta_1 \cdot immigrant + \beta_2 \cdot x + v$$

OLS model controlling for the country of origin:

$$risk\ index = \beta_0 + \beta_3 \cdot EU + \beta_4 \cdot non_EU + \beta_5 \cdot x + v$$

OLS model controlling for the length of stay:

$$risk\ index = \beta_0 + \beta_6 \cdot before\ 1990 + \beta_7 \cdot 1990 - 2003 + \beta_8 \cdot 2004\ and\ later + \beta_9 \cdot x + v$$

Table 7 shows the results of the estimation of the three models above with three specifications for each models.

Table 7. Self-assessed willingness to take risks in general - OLS regression

	Model1			Model 2			Model 3		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.48 (0.32)	0.52 (0.36)	0.60* (0.34)						
<i>Non-EU</i>				1.01** (0.47)	1.39** (0.52)	1.44** (0.49)			
<i>EU</i>				0.22 (0.78)	0.19 (0.78)	0.35 (0.70)			
<i>Before 1990</i>							0.24 (0.44)	0.29 (0.50)	0.37 (0.46)
<i>1990-2003</i>							0.75 (0.56)	0.79 (0.54)	0.89* (0.52)
<i>2004 and later</i>							0.56 (0.72)	0.58 (0.75)	0.56 (0.72)
<i>White</i>		0.13 (0.38)	0.09 (0.37)		0.49 (0.37)	0.43 (0.37)		0.12 (0.38)	0.08 (0.37)
<i>R²</i>	0.12	0.12	0.15	0.12	0.12	0.15	0.12	0.12	0.15
<i>N</i>	672	670	670	672	670	670	672	670	670
<i>F</i>	8.84	8.14	7.74	8.52	8.06	7.82	7.48	6.97	6.87

*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH

(vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on F-test.

OLS results in immigrant status again being not significant determinant of individuals' willingness to take risks. However, when we control for both ethnicity and SAH, the magnitude of the effect is increased and is significant at 10 per cent significance level. The estimated effect of immigrant status is higher than that from interval regression model. The significant difference between non-EU immigrants and native citizens is consistent with the results from interval regression model. Although OLS also suggests that EU immigrants are more willing to take risks compared to natives, these coefficients are not statistically significant in any of three specifications. Distinguishing by the length of stay does not result in significant differences either.

Probit model was specified as:

$$\Pr(\text{risk indicator} = 1) = \Phi(\gamma_0 + \gamma_1 \cdot \text{immigrant} + \gamma_2 \cdot x + \eta)$$

where Φ is the cumulative normal distribution.

Probit model controlling for the country of origin:

$$\Pr(\text{risk indicator} = 1) = \Phi(\gamma_0 + \gamma_3 \cdot \text{EU} + \gamma_4 \cdot \text{non_EU} + \gamma_5 \cdot x + \eta)$$

Probit model controlling for the length of stay:

$$\begin{aligned} \Pr(\text{risk indicator} = 1) \\ = \Phi(\gamma_0 + \gamma_6 \cdot \text{before 1990} + \gamma_7 \cdot \text{1990 - 2003} + \gamma_8 \cdot \text{2004 and later} \\ + \gamma_9 \cdot x + \eta) \end{aligned}$$

Tables 8 shows marginal effects of three models, each having 3 different specifications.

Table 8. Self-assessed willingness to take risks in general - Probit model

	Model1			Model 2			Model 3		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.03	0.03	0.02						
	(0.06)	(0.07)	(0.07)						
<i>Non-EU</i>				-0.02	-0.03	-0.04			
				(0.14)	(0.14)	(0.14)			
<i>EU</i>				0.17**	0.27**	0.26**			
				(0.08)	(0.11)	(0.11)			
<i>Before 1990</i>							0.08	0.08	0.06
							(0.10)	(0.10)	(0.10)
<i>1990-2003</i>							0.01	0.01	-0.00
							(0.10)	(0.11)	(0.11)
<i>2004 and later</i>							-0.02	-0.02	-0.01

							(0.15)	(0.15)	(0.15)
<i>White</i>	0.01	-0.01		0.13	0.11			0.01	-0.01
	(0.08)	(0.08)		(0.09)	(0.09)			(0.08)	(0.08)
<i>Pseudo – R²</i>	0.07	0.07	0.08	0.07	0.07	0.09	0.07	0.07	0.08
<i>N</i>	672	670	670	672	670	670	672	670	670
<i>χ²</i>	56.67	57.26	67.68	60.46	62.94	73.17	57.09	57.71	67.99

The table reports marginal effects dy/dx . *, ** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

Probit model suggests that immigrant status increases the probability of risk indicator being equal to 1 by 1 per cent. As it has been mentioned earlier, risk indicator equals 1 when a person reported high willingness to take risks, i.e. six or higher. The magnitude of the effect does not change after controlling for ethnicity and length of stay, which supports the results from the interval regression. Controlling for the country of origin, again, highlights the significant difference between non-EU immigrants and natives. The probability of having high willingness to take risks is about 20 per cent greater if a person was born in non-EU country compared to a UK-born individual. The effect increases if we control for ethnicity and SAH. The coefficients for variables representing length of stay show similar pattern to the one we discussed for interval regression model.

4.2 Financial domain

The models were specified in the same fashion as in section 4.1. However, the dependent variable here is risk attitude in the financial domain.

The estimation results of the models above is represented in Table 9. Each model has three specifications similar to those in section 4.1.

Table 9. Self-assessed willingness to take financial risks - Interval regression

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.46	0.54	0.59*						
	(0.30)	(0.36)	(0.36)						
<i>Non-EU</i>				0.66	0.91*	0.99*			
				(0.42)	(0.54)	(0.55)			
<i>EU</i>				0.37	0.35	0.40			
				(0.68)	(0.68)	(0.68)			
<i>Before 1990</i>							0.45	0.54	0.61
							(0.44)	(0.48)	(0.48)
<i>1990-2003</i>							0.59	0.67	0.73

							(0.47)	(0.50)	(0.51)
<i>2004 and later</i>							0.18	0.25	0.26
							(0.74)	(0.76)	(0.76)
<i>White</i>	0.19	0.23		0.33	0.38			0.19	0.24
	(0.40)	(0.41)		(0.45)	(0.45)			(0.40)	(0.41)
<i>N</i>	670	668	668	670	668	668	670	668	668
χ^2	46.14	47.18	49.52	46.55	47.94	50.39	46.37	47.43	49.82

*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

Immigrant status is associated with higher willingness to take financial risks but the coefficients are mostly not statistically significant. However, if we control for both health status and ethnicity, the model suggests that immigrants' willingness to take financial risks is 0.6 points higher than that of native citizens. The results again support the importance of distinguishing by the country of origin. Non-EU immigrants report willingness to take financial risks almost one point higher than natives. This effect is significant at 10 per cent significance level. EU immigrants also seem to be more willing to take financial risks than natives, but a strong claim cannot be made due to non-significant coefficients. Distinguishing by the length of stay does not give significant results either and does not suggest considerable difference between immigrants with different levels of assimilation.

Table 10 shows the estimated coefficients of OLS models with three specifications for each model.

Table 10. Self-assessed willingness to take financial risks - OLS

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.17	0.10	0.22						
	(0.35)	(0.39)	(0.39)						
<i>Non-EU</i>				0.65	0.83	0.92			
				(0.54)	(0.63)	(0.59)			
<i>EU</i>				-0.66	-0.68	-0.56			
				(0.74)	(0.74)	(0.76)			
<i>Before 1990</i>							0.04	-0.03	0.07
							(0.43)	(0.51)	(0.50)
<i>1990-2003</i>							0.24	0.16	0.33
							(0.63)	(0.64)	(0.64)

<i>2004 and later</i>							0.40	0.33	0.35
							(1.04)	(1.04)	(1.00)
<i>White</i>	-0.13	-0.07		0.23	0.27			-0.14	-0.07
	(0.42)	(0.42)		(0.43)	(0.43)			(0.43)	(0.43)
<i>R²</i>	0.10	0.10	0.12	0.11	0.11	0.13	0.10	0.10	0.12
<i>N</i>	670	668	668	670	668	668	670	668	668
<i>F</i>	7.46	6.86	6.56	6.89	6.45	6.35	6.25	5.83	5.77

*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on F-test.

OLS model shows similar relationship between willingness to take financial risks and immigrant status. Controlling for ethnicity and SAH, distinguishing by country of origin and length of stay does not result in statistically significant coefficients.

Table 11 presents marginal effects of the Probit models, each having three specifications.

Table 11. Self-assessed willingness to take financial risks - Probit model

	<i>Model1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.07	0.08	0.08						
	(0.04)	(0.05)	(0.05)						
<i>Non-EU</i>				0.09	0.12	0.13			
				(0.06)	(0.08)	(0.08)			
<i>EU</i>				0.06	0.06	0.06			
				(0.10)	(0.10)	(0.10)			
<i>Before 1990</i>							0.08	0.09	0.10
							(0.08)	(0.09)	(0.10)
<i>1990-2003</i>							0.09	0.11	0.12
							(0.09)	(0.10)	(0.10)
<i>2004 and later</i>							0.02	0.04	0.04
							(0.12)	(0.12)	(0.12)
<i>White</i>		0.03	0.04		0.05	0.06		0.03	0.04
		(0.06)	(0.06)		(0.07)	(0.07)		(0.06)	(0.06)
<i>R²</i>	0.08	0.09	0.09	0.08	0.09	0.09	0.08	0.09	0.09

<i>N</i>	670	668	668	670	668	668	670	668	668
χ^2	46.70	47.70	50.17	46.87	48.15	50.73	46.90	47.91	50.45

The table reports marginal effects dy/dx . *, ** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

Immigrants seem to be riskier in the financial matters compared to native UK citizens. This difference seem to hold even if we control for the country of origin and length of stay, however the coefficients are not statistically significant. Nevertheless, the tendency is consistent with two previous models.

4.3 Health domain

Similarly, the models were specified as in section 4.1, but dependent variable here is risk attitude in the health domain.

Table 12 shows estimated coefficients of three interval regression models. Each model has three specifications: a benchmark model, specification 2 that also controls for ethnicity and specification 3 that controls for SAH.

Table 12. Self-assessed willingness to take health risks - Interval regression

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.68**	0.83**	0.89**						
	(0.31)	(0.37)	(0.37)						
<i>Non-EU</i>				0.59	0.76	0.85			
				(0.44)	(0.57)	(0.57)			
<i>EU</i>				0.22	0.21	0.27			
				(0.72)	(0.72)	(0.73)			
<i>Before 1990</i>							1.01**	1.18**	1.27**
							(0.44)	(0.49)	(0.49)
<i>1990-2003</i>							0.11	0.26	0.31
							(0.51)	(0.55)	(0.55)
<i>2004 and later</i>							0.96	1.08	1.10
							(0.74)	(0.76)	(0.75)
<i>White</i>		0.34	0.38		0.22	0.27		0.35	0.39
		(0.42)	(0.42)		(0.46)	(0.46)		(0.42)	(0.42)
<i>N</i>	669	667	667	669	667	667	669	667	667

χ^2	25.60	26.63	30.49	22.77	23.45	27.06	27.66	28.76	32.70
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*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

Immigrant status has a significant effect on individual's willingness to take health risks. Compared to native UK citizens, immigrants report willingness to take risks 0.8 units higher. These coefficients are statistically significant at 5 per cent significance level for all three specifications and their magnitude increases steadily as we add ethnicity and SAH in the model. With respect to health risks, country of origin seem to play less important role than in general and financial risks. The coefficients are not significant for both EU and non-EU immigrants, although based on the coefficients' values they are more willing to take health risks than UK-born individuals. As opposed to country of origin, the length of stay has an effect on willingness to take health risks. Immigrants who arrived in the UK in 1990 and earlier assess their willingness to take health risks by over one point higher than natives. These coefficients are statistically significant at 5 per cent significance level and again their magnitude increases as covariates are added. Those individuals who arrived in the UK later seem to be also more prone to take health risks but the lack of significance of the coefficients does not allow to make stronger claims.

Table 13 presents the robustness check using OLS models. Each model has three specifications.

Table 13. Self-assessed willingness to take health risks - OLS

	Model 1			Model 2			Model 3		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.01	0.14	0.28						
	(0.36)	(0.42)	(0.41)						
<i>Non-EU</i>				0.05	0.34	0.51			
				(0.52)	(0.66)	(0.66)			
<i>EU</i>				-0.80	-0.83	-0.66			
				(0.83)	(0.83)	(0.78)			
<i>Before 1990</i>							0.18	0.32	0.50
							(0.52)	(0.56)	(0.55)
<i>1990-2003</i>							-0.27	-0.14	-0.02
							(0.61)	(0.65)	(0.65)
<i>2004 and later</i>							0.17	0.26	0.27
							(0.79)	(0.83)	(0.84)
<i>White</i>		0.28	0.37		0.38	0.47		0.28	0.38
		(0.44)	(0.44)		(0.49)	(0.50)		(0.45)	(0.45)

R^2									
N	669	667	667	669	667	667	669	667	667
F	3.21	2.95	3.63	3.04	2.84	3.58	2.72	2.53	3.28

*,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on F-test.

OLS models mostly support the conclusions made using interval regression models. Immigrants appear to be riskier in the health domain compared to natives and it does not seem that the country of origin has a significant impact on it. Distinguishing by the length of stay does not result in statistically significant coefficients either but similarly to the interval regressions immigrants are more prone to take health risks disrespectful of how long they have been living in the UK.

Table 14 reports the results for the Probit models.

Table 14. Self-assessed willingness to take health risks - Probit model

	Model 1			Model 2			Model 3		
	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3	Spec 1	Spec 2	Spec 3
<i>Immigrant</i>	0.10**	0.12**	0.13**						
	(0.05)	(0.06)	(0.06)						
<i>EU</i>				0.04	0.04	0.04			
				(0.11)	(0.11)	(0.11)			
<i>Non-EU</i>				0.09	0.11	0.12			
				(0.07)	(0.09)	(0.09)			
<i>Before 1990</i>							0.18*	0.22**	0.24**
							(0.09)	(0.11)	(0.11)
<i>1990-2003</i>							0.02	0.04	0.05
							(0.08)	(0.09)	(0.10)
<i>2004 and later</i>							0.17	0.19	0.20
							(0.16)	(0.16)	(0.16)
<i>White</i>		0.05	0.06		0.03	0.04		0.05	0.06
		(0.07)	(0.07)		(0.07)	(0.07)		(0.07)	(0.07)
<i>Pseudo - R²</i>	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.05	0.05
N	669	667	667	669	667	667	669	667	667
χ^2	24.96	25.86	30.12	22.30	22.87	26.88	26.76	27.75	32.10

The table reports marginal effects dy/dx . *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, height, married, kids, uni, employed, incomeQ2-Q4, SAH (vgood_health, good_health, fair_health, poor_health). Coefficients are jointly significant in each specification based on χ^2 -test.

Probit models suggest that immigrants have 12 per cent higher probability of reporting high (six or greater) willingness to take health risks. The coefficient increases slightly as we add covariates in the model. Similarly to two previous models, country of origin does not have a significant effect on willingness to take health risks. In contrast, greater length of stay in the UK is associated with higher willingness to take health risks. Those who arrived in 1990 or earlier report willingness to take risks about 20 per cent higher than UK-born individuals.

4.4 Health Behaviours

Health behaviours were analysed in two ways: presence of risky health behaviours using Probit models and intensity of risky health behaviours using Ordered Probit models. Potentially risky health behaviours include smoking, alcohol consumption in the form of binge drinking and heavy drinking, and eating fast food.

4.4.1 Presence of risky health behaviours

Probit Model 1 was specified as follows:

$$\Pr(\text{behaviour} = 1) = \Phi(\delta_0 + \delta_1 \cdot \text{immigrant} + \delta_2 \cdot x + \epsilon)$$

where behaviour stands for variables smoking, alcohol, binge and fast food (see Table 2).

Model 2 controlled for the country of origin:

$$\Pr(\text{behaviour} = 1) = \Phi(\delta_0 + \delta_3 \cdot \text{EU} + \delta_4 \cdot \text{non_EU} + \delta_5 \cdot x + \epsilon)$$

Model 3 controlled for the length of stay in the UK:

$$\begin{aligned} \Pr(\text{behaviour} = 1) \\ = \Phi(\delta_0 + \delta_6 \cdot \text{before 1990} + \delta_7 \cdot \text{1990} - \text{2003} + \delta_8 \cdot \text{2004 and later} \\ + \delta_9 \cdot x + \epsilon) \end{aligned}$$

Tables 15, 16 and 17 present the results of the Probit models for smoking, heavy and binge drinking, and eating fast food. Each model has two specifications: a benchmark model and specification 2 that also controls for ethnicity.

Table 15. Smoking - Probit model

	Model 1		Model 2		Model 3	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
<i>Immigrant</i>	0.04	0.06				
	(0.05)	(0.06)				
<i>Non-EU</i>			-0.03	-0.03		
			(0.08)	(0.10)		
<i>EU</i>			0.14	0.14		
			(0.10)	(0.10)		

<i>Before 1990</i>					0.05	0.08
					(0.08)	(0.10)
<i>1990-2003</i>					0.07	0.10
					(0.09)	(0.10)
<i>2004 and later</i>					-0.05	-0.04
					(0.12)	(0.13)
<i>risk</i>	0.03	0.03	0.03	0.03	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
<i>White</i>		0.05		-0.00		0.06
		(0.07)		(0.07)		(0.07)
<i>Pseudo – R²</i>	0.06	0.06	0.06	0.06	0.06	0.06
<i>N</i>	682	680	682	680	682	680
<i>χ²</i>	37.89	37.72	39.32	38.50	38.43	38.35

The table reports marginal effects dy/dx . *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

When we control for immigrant status only, the coefficients suggest that immigrants overall smoke more than UK-born individuals. However, distinguishing by the country of origin suggests that non-EU immigrants smoke less than natives and EU immigrants smoke more than natives. This is likely to be attributed to the cultural difference between EU and non-EU countries. Coefficients for variables representing the length of stay support the phenomenon of acculturation: those who spent over ten years in the UK smoke more than the native population, whereas those who arrived in the UK less than ten years ago smoke less than the native population. Other factors affecting individual's decision to smoke are education, marital status and having children. Both university and being married reduce the probability of being a smoker by approximately 10 per cent. In contrast, having children increases the probability of smoking by 8 per cent. Risk indicator (1 if willingness to take risks is six or higher, 0 otherwise) included in the regression (based on risks in general) did not appear to be a determinant of individual's decision to smoke. However, the direction of the relationship seems to be reasonable: being willing to take risks increases the probability of smoking. Potentially, including immigrant status in the model can already take into account riskiness of an individual, however excluding immigrant variable from the regression, does not result in the coefficient for risk becoming significant.

Table 16. Alcohol consumption - Probit model

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
	<i>Heavy drinking</i>					
<i>Immigrant</i>	-0.05 (0.05)	-0.06 (0.07)				
<i>Non-EU</i>			0.01 (0.06)	0.04 (0.09)		
<i>EU</i>			0.00 (.)	0.00 (.)		
<i>Before 1990</i>					0.05 (0.07)	0.03 (0.08)
<i>1990-2003</i>					0.00 (.)	0.00 (.)
<i>2004 and later</i>					0.00 (.)	0.00 (.)
<i>risk</i>	0.08*** (0.03)	0.08*** (0.03)	0.08*** (0.03)	0.08*** (0.03)	0.09*** (0.03)	0.09*** (0.03)
<i>White</i>		-0.02 (0.07)		0.05 (0.08)		-0.04 (0.07)
<i>Pseudo – R²</i>	0.11	0.10	0.10	0.10	0.10	0.10
<i>N</i>	683	681	673	671	651	649
<i>χ²</i>	59.44	59.00	57.92	57.75	58.12	57.82
	<i>Binge drinking</i>					
<i>Immigrant</i>	-0.10 (0.07)	-0.04 (0.08)				
<i>Non-EU</i>			-0.15 (0.09)	-0.04 (0.11)		
<i>EU</i>			0.00 (.)	0.00 (.)		
<i>Before 1990</i>					-0.05 (0.09)	0.03 (0.11)
<i>1990-2003</i>					-0.09 (0.07)	-0.04 (0.10)

<i>2004 and later</i>					0.00	0.00
					(.)	(.)
<i>Risk</i>	0.07*	0.07*	0.07**	0.07*	0.07*	0.07*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
<i>White</i>		0.15*		0.15		0.15*
		(0.09)		(0.09)		(0.09)
<i>Pseudo – R²</i>	0.08	0.09	0.08	0.09	0.08	0.09
<i>N</i>	574	572	567	565	566	564
<i>χ²</i>	50.20	53.27	50.48	53.30	48.22	51.38

The table reports marginal effects dy/dx . *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

Being a heavy drinker was defined as having an alcoholic drink most days during last month. Immigrants tend to be less involved in heavy drinking compared to native population, however the coefficients are not statistically significant. Due to the small sample of immigrants, it was not possible to properly control for the country of origin as there was not enough variation in the data. Being an immigrant from EU country predicted the dummy variable alcohol being equal to 0 in 100 per cent of cases. Non-EU immigrants are more likely to be heavy drinkers than UK-born individuals based on the coefficients, although they are not significant. Similarly, small numbers of immigrants in each subgroup by length of stay does not allow us to make conclusions about the effect of stay on the probability of being a heavy drinker. High willingness to take risks in general increases the probability of being a heavy drinker by 8 per cent. All the coefficients are robust across models and specifications.

Table 17. Eating fast food - Probit model

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
<i>Immigrant</i>	-0.06	-0.04				
	(0.06)	(0.07)				
<i>Non-EU</i>			-0.09	-0.08		
			(0.09)	(0.11)		
<i>EU</i>			-0.13	-0.13		
			(0.15)	(0.15)		
<i>Before 1990</i>					-0.08	-0.07
					(0.07)	(0.08)
<i>1990-2003</i>					-0.08	-0.07
					(0.07)	(0.08)
<i>2004 and later</i>					0.09	0.10

					(0.15)	(0.16)
<i>risk</i>	-0.06*	-0.06*	-0.06*	-0.06*	-0.06*	-0.06*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
<i>White</i>		0.03		0.02		0.03
		(0.07)		(0.08)		(0.07)
<i>Pseudo – R²</i>	0.04	0.04	0.04	0.04	0.04	0.04
<i>N</i>	681	679	681	679	681	679
χ^2	28.11	28.54	29.23	29.54	29.54	29.90

The table reports marginal effects dy/dx . *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

Binge drinking variable was equal to 1 if a person reported doing binge drinking for more than two times during last month and 0 otherwise. Immigrants are less likely to be binge drinkers than native citizens. Being an EU immigrants again predicts the value of 0 perfectly. Non-EU immigrants, in turn, are less likely to be binge drinkers than UK-born individuals. It was not possible to distinguish by the length of stay with a meaningful conclusion because there was again not enough variation. Risk indicator predicted engagement in binge drinking, however the coefficient is significant only at 10 per cent significance level. Being willing to take risks increases the probability of being a binge drinker by 7 per cent. All the coefficients are robust across models and specifications.

Fast food variable was equal to 1 if a person eats fast food every day or nearly every day and 0 otherwise. Fast food is shown to be less popular among immigrants compared to natives. Interestingly, the inclusion of ethnicity in the model reduces the value of the coefficient for immigrant variable. Therefore, ethnicity plays greater role in eating habits than immigrant status. Both EU and non-EU immigrants are less likely to eat fast food regularly than UK-born individuals. When we control for the length of stay, we observed that those arriving in the UK relatively recently (2004 and later) are more likely to eat fast food regularly than native citizens, however those who spent more time in the UK are less likely to be engaged in this risky health behaviour. This could be potentially explained by these immigrants being younger and less settled in their lives, therefore not being able to afford to take proper care of their diet. High willingness to take risks is surprisingly associated with 6 per cent lower probability of eating fast food regularly. Potentially, the reason for this could be the fact that usually people eating fast food regularly are of lower income level and lower education level that are, in turn, associated with higher risk taking.

4.4.2 Intensity of risky health behaviours

Number of cigarettes smoked per day was analysed using Poisson model. Each y_i is drawn from a Poisson distribution with parameter λ_i , which is related to regressors x_i .

$$\Pr(Y_i = y_i | x_i) = \frac{e^{-\lambda_i} \cdot \lambda_i^{y_i}}{y_i!}$$

The expected number of events per period is given by:

$$E[y_i | x_i] = \lambda_i = e^{x_i' \beta}$$

Ordered probit model for heavy drinking:

$$\begin{aligned} \Pr(n_heavy = 0|x) &= \Phi(-x'\beta) \\ \Pr(n_heavy = 1|x) &= \Phi(\mu_1 - x'\beta) - \Phi(-x'\beta) \\ \Pr(n_heavy = 2|x) &= \Phi(\mu_2 - x'\beta) - \Phi(\mu_1 - x'\beta) \\ \Pr(n_heavy = 3|x) &= \Phi(\mu_3 - x'\beta) - \Phi(\mu_2 - x'\beta) \\ \Pr(n_heavy = 4|x) &= \Phi(\mu_4 - x'\beta) - \Phi(\mu_3 - x'\beta) \\ \Pr(n_heavy = 5|x) &= 1 - \Phi(\mu_4 - x'\beta) \end{aligned}$$

Models for binge drinking and eating fast food were specified in the same way. Model 1 for each behaviour controls for immigrant status, Model 2 controls for the country of origin and Model 3 controls for immigrants' length of stay in the UK. Each model has two specifications: a benchmark model and specification 2 that, in addition, controls for ethnicity.

Table 18 shows the estimation results of the Poisson model of intensity of smoking. Tables 19 and 20 present the results of the Ordered Probit models for alcohol drinking and eating fast food.

Table 18. Number of cigarettes - Poisson model

	Model1		Model 2		Model 3	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
<i>Immigrant</i>	1.03	1.34**				
	(0.09)	(0.14)				
<i>Non-EU</i>			1.53**	1.49		
			(0.25)	(0.24)		
<i>EU</i>			0.63***	0.92**		
			(0.10)	(0.18)		
<i>Before 1990</i>					1.24	1.69***
					(0.17)	(0.24)
<i>1990-2003</i>					1.09	1.49***
					(0.14)	(0.21)
<i>2004 and later</i>					0.35***	0.39***
					(0.13)	(0.15)
<i>risk</i>	1.12**	1.10*	1.12**	1.11*	1.12**	1.10*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
<i>White</i>		1.98***		1.62***		2.13***
		(0.27)		(0.24)		(0.29)
<i>R²</i>	0.07	0.07	0.07	0.07	0.07	0.07
<i>N</i>	682	680	682	680	682	680

χ^2	448.63	474.63	464.12	472.74	462.05	493.77
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The table reports IRRs – incidence-rate ratios. *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

The intensity of smoking is represented by the number of cigarettes smoked per day. It was analysed by the Poisson model that accounts for the count nature of the data. Immigrant group as a whole smokes more than natives. This effect increases if we control for ethnicity and, moreover, becomes significant. Immigrants overall, smoke 1.3 cigarettes more than native UK citizens. However, if we control for the country of origin, we can notice significant difference between EU and non-EU immigrants. EU immigrants smoke 1.5 cigarettes a day more than UK-born individuals, whereas non-EU immigrants smoke less than native citizens. Controlling for ethnicity does not change the result for EU immigrants, however for non-EU immigrants ethnicity is a crucial factor. Inclusion of variable white considerably reduces the effect and makes it non-significant. Looking at variable white, we can easily notice that being white increases the number of cigarettes smoked a day by almost two. Therefore, ethnicity is a key determinant of smoking, white people being heavier smokers compared to other ethnicities. Controlling for the length of stay confirms the phenomenon of acculturation similarly to the Probit model for smoking. Those who arrived relatively recently (2004 and later) smoke less than native UK citizens, whereas those who spent more time in the UK, smoke by over one cigarette a day more than the native population. Risk indicator is able to predict the intensity of smoking and high willingness to take risk is associated with one more cigarette smoked per day compared to lower willingness to take risks.

Table 19. Alcohol consumption - Ordered Probit model

	Model 1		Model 2		Model 3	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
<i>Heavy drinking</i>						
<i>Immigrant</i>	-0.09*** (0.03)	-0.03 (0.04)				
<i>Non-EU</i>			-0.05 (0.04)	0.10* (0.06)		
<i>EU</i>			-0.09 (0.08)	-0.10 (0.08)		
<i>Before 1990</i>					-0.02 (0.04)	0.05 (0.06)
<i>1990-2003</i>					-0.10*** (0.03)	-0.06 (0.04)
<i>2004 and later</i>					-0.12*** (0.03)	-0.09** (0.04)
<i>risk</i>	0.07***	0.07***	0.07***	0.06***	0.07***	0.07***

	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
<i>White</i>		0.12***		0.20***		0.13***
		(0.04)		(0.05)		(0.04)
<i>Pseudo – R²</i>	0.04	0.05	0.04	0.05	0.05	0.05
<i>N</i>	683	681	683	681	683	681
χ^2	92.86	100.48	88.17	104.97	96.80	104.92
<i>Binge drinking</i>						
<i>Immigrant</i>	-0.05*	-0.01				
	(0.03)	(0.03)				
<i>Non-EU</i>			-0.04	0.03		
			(0.03)	(0.04)		
<i>EU</i>			-0.11	-0.12*		
			(0.07)	(0.07)		
<i>Before 1990</i>					-0.01	0.03
					(0.03)	(0.05)
<i>1990-2003</i>					-0.04*	-0.01
					(0.02)	(0.04)
<i>2004 and later</i>					-0.07***	-0.07***
					(0.02)	(0.02)
<i>Risk</i>	0.03**	0.03*	0.03**	0.03**	0.03**	0.03*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
<i>White</i>		0.08**		0.10**		0.08**
		(0.03)		(0.04)		(0.03)
<i>Pseudo – R²</i>	0.07	0.07	0.07	0.07	0.07	0.07
<i>N</i>	574	572	574	572	574	572
χ^2	102.89	108.54	104.09	112.25	105.59	111.56

The table reports marginal effects dy/dx for the highest level of alcohol consumption. *, ** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

The intensity of alcohol drinking is assessed from 1 (never had alcoholic drink in last four weeks) to 5 (had alcoholic drink most days in last four weeks). It was analysed using Ordered Probit model. Immigrants seem to be less engaged in alcohol drinking compared to natives, however controlling for ethnicity makes immigrant status not significant, although still negative. Ethnicity has a strong impact on drinking habits - variable white is significant across models and is consistently associated with higher probability of being a heavy drinker. In the benchmark model, both EU and non-EU immigrants appear as they are less likely to be heavy drinkers than natives. But when we

control for ethnicity, non-EU immigrants appear to have higher probability of being a heavy drinker compared to natives, whereas the result for EU immigrants stays the same. There seem to be no significant differences by the length of stay in the benchmark model, however the effect diminishes when we add white in the model. However, there is still some support for the acculturation process going on: those who arrived in 2004 and later have significantly lower probability of being heavy drinkers compared to native population, whereas those who spent about 20 years in the UK are more likely to be heavy drinkers than UK-born individuals. High willingness to take risks is associated with 7 per cent higher probability of being a heavy drinker. This result is robust to different models and specifications.

The intensity of binge drinking was assessed from 1 (did not have five or more drinks on one occasion in last four weeks) to 5 (had five or more drinks on one occasion six times or more in last four weeks). Similarly to the previous model, marginal effects predict the highest level. Immigrant status seems to be associated with lower probability of being a binge drinker. However, the effect is reduced and becomes non-significant when we control for ethnicity. Indeed, the coefficient for white is significant across models and shows that white people have approximately 10 per cent higher probability of being a binge drinker compared to other ethnicities. Being born in a non-EU country is associated with lower probability of binge drinking in the benchmark model, whereas when we control for ethnicity, the direction of the relationship is reversed. Keeping ethnicity constant, non-EU immigrants are more likely to be binge drinkers compared to natives. EU immigrants are less likely to binge drink regularly and this result is robust to the inclusion of ethnicity. Distinguishing by the length of stay in the UK, the model suggests that those who arrived relatively recently are significantly less likely to binge drink regularly compared to native UK citizens. The result is robust to controlling for ethnicity. Even though, for other immigrants the model suggests negative effect on the probability of interest, the effect is smaller and not significant. Therefore, we can support to a certain extent the effect of acculturation with respect to binge drinking. Being willing to take risks increases the probability of being engaged in binge drinking by 3 per cent.

Table 20. Eating fast food - Ordered Probit model

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	Spec 1	Spec 2	Spec 1	Spec 2	Spec 1	Spec 2
<i>Immigrant</i>	-0.00 (0.00)	-0.02 (0.03)				
<i>Non-EU</i>			-0.03 (0.03)	0.07* (0.04)		
<i>EU</i>			-0.06 (0.05)	-0.07 (0.05)		
<i>Before 1990</i>					-0.00 (0.00)	-0.00 (0.00)
<i>1990-2003</i>					-0.00 (0.00)	-0.00 (0.00)

<i>2004 and later</i>					0.01	0.01
					(0.01)	(0.01)
<i>risk</i>	-0.00	0.05***	0.05***	0.04***	-0.00	-0.00
	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
<i>White</i>		0.08***		0.13***		-0.00
		(0.03)		(0.03)		(0.00)
<i>R</i> ²	0.12	0.05	0.04	0.05	0.12	0.12
<i>N</i>	681	681	683	681	681	679
<i>χ</i> ²	152.35	100.48	88.17	104.97	154.05	155.72

The table reports marginal effects dy/dx for the highest level of fast food consumption. *,** and *** indicate significance level of 10%, 5% and 1% respectively. All specifications also include the following covariates: female, age, married, kids, uni, employed, incomeQ2-Q4. Coefficients are jointly significant in each specification based on χ^2 -test.

The frequency of eating fast food was assessed from 1 (do not eat fast food in a normal week) to 4 (eat fast food every day in a normal week). Immigrant status is associated with lower probability of eating fast food every day, however the effect is small and not statistically significant. When we control for the country of origin, the situation is similar to binge drinking. In the first specification, both EU and non-EU immigrants seem to be less likely to eat fast food every day than natives. Nevertheless, when we include white in the model, the coefficient for non-EU immigrants becomes positive and significant at 10 per cent significance level. Therefore, if we hold ethnicity constant, individuals born in non-EU countries are more likely to eat fast food regularly compared to UK-born individuals. White background is associated with increased probability of having fast food every day across models. The length of stay does not seem to have a considerable impact on the probability of eating fast food often. Other factors that affect this probability are risk indicator, gender and age. Being willing to take risks rises the probability of eating fast food every day by 5 per cent. Women are less likely to eat fast food regularly compared to men. The probability of eating fast food every day also reduces with age.

5. Discussion

In this paper we focused on the self-assessed scaled-based questions to measure willingness to take risks. This measure has been widely used since its experimental validation by Dohmen et al. (2005). It was proved to be a good predictor of individuals' actual behaviour and this fact was confirmed by our simple analysis in section 3.1 (see Table 1). Self-assessed measure is a very cost-effective way of eliciting individual's risk attitude: it can be easily incorporated in questionnaires and are relatively easy for people to understand, especially compared to lottery questions.

Both descriptive and regression analysis showed that foreign-born individuals are more willing to take risks compared to UK-born individuals. This result is in line with theoretical model developed by Heitmueller et al. (2005) and existing empirical studies (Halek & Eisenhauer, 2001; Balaz & Williams, 2011; Hao et al., 2014). Focusing now on willingness to take risks in general, we found that there is a significant difference in the immigrant group itself. Those individuals, who were born in the EU countries and who

enjoy the free movement within the EU, are not significantly different from the native population. In contrast, individuals born in non-EU countries are significantly more willing to take risks. This is likely to be associated with more complicated process of immigration for them. The comparison of EU and non-EU immigrants in the sample suggests that these groups are different with respect to education level and employment. Therefore, we control for education and employment level in our regression analysis and keeping these characteristics constant, we observed the difference in risk attitude. Also, we controlled almost for all exogenous factors of risk attitude, which were initially determined by Dohmen et al. (2005) and were used later in the studies using the same measure of risk attitudes. The factors are age, gender, height and parents' background. We were able to control for the first three but we did not have information on parents' education level. Descriptive analysis also highlighted the importance of ethnicity on willingness to take risks. Keeping ethnicity equal for both groups results in immigrant status having even greater impact on individual's risk attitude. The results were mostly robust to different types of models.

We analysed native-migrant difference in willingness to take risks in the financial and health domain. Immigrants were riskier both in the financial and health domain. The country of origin is important for the financial domain but does not seem to make any difference in the health domain. Non-EU immigrants are more willing to take financial risks compared to native UK citizens, whereas EU immigrants are not significantly different from them. This result is expected based on the difference in rights for EU and non-EU nationals. EU individuals are eligible for unemployment benefits and other forms of social support, whereas non-EU nationals do not have access to any public funds. Length of stay does not have an impact on individual's riskiness in the financial matters but proved important in health issues. Those who spent over 20 years in the UK are significantly more willing to take health risks compared to the native population. Those who arrived more recently also seem to be different from the natives, however there is likely to be not enough variation due to the small sample of immigrants. EU and non-EU immigrants both have free access to the NHS. However, making a decision to migrate will involve inevitable change in lifestyle and adaptation to a different health system. Therefore, any immigrant disregarding the country of origin has to be ready to take health risks.

Higher willingness to take health risks is likely to affect immigrants' health behaviours. Therefore, we considered a number of potentially risky health behaviours that were available in the data. Immigrants overall are more likely to smoke and they smoke more cigarettes per day than native UK citizens. However, the country of origin and ethnicity play a crucial role in smoking. EU immigrants are more likely to be smokers and they smoke more than natives. White background is strongly associated with higher probability of smoking compared to other ethnicities. The results on smoking also provide a good illustration to the phenomenon of acculturation. Those who arrived recently, smoke less than native population. In contrast, those who spent in the UK over 20 years smoke more than the native population. This kind of adaptation is undesirable and it should be among goals of public health policy to help immigrants preserve their healthier behaviours after immigration.

Immigrants seem to have lower probability of drinking heavily. Inclusion of the ethnicity in the model makes the effect of immigrant status insignificant. Although keeping ethnicity constant also results in non-EU immigrants having higher probability of being heavy drinkers. The same is true for binge drinking. White background is associated with higher probability of both heavy and binge drinking. Similarly to the

discussion above, these results support the existence of acculturation. The probability of being a heavy drinker increases with the length of stay. Those who arrive relatively recently are significantly less likely to be engaged in binge drinking.

Fast food is less popular among immigrants than among UK-born individuals. However, again the country of origin and ethnicity matter a lot. Keeping ethnicity equal, non-EU immigrants are more likely to eat fast food regularly. Fast food is also more common in white people's diet compared to other ethnicities.

Risk indicator is able to predict the intensity of health behaviours very well, whereas it does not have a significant impact on the probability of being engaged in a certain behaviour.

This work has several limitations. The major limitation is a small sample of immigrants. Only 50 foreign-born individuals participated in the experiment. Although the share of immigrants in the sample is similar to that in the total UK population, the sample was not initially designed to be representative of immigrant population in the UK (Buck & McFall, 2012). Moreover, the small sample size did not provide us with enough variation to account for important characteristics, eg. to distinguish between countries of birth or ethnicity.

Nevertheless, the analysis of the small sample of immigrants still provides evidence of the differences between immigrant and native UK population with respect to risk preferences in the financial and health domain. This result justifies the collection of more detailed data on immigrants' risk preferences and health behaviours.

Finally, we are planning to conduct a survey of immigrant population in the UK to explore their attitude towards health risks and engagement in potentially risky health behaviours and the phenomenon of acculturation.

6. Conclusion

In this paper we exploit Understanding Society IP to analyse whether immigrants have different attitudes towards risks than natives.

Our findings are that immigrants are more willing to take risks in general than native UK population. This difference also holds for the financial and health domains. Distinguishing by the country of origin, we found non-EU immigrants are more likely (by 12 percentage points) to report high willingness to take risks than natives, whereas EU immigrants tend not to be significantly different from the native population. The length of stay did not seem to have a significant impact on immigrants' willingness to take risks. Non-EU immigrants are more likely to engage in heavy and binge drinking, while EU immigrants smoke 1.5 cigarettes per day more than native citizens. Our results on health behaviours support the phenomenon of acculturation: the probability of smoking and alcohol consumption increases with time spent in the UK. Ethnicity has a significant effect on people's behaviour and it is important to find ways to disentangle its effect from the effect of the immigrant status in future studies.

Establishing whether immigrants have higher risk tolerance in the financial and health domains can contribute to the design of better targeted educational and public health programmes. It also can be used to develop interventions encouraging immigrants to live a healthier lifestyle exploiting insights from behavioural economics.

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