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Bitterness in life and attitudes towards immigration

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Abstract: Immigration is a major challenge and opportunity for rich Western countries. Integration of immigrants is a two-way process, the success of which depends both on immigrants and on natives. We provide new evidence on the determinants of individual attitudes towards immigration, using data from the 2005 and 2010 waves of the German Socio-Economic Panel. In particular, we show that bitterness in life is strongly associated with worries about immigration. This effect cannot be explained just by concerns that immigrants are competing with oneself in the labor market. Instead, it appears that people who feel that they have not got what they deserve in life oppose immigration for spiteful reasons.

Key words: Immigration, bitterness, native attitudes

JEL Codes: D72, F22, J61

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1. Introduction

In coming years, most rich countries are going to face a shortage of workers due to population aging and declining fertility. Immigrants are arguably needed to fill the gap left by the retiring baby-boom generation. Despite potential gains for receiving countries, there is a strong opposition towards further immigration in the United States and several European countries (table A3). Across Europe, the rise of anti-immigration parties has shifted the whole political spectrum towards more restrictive policies from 1980s onwards (Semyonov et al. 2006, Arzheimer 2009). The current economic crisis has increased public opposition to immigration in recent years in several European countries and the United States, while attitudes in Germany, which weathered the crisis better than other countries, have remained about the same (German Marshall Fund 2014). Negative attitudes by natives may hamper immigrants' integration through labor market discrimination, resulting in lower wages, higher unemployment, and underutilization of their human capital (Berry 1997, Kaushal et al. 2007, Adida 2010). In addition, increasing hostility against immigrants is likely to have substantial negative effects on their mental and physical health (Harrell et al. 2003, Pascoe and Richman 2009) and makes it harder for host countries to attract qualified workers.

Our paper addresses the question in to what extent bitterness in life is an important driver of negative attitudes towards immigration. Using micro data from the German Socio-Economic Panel (SOEP) we find that bitter people are more likely to have worries on immigration. This holds for different socio-demographic groups and even after controlling for job security. The latter suggests that spiteful reasons play an important role in explaining why bitter people have a more negative attitude towards immigration. To rule out that the correlation between bitterness and negative attitudes towards immigration is driven by time-invariant unobservable individual-specific factors, we analyze individual changes in bitterness and attitudes towards immigration over time. Estimates from linear probability models with individual fixed effects indicate that growing bitterness over time is associated with increasing worries about migration, while decreasing bitterness is associated with having fewer worries about migration.

The paper is organized as followed. Section 2 reviews the relevant literature and discusses the concept of bitterness and its potential link to attitudes on immigration. Section 3 introduces the data used and provides descriptive statistics. Section 4 contains the results from our empirical analysis, while Section 5 concludes the paper.

2. Literature

Previous research has shown that natives are more likely to oppose immigration if they are competing with immigrants in the labor market, or expect to lose out through induced changes in taxes and transfers (Facchini and Mayda 2009, Ortega and Polavieja 2012). In terms of non-economic determinants, there is a growing literature indicating that individual attitudes towards migration are also shaped by concerns about negative effects of immigration on local amenities and perceived threats to the existing culture (O'Rourke and Sinnott 2006, Card et al. 2012). Empirical evidence further suggests that education is positively correlated with pro-immigration attitudes beyond its effect through the labor market channel (Hainmüller and Hiscox 2010). Finally, social dominance orientation, chauvinism, right-wing authoritarianism, and neuroticism tend to be associated with more negative attitudes, while agreeableness is associated with more positive attitudes (Duckitt and Sibley 2010, Gallego and Pardos-Prado 2014).

Bitterness is a complex emotion, comprising a sense of having been let down and a feeling of being a loser, a desire to fight back and, at the same time, feeling helpless (Linden and Maercker 2011). Psychologists interpret bitterness (embitterment) as a mixture of anger and hopelessness, arising from feeling unjustly treated by other people or fate. During the current economic crisis, many rich countries have experienced large-scale unemployment and reductions in the living standard. This has been associated with individual-level tragedies, exemplified most dramatically by an increase in the number of suicides in crisis countries (Stuckler et al. 2009, Chang et al. 2013). Unemployment and loss of trust in the future make people bitter (Smith 1985, Muschalla and Linden 2011) which could also affect their attitude towards immigration.

A strong relationship between bitterness and negative attitudes towards immigration could be observed for two reasons. First, bitter people could worry that immigration will worsen their personal position, for example by increasing competition for jobs. Second, bitter people who feel that they have not got what they deserve in life could oppose immigration for spiteful reasons. That is, they feel that since life or society has denied them opportunities, such opportunities should also be denied to others. One target could be immigrants who leave their home country to improve their position in life. If a potential link between bitterness and worries about immigration could be explained just by unemployment, then it would be likely that once the crisis has passed, attitudes towards immigration would return to their pre-crisis level. If, on the other hand, a potential link between bitterness and worries about immigration would reflect

spitefulness, the negative effects of mass unemployment could persist even after the crisis would be over.

3. Data & descriptive statistics

For the empirical analysis we make use of data from the German Socio-Economic Panel (SOEP), which is a representative micro data set on persons, families and households in Germany. The panel data set was started in 1984 and contains a large array of socio-economic variables including variables measuring immigration background, education and labor market status. For a detailed overview about the SOEP we refer to Wagner et al. (2007). For this paper it is particularly valuable that the SOEP also provides detailed information on personal values and opinions, including a question on bitterness. It reads as “Compared to other people, I have not achieved what I deserve.” The question was asked in 1999, 2005 and 2010. However for the purpose of comparability, we focus on 2005 and 2010 since these were the only years in which respondents were asked to give an answer on a 7-point scale, 1 being the lowest value, while 7 is reported by individuals who totally agree with the statement.

The bitterness question was previously used as a measure of locus of control by some authors (see for example Caliendo et al. 2015) while referring to the original definition of locus of control by Rotter (1966). We think this is not correct. The two original questions used by Rotter have a different content and meaning. The first question of Rotter (1966) is: “In the long run people get the respect they deserve in this world.” The second questions sounds: “Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.” Both questions therefore ask about general statements how people think that effort is rewarded in the existing world and society. Instead, the question in the SOEP asks explicitly whether the respondent thinks that he/she himself have not achieved what he/she deserves compared to other people. This is a very different question and statement about personal disappointment and feeling unfairly treated. We therefore think that the SOEP question should not be used as a measure for locus of control, but instead serves as a good measure for personal bitterness. It is further noteworthy, that all other surveys containing measures of locus of control like the NYLS or HILDA do not use the aforementioned question as a measure of locus of control.

Furthermore, the SOEP includes a question allowing to measure worries about immigration. The question asked is: “How is it with the following topic – immigration to Germany – do you have worries about it?” The possible answers are “big worries”, “some worries”, or “no worries”. The question in the English version of the online questionnaire is slightly different.

The question then sounds: “What is your attitude towards the area – immigration to Germany – are you concerned about it?” The possible answers in the English version of the online questionnaire are: “very concerned”, “somewhat concerned”, or “not concerned at all“. Since we focus on natives, we use in our paper the English translation of the original German questionnaire.

We restricted our analysis to those aged at least 18 and at most 65. The aim is to restrict our analysis to working-age individuals who potentially could compete with immigrants in the labor market. An exception is column (3) in Table A5, in which we focus on pensioners including respondents older than 65. Throughout the analysis, we exclude respondents who are themselves immigrants or whose parents were immigrants. In other words, we focus on native attitudes towards immigration.

Throughout the paper we make use of three dependent variables measuring worries about immigration. “Big worries” is a dummy coded as 1 if the respondent has big worries about immigration. “More worries” is a dummy coded as 1 in 2010 if the respondent has more worries about immigration than in 2005. “Fewer worries” is a dummy coded as 1 in 2010 if the respondent has less worries about immigration than in 2005. Our main explanatory variable is bitterness, which is measured on a 7-point scale, 1 being the lowest value, while 7 is reported by individuals who totally agree that they have not achieved what they deserve compared to other people.

For education we rely on the International Standard Classification of Education (ISCED) of the UNESCO. Education is measured by a dummy coded as 1 if the respondent is high skilled (Isced 5 or 6, corresponding to first and second grade of tertiary education). Household status is measured by two variables: a dummy coded as 1 if the respondent is single, and a dummy coded as 1 if at least one child lives in the household of the respondent. Income is measured by log real net monthly household income of the respondent. With respect to the employment status we distinguish between three different outcomes: working (full or part-time), being unemployed, and being outside the labor force. Regional differences are captured by dummy variables for the German federal states (“Länder”). Finally, we also control for self-reported life-satisfaction which is measured on an 11-point scale, 0 being the lowest value, while 10 is reported by individuals who are very satisfied with their life, all things considered.

We find that negative attitudes towards immigration are strongly correlated with self-reported bitterness in life, measured by a question on whether respondents feel they have not having

achieved what they deserve. Among those who are very bitter, 43.4 percent have big worries about immigration, while the corresponding share is only 15.6 percent among those who are not bitter at all (Figure 1). The relationship between bitterness and worries about immigration can be observed for men and women, for different age groups, as well as when analyzing people living in former East and West Germany separately.¹

4. Econometric analysis

First, we focus on 2010 and use ordered logit regressions to analyze the nexus between bitterness and attitudes on immigration with the following additional control variables: gender, age, age squared, tertiary education, marital status, child in the household, employment status, household income and regional fixed effects. Standard errors are clustered at the individual level. For the purpose of interpretation, we report marginal effects for having big worries. The corresponding results are reported in table 1. It becomes obvious that strong link between bitterness and big worries about immigration holds when controlling for socio-demographic and regional differences. The main finding that bitter people are more likely to have big worries about immigration holds also in 2005, suggesting that the pattern is stable over time (table 2).

Next, we tested in how far our results survive when we include measures of locus of control. For this purpose, we constructed two variables capturing locus of control of respondents following the approach of Caliendo et al. (2015). The first measure is a standardized full index of locus of control, while the second measure is a dummy variable taking the value of one if the respondent has an internal locus of control. In contrast to Caliendo et al. (2015), we exclude the question on bitterness in constructing the locus of control measures. The corresponding results are displayed in table 3. We do not find any significant effect of locus of control on native attitudes on immigration. More important, neither the magnitude nor the significance of our bitterness coefficients are affected when introducing locus of controls variables. This finding strongly supports our claim that the question used for defining bitterness is indeed not a locus of control measure.

To analyze to what extent worries about immigration can be attributed to job insecurity, we ran separate regressions for civil servants who have permanent employment contracts, for employed people who are not civil servants, and for pensioners and people who are unemployed or outside the labor force, without being retired (Table 4). In all these groups, bitter people are more worried about immigration. As bitterness is related to more negative attitudes towards

¹ See figures A1 to A3 in the appendix.

immigration independently of job insecurity, it appears that spiteful reasons play an important role in explaining why bitter people have a more negative attitude towards immigration. Furthermore, the link between bitterness and worries about immigration holds for groups with different skill levels (table 5).

There is enough individual-level variation in bitterness to allow us to separate persistent individual-specific characteristics from the effects of changes in bitterness. As the distribution of changes in bitterness is symmetric around zero, our results should not be distorted by any social trends that would affect both bitterness and attitudes towards immigrants (Figure 2). We therefore were able to estimate linear probability models with individual fixed effects to analyze the relation between changes in bitterness and having worries on migration. As controls, we include age, age squared, tertiary education, marital status, child in the household, employment status, household income, and regional fixed effects. Standard errors are again clustered at the individual level. The corresponding estimates show that growing bitterness over time is associated with increasing worries about migration, while decreasing bitterness is associated with having fewer worries about migration (table 6).

As negative life events like unemployment are linked to both bitterness (Muschalla and Linden 2011) and life satisfaction (Clark and Oswald 1994), the latter is the prime contender with bitterness when linking emotions to attitudes towards immigration. Indeed, the same panel that we used has been previously used to show that personal and economic choices matter for life satisfaction (Headey et al. 2010). We find that changes in life satisfaction, however, play only a minor role in explaining changes in attitudes towards immigrants and none of the coefficients of different levels of life satisfaction is statistically significant (table 7). This finding considerably strengthens our interpretation that bitterness has a major effect on attitudes towards immigration.

5. Conclusions

We showed that bitterness is strongly associated with negative attitudes towards immigration. Spiteful motivations appear to play an important role in this: those who feel that they have not got what they deserve in life are more likely to wish to deny opportunities to improve one's life also to others, including immigrants. One mechanism behind the link between bitterness and spitefulness is that success of others could make own failure hurt even more. Interestingly, changes in life satisfaction are only weakly related to attitudes towards immigration.

Youth unemployment has considerable negative long-term effects at the individual level (Gregg 2011, Mroz and Savage 2006). Furthermore, economic conditions during one's childhood or youth can have a long-lasting impact on an individual's beliefs and preferences (Alesina and Fuchs-Schündeln 2007, Malmendier and Nagel 2011, Giuliano and Spilimbergo 2014). In 2013, unemployment rate among those aged 15 to 24 was 23.3 percent in the European Union, and reached 58.3 percent in Greece and 55.7 percent in Spain (Eurostat 2014). There is a considerable risk that the economic crisis results in widespread bitterness among the hardest-hit cohorts. Therefore, current youth unemployment may, in addition to its devastating effects of those directly affected, pose long-term problems to the integration of immigrants in crisis countries in coming decades.

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Figure 1: Relationship between bitterness and having big worries about immigration. Germany, 2010. Wording of the question on worries about immigration in the SOEP questionnaire: “How is it with the following topic – immigration to Germany – do you have worries about it?” Possible answers: “Big worries” “Some worries” “No worries”. Wording of the question on bitterness in the SOEP: “Compared to other people, I have not achieved what I deserve.” Answers are on a 7-point scale, 1 being the lowest value, and 7 denoting total agreement with the statement. n=10,844.

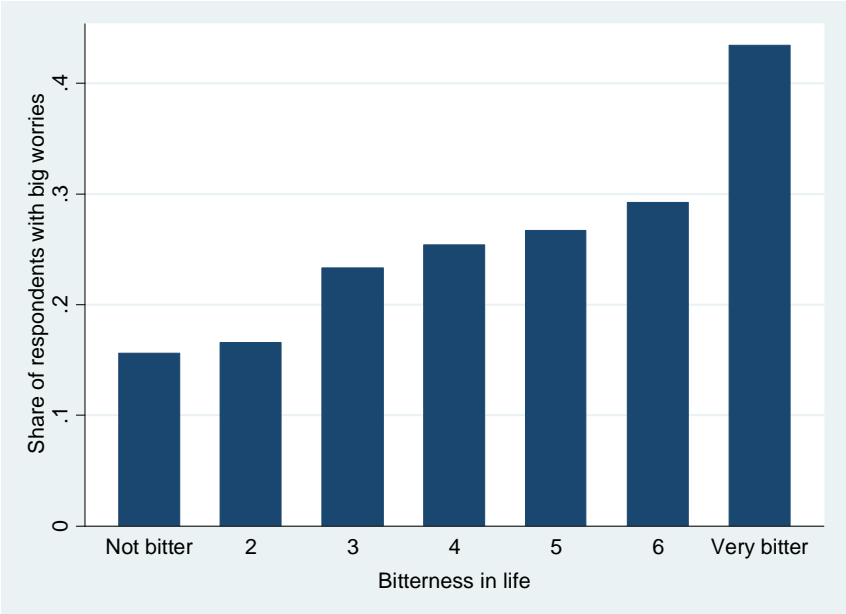


Figure 2: Distribution of changes in bitterness between 2005 and 2010 for persons who were in the SOEP data in both years. n=8,291.

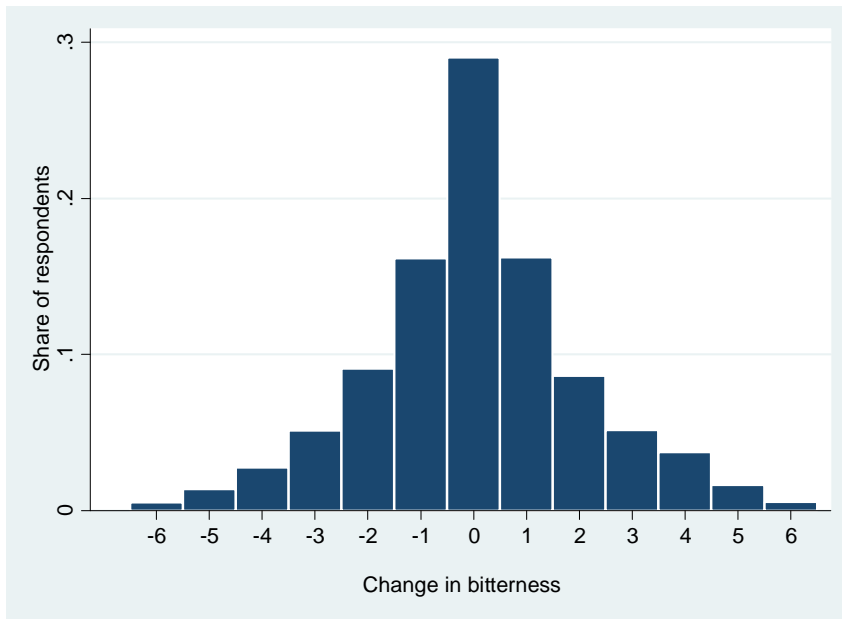


Table 1: The effect of bitterness on having big worries about immigration. The table reports marginal effects from ordered logit regressions using SOEP data from 2010. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, are reported in parentheses. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.

	(1)	(2)	(3)	(4)
Bitter_2	0.030*** (0.008)	0.027*** (0.008)	0.025*** (0.008)	0.024*** (0.008)
Bitter_3	0.085*** (0.011)	0.070*** (0.010)	0.063*** (0.010)	0.062*** (0.010)
Bitter_4	0.120*** (0.011)	0.095*** (0.011)	0.082*** (0.011)	0.079*** (0.011)
Bitter_5	0.142*** (0.012)	0.117*** (0.011)	0.105*** (0.011)	0.102*** (0.012)
Bitter_6	0.155*** (0.015)	0.136*** (0.014)	0.123*** (0.014)	0.118*** (0.014)
Bitter_7	0.258*** (0.027)	0.227*** (0.027)	0.206*** (0.027)	0.206*** (0.027)
Gender and age	Yes	Yes	Yes	Yes
Education & household status	X	Yes	Yes	Yes
Employment status & income	X	X	Yes	Yes
Regional fixed effects	X	X	X	Yes
Observations	10,844	10,844	10,844	10,844
Pseudo R-squared	0.0202	0.0421	0.0456	0.0469

Table 2: The effect of bitterness on having big worries about immigration. Table reports marginal effects from ordered logit regressions using SOEP data from 2005. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, reported in parentheses. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.

	(1)	(2)	(3)	(4)
Bitter_2	0.010 (0.011)	0.007 (0.011)	0.003 (0.011)	0.004 (0.011)
Bitter_3	0.072*** (0.014)	0.057*** (0.014)	0.049*** (0.014)	0.047*** (0.014)
Bitter_4	0.128*** (0.013)	0.100*** (0.013)	0.084*** (0.013)	0.084*** (0.013)
Bitter_5	0.129*** (0.014)	0.099*** (0.014)	0.082*** (0.014)	0.080*** (0.014)
Bitter_6	0.158*** (0.017)	0.138*** (0.017)	0.118*** (0.018)	0.117*** (0.018)
Bitter_7	0.215*** (0.025)	0.181*** (0.025)	0.156*** (0.025)	0.162*** (0.026)
Gender and age	Yes	Yes	Yes	Yes
Education & household status	X	Yes	Yes	Yes
Employment status & income	X	X	Yes	Yes
Regional fixed effects	X	X	X	Yes
Observations	12,809	12,809	12,809	12,809
Pseudo R-squared	0.0151	0.0331	0.0363	0.0418

Table 3: Bitterness and locus of control. The table reports marginal effects from ordered logit regressions using SOEP data from 2010. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, are reported in parentheses. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.

	(1)	(2)	(3)
Bitter_2	0.024*** (0.008)	0.024*** (0.008)	0.024*** (0.008)
Bitter_3	0.063*** (0.011)	0.065*** (0.011)	0.064*** (0.011)
Bitter_4	0.081*** (0.011)	0.083*** (0.012)	0.083*** (0.012)
Bitter_5	0.103*** (0.012)	0.105*** (0.012)	0.104*** (0.012)
Bitter_6	0.119*** (0.014)	0.122*** (0.015)	0.121*** (0.015)
Bitter_7	0.212*** (0.027)	0.215*** (0.028)	0.213*** (0.027)
LOC Full Index		0.003 (0.004)	
LOC Indicator			0.004 (0.007)
Gender and age	Yes	Yes	Yes
Education & household status	Yes	Yes	Yes
Employment status & income	Yes	Yes	Yes
Regional fixed effects	Yes	Yes	Yes
Observations	10,723	10,723	10,723
Pseudo R-squared	0.0477	0.0477	0.0477

Table 4: The effect of bitterness on having big worries about immigration in different subsamples. The Table reports marginal effects from pooled ordered logit regressions using SOEP data from 2005 and 2010. A time dummy is included in all specifications. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, reported in parentheses. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Column (1): Civil servants only. Column (2): All other respondents who work (without civil servants). Column (3): Pensioners only (including people older than 65). Column (4): All non-working respondents (without pensioners).

	(1)	(2)	(3)	(4)
	Civil servants	Other employed	Pensioners	Not working
Bitter_2	0.029 (0.018)	0.011 (0.009)	0.002 (0.014)	0.021 (0.017)
Bitter_3	0.055* (0.029)	0.066*** (0.011)	0.035** (0.017)	0.039** (0.020)
Bitter_4	0.022 (0.027)	0.093*** (0.011)	0.047*** (0.016)	0.077*** (0.020)
Bitter_5	0.087** (0.036)	0.089*** (0.012)	0.094*** (0.018)	0.109*** (0.024)
Bitter_6	0.106*** (0.040)	0.113*** (0.015)	0.130*** (0.021)	0.154*** (0.027)
Bitter_7	0.092 (0.080)	0.207*** (0.026)	0.227*** (0.030)	0.156*** (0.038)
Gender and age	Yes	Yes	Yes	Yes
Education & hh status	Yes	Yes	Yes	Yes
Income	Yes	Yes	Yes	Yes
Regional fixed effects	Yes	Yes	Yes	Yes
Observations	1,523	15,829	8,152	4,498
Pseudo R-squared	0.0818	0.0616	0.0530	0.0682

Table 5: The effect of bitterness on having big worries about immigration in different skill groups. Table reports marginal effects from pooled ordered logit regressions using SOEP data from 2005 and 2010. The analysis includes only self-employed or employed persons who are not civil servants. Table reports marginal effects from pooled ordered logit regressions. A time dummy is included in all specifications. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, reported in parentheses. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Column (1): All low skilled (Isced level 1 or 2) respondents. Column (2): All medium skilled (Isced level 3 or 4) respondents. Column (3): All high skilled (Isced level 5 or 6) respondents.

	(1)	(2)	(3)
	Low skilled	Medium skilled	High skilled
Bitter_2	0.046 (0.045)	0.006 (0.013)	0.010 (0.009)
Bitter_3	0.132*** (0.050)	0.058*** (0.016)	0.052*** (0.014)
Bitter_4	0.094** (0.045)	0.088*** (0.016)	0.093*** (0.016)
Bitter_5	0.105** (0.048)	0.092*** (0.016)	0.065*** (0.015)
Bitter_6	0.103* (0.054)	0.118*** (0.021)	0.097*** (0.020)
Bitter_7	0.300*** (0.072)	0.185*** (0.032)	0.196*** (0.047)
Gender and age	Yes	Yes	Yes
Household status	Yes	Yes	Yes
Income	Yes	Yes	Yes
Regional fixed effects	Yes	Yes	Yes
Observations	1,366	9,291	5,123
Pseudo R-squared	0.0355	0.0378	0.0587

Table 6: The effect of changes in bitterness on changes in worries about immigration.

The table reports estimates from a linear probability model with individual fixed effects and different levels of bitterness in panel regressions using data from 2005 and 2010. The dependent variable “More worries” in column (1) measures whether a person was more worried about immigration in 2010 than in 2005, with the dummy variable having value 1 for 2010 if the person was more worried in 2010 and 0 if the person was equally worried or less worried in 2010. The dependent variable “Fewer worries” in column (2) has value 1 for 2010 if the person was less worried in 2010 and 0 if the person was equally or more worried in 2010. Both dependent variables have value zero for 2005. Bitter_1 (being not bitter at all) is the reference category. Standard errors, clustered at the individual level, are reported in parentheses. Control variables for age, age squared, tertiary education, marital status, child in the household, employment status, household income, and regions are included in all specifications. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.

	(1) More worries about immigration	(2) Fewer worries about immigration
Bitter_2	0.016* (0.008)	-0.008 (0.013)
Bitter_3	0.017* (0.010)	-0.035** (0.016)
Bitter_4	0.023** (0.010)	-0.026* (0.016)
Bitter_5	0.027*** (0.010)	-0.036** (0.016)
Bitter_6	0.035*** (0.012)	-0.049*** (0.018)
Bitter_7	0.065*** (0.019)	-0.006 (0.025)
Observations	23,653	23,653
R-squared	0.111	0.375
Number of persons	16,258	16,258

Table 7: The effect of changes in bitterness and life satisfaction on changes in worries about immigration. The table reports estimates from a linear probability model with individual fixed effects and different levels of bitterness and life satisfaction in 2005 and 2010. The dependent variable “More worries” in column (1) measures whether a person was more worried about immigration in 2010 than in 2005, with the dummy variable having value 1 for 2010 if the person was more worried in 2010 and 0 if the person was equally worried or less worried in 2010. The dependent variable “Fewer worries” in column (2) has value 1 for 2010 if the person was less worried in 2010 and 0 if the person was equally or more worried in 2010. Both dependent variables have value zero for 2005. Bitter_1 (being not bitter at all) is the reference category for bitterness and LifeSatisfaction_1 (completely unsatisfied) for life satisfaction. Standard errors, clustered at the individual level, are reported in parentheses. Controls for age, age squared, tertiary education, marital status, child in the household, employment status, household income, and regions are included in all specifications. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.

	(1) More worries	(2) Fewer worries
Bitter_2	0.015* (0.009)	-0.008 (0.013)
Bitter_3	0.016 (0.010)	-0.034** (0.016)
Bitter_4	0.022** (0.010)	-0.022 (0.016)
Bitter_5	0.026** (0.010)	-0.033** (0.016)
Bitter_6	0.034*** (0.012)	-0.050*** (0.018)
Bitter_7	0.062*** (0.019)	-0.004 (0.025)
LifeSatisfaction_1	-0.003 (0.061)	-0.102 (0.090)
LifeSatisfaction_2	0.011 (0.056)	-0.021 (0.077)
LifeSatisfaction_3	-0.017 (0.055)	0.020 (0.073)
LifeSatisfaction_4	-0.026 (0.053)	-0.041 (0.074)
LifeSatisfaction_5	-0.013 (0.052)	-0.017 (0.071)
LifeSatisfaction_6	-0.019 (0.053)	0.013 (0.072)
LifeSatisfaction_7	-0.019 (0.052)	0.012 (0.072)
LifeSatisfaction_8	-0.029 (0.053)	0.018 (0.072)
LifeSatisfaction_9	-0.029 (0.053)	0.016 (0.073)
LifeSatisfaction_10	-0.021 (0.055)	0.005 (0.076)
Observations	23,625	23,625
R-squared	0.112	0.377
Number of persons	16,249	16,249

Appendix

Figure A1: Relationship between bitterness and having big worries about immigration.
 Germany 2010, Men (n=5,206.) vs. Women (n=5,638). See Figure 1.

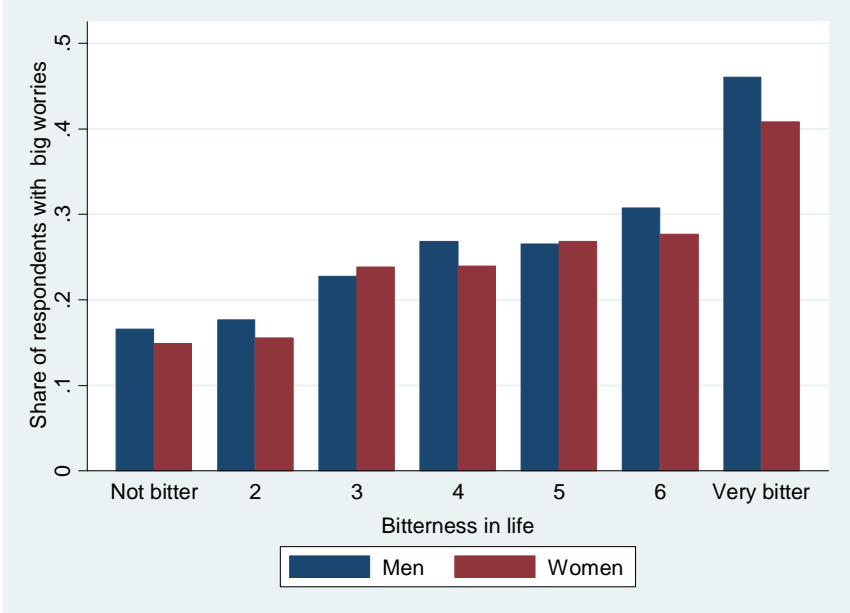


Figure A2: Relationship between bitterness and having big worries about immigration.
 Germany 2010, Young (≤ 45 , n=5,382) vs. Old (> 45 , n=5,462). See Figure 1.

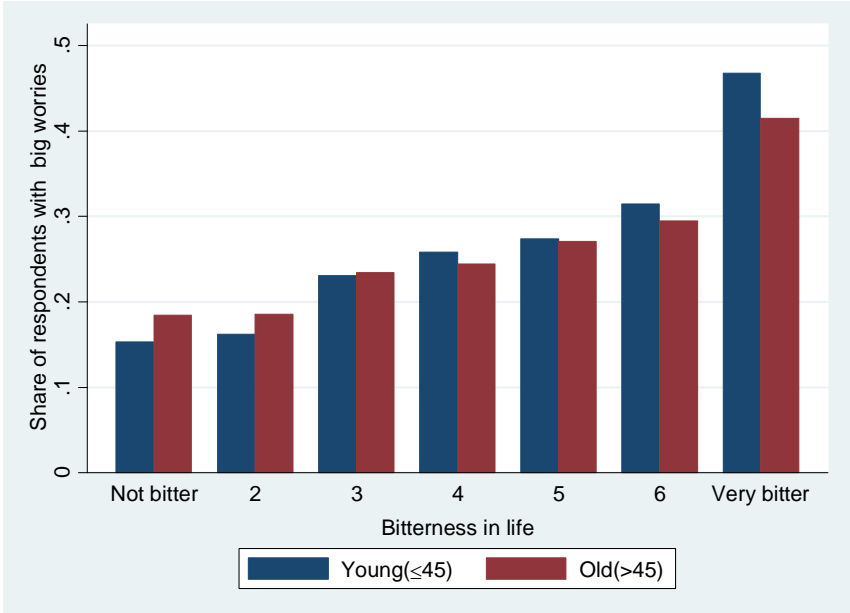


Figure A3: Relationship between bitterness and having big worries about immigration. 2010, Former West Germany (n=7,646) vs. Former East Germany (n=3,198). See Figure 1.

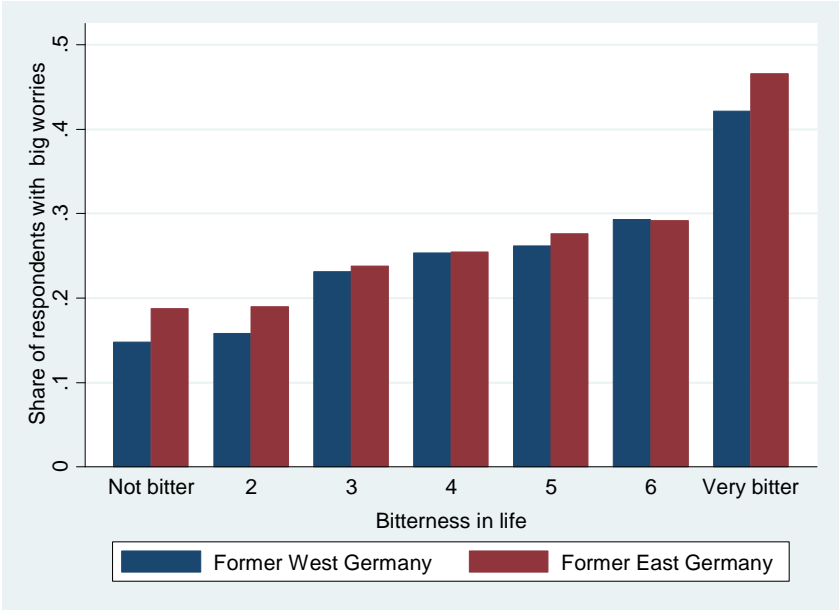


Table A1: Percentage of immigrants in selected countries in 2013. Term immigrant refers to those born abroad, independently of citizenship.

	(1)	(2)	(3)
	Total population	Immigrants	Share of immigrants
Austria	8,451,860	1,362,185	15.2%
Belgium	11,161,642	1,747,641	15.7%
Cyprus	865,878	200,842	23.2%
Denmark	5,602,628	548,411	9.8%
Finland	5,426,674	279,743	5.15%
France	65,578,819	7,537,795	11.5%
Germany	82,020,578	10,201,192	12.4%
Great Britain	63,896,071	7,828,376	12.3%
Greece	11,062,508	1,235,426	11.2%
Iceland	321,857	35,319	11%
Ireland	4,591,087	736,375	16%
Italy	59,685,227	5,457,820	9.5%
Liechtenstein	36,838	23,109	62.7%
Luxembourg	537,039	227,461	42.4%
Malta	421,364	37,705	9%
Netherlands	16,779,575	1,927,728	11.5%
Norway	5,051,275	662,526	13.1%
Portugal	10,487,289	881,440	8.4%
Spain	46,727,890	6,174,740	13.2%
Sweden	9,555,893	1,472,353	15.4%
Switzerland	8,039,060	2,102,964	26.2%
All Western European countries	416,301,052	50,919,214	12.2%
Australia	23,343,000	6,468,640	27.7%
Canada	35,182,000	7,284,069	20.7%
New Zealand	4,506,000	1,132,828	25.1%
United States	320,051,000	45,785,090	14.3%

Table A2: Percentage of immigrants in Western European countries of age 20-39, 2013. Term immigrant refers to those born abroad, independently of citizenship.

	(1)	(2)	(3)
	Total population	Immigrants	Share of immigrants
Austria	2,197,398	504,877	23.0%
Belgium	2,879,842	636,587	22.1%
Cyprus	279,563	102,464	36.7%
Denmark	1,381,881	241,211	17.5%
Finland	1,355,654	134,133	9.9%
France	16,167,520	2,102,832	13.0%
Germany	19,725,302	3,552,825	18.0%
Great Britain	16,958,219	3,531,081	20.8%
Greece	2,956,039	518,569	17.5%
Iceland	90,914	17,002	18.7%
Ireland	1,342,603	346,115	25.8%
Italy	14,510,689	2,477,332	17.1%
Liechtenstein	1,351,016	306,465	79.4%
Luxembourg	152,606	82,649	54.2%
Malta	120,931	16,207	13.4%
Netherlands	4,120,358	712,844	17.3%
Norway	1,351,016	306,465	22.7%
Portugal	2,722,854	383,166	14.1%
Spain	13,105,168	2,767,294	21.1%
Sweden	2,484,477	532,748	21.4%
Switzerland	2,143,593	747,374	34.9%
All Western European countries	106,056,006	19,721,223	18.6%

Table A3: Attitudes towards immigration. Surveys were carried out in the following years: Australia 2005, Canada 2006, Finland 2005, Germany 2006, Italy 2005, Spain 2007, Sweden 2006, Switzerland 2007, and the United States 2006.

	(1) “Let anyone come”	(2) “As long as jobs are available”	(3) “Strict limits”	(4) “Prohibit people from coming”
Australia	3.3%	53.7%	40.7%	2.2%
Canada	7.9%	51.3%	38.9%	1.9%
Finland	8.9%	40.1%	48.3%	2.7%
Germany	7.0%	43.2%	45.1%	4.7%
Italy	8.1%	48.8%	36.7%	6.4%
Spain	7.7%	47.6%	41.7%	3.1%
Sweden	18.2%	53.5%	27.2%	1.1%
Switzerland	5.9%	67.2%	25.7%	1.1%
United States	6.8%	36.6%	48.9%	7.6%

