



Public Opinion Views on Immigrants' Contribution to the Local Economy: the Role of TV Exposure

Leonardo Becchetti¹ · Berkan Acar¹

Received: 5 October 2020 / Accepted: 30 January 2021 / Published online: 22 March 2021
© Società Italiana di Economia (Italian Economic Association) 2021

Abstract

We investigate the nexus between TV watching and the general public opinion about the impact of immigrants on the economies of destination countries using evidence from the European Social Survey. We find, as expected, that low skilled workers and less educated respondents have a more negative view, likely due to the stronger competition threat they suffer from immigrants. Second, and more surprising, time spent watching TV gives a strong and significant contribution to the negative opinions on the role of immigrants. Over-representation of negative events involving migrants and lack of migrants voice on TV are two likely rationales consistent with our findings.

Keywords Economic effects of migration · Television exposure · Labour market competition

JEL Classification F22 · J15

1 Introduction

The dramatic reduction of the costs of distance in travel and communication has by far increased migratory flows in the last decades, with hundreds million people taking the risk and paying the cost of leaving their countries, enticed by the expected difference between the quality of life in the country of destination vis-à-vis the country of origin. As a result, immigrants have grown at a higher speed than economic and population growth at world level from 2000 to 2017 and their share on the total world population has risen from 2.8 to 3.4 percent (United Nations 2018).

Migratory flows are for this reason one of the most hotly debated social and political issues in high-income countries. The view of the public opinion on them plays a

✉ Leonardo Becchetti
becchetti@economia.uniroma2.it

¹ Faculty of Economics, University of Rome Tor Vergata, Via Columbia 2, 00135 Rome, Italy

huge role in shaping political choices of governments whose consensus depends for a relevant part on decisions regulating entry and access of immigrants.

Our research hypothesis is that television exposure plays a relevant role in shaping the views of the public opinion on the role of immigrants on the negative side. A likely rationale is that television audience grows more on extreme and, in general, negative news and that immigrants' voices in it are under-represented. The consequence of these two facts is that television tends to over-represent immigrants' misbehaviour and natives' negative comments on it. As a consequence, individuals with higher television exposure tend to share this view extending the negative opinion on the role of immigrants to the effects on local economies.

In what follows we motivate our starting point. The economic literature has, in general, a positive view on the aggregate effects of migration even though it acknowledges that migratory inflows can negatively affect wages of native workers, especially the low skilled (see among others Benhabib and Jovanovic 2012; Clemens 2011; di Giovanni et al. 2015; Docquier et al. 2015; Kennan 2013; Klein and Ventura 2007; Lundborg and Segerstrom 2002; Moses and Letnes 2004; Pritchett 2010; Walmsley and Winters 2005). The positive view is well resumed (but not endorsed) by Borjas (2015) in its survey with the extreme optimistic metaphor of the trillion-dollar bills available on the sidewalks would countries eliminate restrictions to migratory flows.

Even though not all economists agree on this extreme optimistic methapore, a positive general view is broadly shared. De Benedictis and Di Maio (2011) find that, out of 331 Italian economists interviewed on policies needed to improve the Italian economy, only one of them suggests to reduce immigration even though Italy has been subject to a strong irregular migratory pressure in the last decade for its position on the Mediterranean Sea. Aubry et al. (2016) calibrate a model accounting for interactions among labour market, market size and fiscal effects of immigrants. More specifically, they focus on broad effects of changes in total factor productivity, wage inequality and geographical disparities in the production of goods and find that immigrations are economically beneficial for 83 percent of citizens of the richest 22 OECD countries but not for the extreme low skilled end of the population.

The positive side of the impact of migration is generally articulated into five arguments.

First, data and evidence challenge the "lump of labour" fallacy according to which immigrants take jobs of natives. Jobs of immigrants and natives tend to be complementary and immigrant workers occupy low skilled jobs in agriculture, manufacturing industry, caregiving services and small trade that native workers are generally less inclined to accept and that increase the productivity of the latter when working in complementary activities or positions. Along this line, Ottaviano and Peri (2012) argue that immigrants have complementary skills with those of most native workers. They provide empirical findings for the US between 1990 and 2004 consistent with their general equilibrium model where only high school dropouts register a negative effect on real wages due to migration, while all other natives register a positive effect. Card (1990), Borjas (2003) and Manacorda et al. (2012) discuss from different viewpoints the effects of immigrants on wages of native workers. Clemens (2011) provides an interesting anecdotal example on the complementarity

between immigrants and native workers. The government of North Carolina offered in 2011 around 6500 positions for temporary workers in agriculture. Only seven of the half million native unemployed accepted and completed the offered work, while the author calculates that any 3–4 temporary Mexican workers taking those jobs create one additional job for natives.

A second favorable argument states that, by taking jobs and being paid for them, immigrants contribute to the internal demand for goods and services (Hercowitz and Yashiv 2002), thereby creating jobs also for native low skilled workers (Malchow-Møller et al. 2009; Constant 2014).

A third argument is that immigrants can as well be considered like investors buying a high risk/high return financial asset whose return is represented by the difference between the expected quality of life in the destination country and that in the country of origin, with the risk being represented by the difficulties of their journey. This process produces positive self-selection where only the more entrepreneurial and less risk-averse immigrants succeed, with the consequence of positively contributing to start-ups and innovation in the destination country (Jensen 2014).

A fourth argument is that immigrants who succeed to arrive are for the largest part young in working age and often return home before retiring. As a consequence, when they get regular jobs, they are net contributors to public finances and their arrival has a positive impact on the productivity of the labour force, especially in ageing societies given the young age of those who arrive (Liebig and Mo 2013). This effect can however be counterbalanced by access to sick as discussed in the literature (Rowthorn 2008; Dustmann et al. 2010; Dustmann and Frattini 2014).

A fifth argument relates to the cultural difference between immigrants and natives contributing positively to diversity with a significant impact on the creation of economic value (Ottaviano and Peri 2006; Alesina et al. 2016; Bove and Elia 2017).

Compared with the articulated discussion of pros and cons of the economics profession, the public opinion seems to have a much more critical view on the effects of immigrants on the local economy. As Aubry et al. (2016) remark 58 percent of the European citizens consider immigrants a problem and not an opportunity, with almost half of the respondents believing that immigrants take away jobs and 55 percent that they contribute negatively to the welfare state.

These views are confirmed when looking at the European Social Survey, the database used in our empirical analysis collecting opinions of Europeans on large scale, where 62 percent of respondents interviewed on the role of immigrants on local economy are on the nonpositive side (answers between 0 and 5 on a 0–10 scale) and the extreme negative answers (0 and 1) correspond to 11 percent of respondents whereas the highest positive answers (9–10) are only 6 percent. Likewise, in a recent study done for Germany, France, Italy, Sweden, the UK, and the US by Alesina et al. (2018), respondents greatly overestimate the total number of immigrants, think immigrants are culturally and religiously more distant from them and are economically weaker, less educated, more unemployed, and more reliant on and favoured by government transfers than is the case. The authors conclude that salience and narratives shape people's views more deeply than hard facts.

The negative individual attitudes towards immigration are generally determined by labour market concerns, welfare concerns, and racial or cultural concerns.

Dustmann and Preston (2007) find that welfare concerns play a more important role in the determination of attitudes to further immigration than labour market concerns. Besides, they find strong evidence that racial or cultural prejudice is an important component of attitudes towards immigration. Regarding the labour market Mayda (2006) and Facchini and Mayda (2012) find that skilled individuals generally favour immigration in countries where natives are more skilled than immigrants and oppose it otherwise.

Our hypothesis is that the agenda-setting of media has a fundamental role in shaping the public opinion on the role that immigrants have on the economy, net of the expected impact of education, job status, the political orientation of citizens and other standard controls. Traditional media such as television are a bridge between political and social actors and, by setting the agenda and a hierarchy on the relative importance of news, they have a strong role in shaping political views of the general public (Bleich et al. 2015). Kosho (2016) argues that media find it more profitable in terms of the audience to present negative news in a simplified way with a sensationalistic version of the stories. As a consequence, immigrants appear in the media associated in general to crime and negative news. Overrepresentation of negative news about immigrants leads to a distortion of the statistical effects of immigrants on the economy and society. Kim et al. (2011) support this view showing that Western media overuse the term “illegal migration” and generally focus on topics such as crime and border protection. Branton and Dunaway (2008), Benson (2002) and Benson and Saguy (2005) argue that media tend to show the most alarming news in order to create more audience. Within this general view, the literature also reflects on the differences among media. Igartua and Cheng (2009) and Ruhrmann et al. (2006) argue that television tends to portray more negative immigrants than the press.

A second important aspect is that, in general, immigrants have no direct voice on media. Indeed, a recent report on migration media coverage in 17 countries from 2015 to 2016 confirms that media generally fail to give adequate voice to migrants themselves and often media reporting relies too heavily on single, official sources of information (The Ethical Journalism Network 2017).¹

A third aspect is that right-wing parties and voters tend to be more polarised toward a negative view on migration. Right-oriented media have therefore a political interest in emphasizing the negative news about immigrants to reinforce the views of their readers and shift a larger share of the public opinion in direction of a negative attitude toward immigrants that can increase consensus for right-wing parties (Bleich et al. 2015). A recent study for 140 regions of 16 Western European countries shows that natives display lower support for redistribution when the share of immigrants is higher in their region and this negative association is driven by respondents at the center or at the right of the political spectrum (Alesina et al. 2019).

¹ The report was carried out and prepared by the Ethical Journalism Network and commissioned in the framework of EUROMED Migration IV project which has been financed by the European Union and implemented by the International Centre for Migration Policy Development (ICMPD).

As a consequence of these three points, the negative discourse on immigrants tends to be prevalent on the media (Boomgaarden and Vliegenthart 2009; Burscher et al. 2015; The Ethical Journalism Network 2017).

Based on this theoretical background our paper tests the relationship between TV exposure and opinions on the role of migrants in the economy at the European level. Contributions closer to ours are Eberl et al. (2018) and Héricourt and Spielvogel (2014). Eberl et al. (2018) find a positive nexus between respondents' opinion about media portrayal (the perception that media treat too positively immigrants) and fear of migration. Héricourt and Spielvogel (2014) investigate the joint determination of beliefs about the economic impact of immigration and policy preferences on it. A common finding of Eberl et al. (2018) and Héricourt and Spielvogel (2014) is that the type of media matter. TV exposure produces a much more negative effect on views about immigrants than newspaper, radio or internet access. A likely rationale for these results is that consumers are much more active and reflexive when reading the press, listening radio or surfing on the web, while they are much less so when watching TV (that many may just leave it open while doing other things). In addition to it, images have a stronger effect on us than words.² As a result, individuals are more free to determine with their own evaluation salience of news and less affected by frames and an externally imposed agenda-setting process when using media different from TV.

Differently from Héricourt and Spielvogel (2014), we do not use a bivariate approach while focusing only on opinions about the effect of immigrants on the economy and not on policy preferences about migration. We as well control for socio-demographic variables not accounted for (income deciles,³ type of job, marital status, political orientation) and use an instrument that is valid for our dependent variable (while Heircourt and Spielvogel declare that their instruments are valid for policy preferences about migration but not for opinions on the effect of immigrants on the economy).

Based on these considerations and this research hypothesis our paper is divided into four sections. The second section presents our database and descriptive findings. The third section illustrates the econometric specification we use to test our research hypothesis and comments on the empirical findings. The fourth section concludes.

² This can be easily verified by watching a TV program without volume and finding that there is a lot of content through images we are not conscious about when watching television at normal volume.

³ Income data of the respondents are available in deciles after the third wave. Before the fourth wave, respondents were asked their income corresponding to one of the 12 income levels constructed with constant thresholds. By assuming uniform distribution between these thresholds (Deeming and Jones, 2013), we rescale the variable and compute income in deciles also for wave 3.

Table 1 Descriptive statistics for the variables used in the econometric analysis

Immigrant good	Obs	Percent	TV watch	Obs	Percent
0	244,059	6.52	No time at all	257,683	4.16
1	244,059	4.67	Less than 0.5 h	257,683	5.43
2	244,059	7.72	0.5 h to 1 h	257,683	13.16
3	244,059	10.28	More than 1 h, up to 1.5 h	257,683	13.48
4	244,059	9.78	More than 1.5 h, up to 2 h	257,683	16.33
5	244,059	23.38	More than 2 h, up to 2.5 h	257,683	12.97
6	244,059	10.81	More than 2.5 h, up to 3 h	257,683	12.17
7	244,059	11.89	More than 3 h	257,683	21.97
8	244,059	8.98	Refusal	257,683	0.01
9	244,059	2.76	Do not know	257,683	0.28
10	244,059	3.22	No answer	257,683	0.04
			TV watch for more than 3 h	256,826	22.04

The Table reports the percentage distribution of the answers to the (0–10) question about how immigrants are good for the to how much time is spent watching TV daily. For summary statistics of the distribution of the full set of variables see the Appendix

2 Our Database

The source of our data is the European Social Survey (ESS), a well-established cross-national survey run every 2 years since 2001 with face-to-face interviews in cross-sectional samples. We used the data of the five rounds of the survey for the 2003–2014 time spell as the variables related to immigrants and television watching are available in that period.

The goal of the survey is that of providing a picture of the social structure, conditions and attitudes in more than 30 countries. One of the main dimensions of the survey is the analysis of perceptions and judgements of the respondents on key aspects of their societies. The quality of the analysis is ensured by the accurate and rigorous design of the questionnaire, pre-testing and sampling.

The survey has been awarded the European Research Infrastructure Consortium (ERIC) status on 30th November 2013.

In Table 1 we present summary statistics of the TV watch variable and the variable on the opinion of the respondents about immigration, while descriptive statistics on the full set of variables used in our analysis is provided in Appendix. The European Social Survey question asks whether immigration is bad or good for the economy on a 0–10 scale (10 being the highest good opinion), with 62 percent of the respondents giving a value not higher than 5, while 39 of them not higher than 4. Around 46 percent of respondents are male, 12 percent have a lower secondary education title and only 23 percent a tertiary education title.

The distributions of the dependent variable for individuals with zero versus those with more than 3 h of TV watching are shown in Fig. 1. When we look at responses on our main question of interest for the two subgroups we find that distributions are quite different. Only around 24 percent of non-TV watchers give a score below 5 (negative

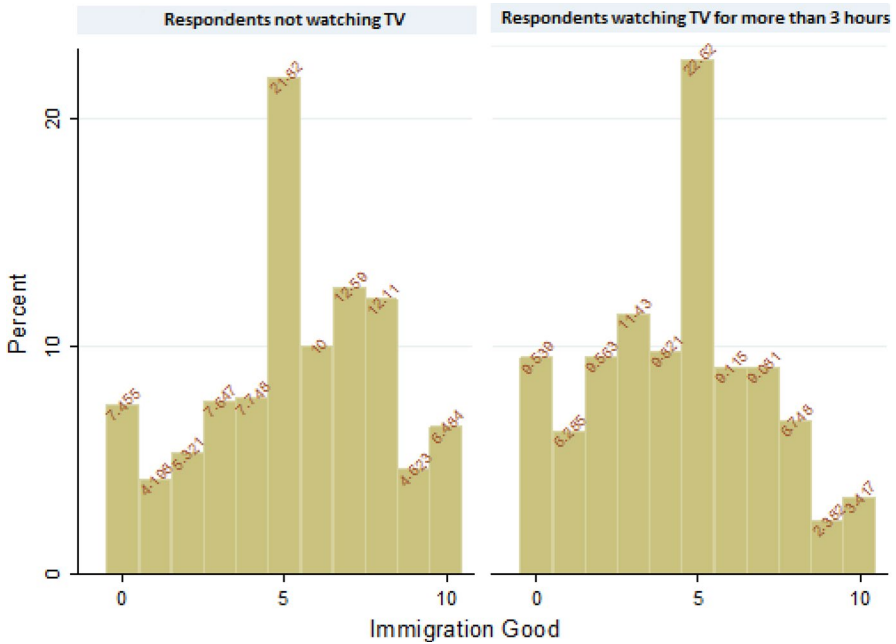


Fig. 1 Distribution of opinions on immigrant effects on the local economy. The figure reports the distribution of the answers in the (0–10) question about how immigrants are good for the economy separately for the respondents not watching TV and for those watching TV more than 3 h

opinion on immigrants' effect on the economy) against 36 percent of those watching TV more than 3 h a day. On the contrary, around 23 percent of those not watching TV have very positive views (scores between 8 and 10) against 12 percent of those watching TV more than 3 h a day.

Correlations between the opinion on the economic effects of immigrants and education and income respectively are shown in Figs. 2 and 3. In both cases, the negative correlation is clear cut and consistent with the idea that immigrants are a competitive threat stronger for individuals with lower income and education levels. More specifically, the share of strongly negative opinions (0–3 scores) is 36 percent among individuals with less than lower secondary education, while falling to 18 percent among individuals with tertiary education. The same share is 34 percent among individuals in the lowest income decile against 17 percent among those in the highest decile.

3 Econometric Specification and Empirical Findings

In order to test our research hypothesis, we estimate the following ordered logit specification

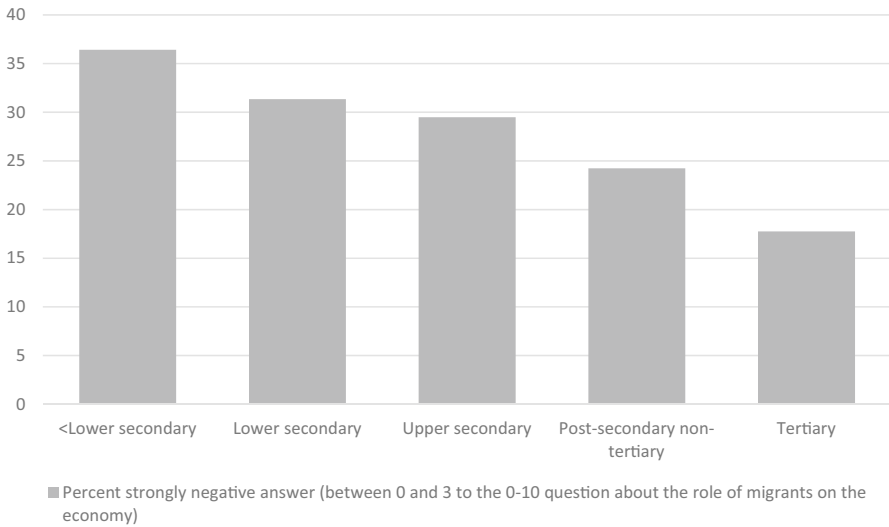


Fig. 2 Share of strongly negative opinions on the role of migrants on the economy of destination country by education levels. The figure reports the percent of strongly negative (0–3) opinions on the role of migrants on the economy of destination country within all education categories, starting from below lower secondary to the tertiary education

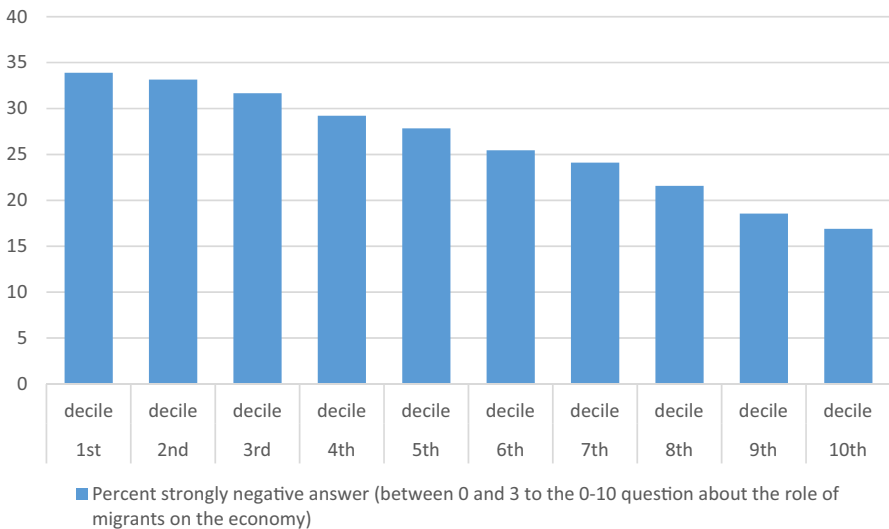


Fig. 3 Share of strongly negative opinions on the role of migrants on the economy of destination country by income decile. The figure reports the percent of strongly negative (0–3) opinions on the role of migrants on the economy of destination country within all income deciles starting from the lowest (first) to the highest (10th) decile

$$\begin{aligned}
Immigrantgood_{i,t} = & \alpha_0 + \sum_a \beta_a DTVWatch_{i,t} + \alpha_1 Male_{i,t} + \sum_k \delta_k DAgeclass_{i,t} \\
& + \sum_l \theta_l DIncomeDecile_{i,t} + \sum_m \eta_m DMaritalStatus_{i,t} \\
& + \sum_n \lambda_n DEducationstatus_{i,t} + \sum_o \mu_o DJobStatus_{i,t} \quad (1) \\
& + \sum_p \xi_p DLeftRightScale_{i,t} + \alpha_2 Foreigner_{i,t} \\
& + \sum_v \varphi_v DCountry_i + \sum_y \chi_y DRound_t + \varepsilon_{i,t}
\end{aligned}$$

where the dependent variable is the 0–10 evaluation of respondents on whether immigration is bad or good for the economy (10 is the highest good opinion). Our main regressor of interest is a set of dummies capturing the average time per day spent watching television.⁴

Among controls male is a 0/1 gender dummy, eight age class dummies are introduced to capture the nonlinear effects of ageing on the dependent variable, while income decile dummies capture the nonlinear effect of income. We as well introduce a categorical variable for marital status answers⁵ with the married status being the omitted benchmark and education answers⁶ with less than lower secondary education being the omitted benchmark.⁷

We group job status into nine categories: managers and senior officials, professionals, armed forces, clerks, personal service workers, agricultural workers, other manual workers, operators, low skill occupations.⁸

We finally introduce in our fully augmented specification the respondent's location on the political right-left scale and a dummy for foreigners (respondents without the nationality of the country in which they live).

⁴ The possible answers are zero, less than 0.5 h, 0.5 h to 1 h, more than 1 h, up to 1.5 h, more than 1.5 h, up to 2 h, more than 2 h up to 2.5 h, more than 2 h up to 3 h, more than 3 h, refusal, do not know, no answer.

⁵ Categories are married, in a civil partnership, separated (still legally married), separated (still in a civil partnership), divorced (marriage or civil union dissolved), widowed (spouse or civil partner died), never married or never in a civil partnership, not applicable, refusal, do not know, no answer. In rounds 3 and 4, there are three more answers for the civil partnerships as separated (still in a civil partnership), formerly in civil partnership, now dissolved and formerly in civil partnership, partner died). We consolidated these categories with the similar formerly married categories (separated, divorced and widow) in order to harmonize the marital status variable throughout all survey rounds.

⁶ Less than lower secondary, lower secondary, upper secondary, post-secondary non-tertiary, tertiary, other, refusal, do not know, no answer.

⁷ The classification used is ISCED 1997 except it consolidates the first and secondary tertiary education as one tertiary education level. ISCED is the International Standard Classification of Education created by UNESCO to harmonize education levels of different countries into common categories (those corresponding to the education dummies introduced in our estimate). For details see <http://uis.unesco.org/en/topic/international-standard-classification-education-isced>.

⁸ The survey has very detailed information about respondents' job types with more than 500 different types of jobs in the dataset. For details on the occupation classification see Table 12 in Appendix.

Table 2 The effect of TV watching on the highest positive opinion of immigrants effects on the local economy

Variables	(1)	(2)	(3)	(4)
TV watch				
Less than 0.5 h	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
0.5 h to 1 h	-0.007*** (0.001)	-0.007*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)
More than 1 h. up to 1.5 h	-0.008*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)	-0.006*** (0.001)
More than 1.5 h. up to 2 h	-0.008*** (0.001)	-0.008*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)
More than 2 h. up to 2.5 h	-0.009*** (0.001)	-0.009*** (0.001)	-0.008*** (0.001)	-0.008*** (0.001)
More than 2.5 h. up to 3 h	-0.010*** (0.001)	-0.010*** (0.001)	-0.009*** (0.001)	-0.009*** (0.001)
More than 3 h	-0.012*** (0.001)	-0.011*** (0.001)	-0.011*** (0.001)	-0.011*** (0.001)
Refusal	-0.020*** (0.006)	-0.020*** (0.006)	-0.019*** (0.005)	-0.020*** (0.005)
Do not know	-0.013*** (0.002)	-0.012*** (0.002)	-0.011*** (0.002)	-0.011*** (0.002)
No answer	0.012 (0.010)	0.012 (0.010)	0.010 (0.009)	0.010 (0.009)
Pseudo R ² of ordered logit	0.0273	0.0285	0.0319	0.0322
AIC of ordered logit	981,432.8	980,321.4	976,419.6	975,996.4
Observations	225,360	225,360	225,242	225,222

Robust standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$. * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of our main regressor of interest (time spent watching TV) in determining the highest positive answer in the (0–10) question about how immigrants are good for the economy. Omitted benchmark: Swedish, female, aged below 20, married, interviewed in the third wave, in the first income decile among the respondents in her country, not watching TV at all, with less than lower secondary education; native, clerk (except the first column), with extreme left-wing political opinion (for third and fourth columns), and giving very much importance to traditions (for column 4)

^aSee appendix for the extended Table 2

We as well add country effects. Countries in our estimates are Albania, Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czechia, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Croatia, Hungary, Ireland, Israel, Iceland, Italy, Lithuania, Latvia, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovenia, Slovakia, Turkey, Ukraine and Kosovo.

As the variables of interest vary at the individual level, robust standard errors are used in the empirical analysis.

3.1 Empirical Findings

The null hypothesis that the time spent watching TV has no effects on the respondents' views about the role that migrations have on the local economy is rejected (Table 2). Our empirical findings show that, the higher the TV exposure,

Table 3 The effect of TV watching on the positive opinions of immigrants effects on the local economy

Variables	(1)	(2)	(3)	(4)
TV watch				
Less than 0.5 h	-0.035*** (0.006)	-0.034*** (0.006)	-0.030*** (0.006)	-0.030*** (0.006)
0.5 h to 1 h	-0.043*** (0.006)	-0.041*** (0.006)	-0.036*** (0.006)	-0.035*** (0.006)
More than 1 h. up to 1.5 h	-0.047*** (0.006)	-0.046*** (0.006)	-0.040*** (0.006)	-0.039*** (0.006)
More than 1.5 h. up to 2 h	-0.052*** (0.006)	-0.050*** (0.005)	-0.044*** (0.005)	-0.043*** (0.005)
More than 2 h. up to 2.5 h	-0.060*** (0.006)	-0.057*** (0.006)	-0.052*** (0.006)	-0.050*** (0.006)
More than 2.5 h. up to 3 h	-0.067*** (0.006)	-0.064*** (0.006)	-0.058*** (0.006)	-0.057*** (0.006)
More than 3 h	-0.077*** (0.005)	-0.072*** (0.005)	-0.068*** (0.005)	-0.067*** (0.005)
Refusal	-0.101 (0.071)	-0.095 (0.072)	-0.091 (0.072)	-0.095 (0.071)
Do not know	-0.092*** (0.022)	-0.089*** (0.022)	-0.082*** (0.022)	-0.080*** (0.022)
No answer	0.070 (0.056)	0.071 (0.055)	0.064 (0.055)	0.063 (0.055)
Pseudo R ² of Ordered logit	0.0671	0.0698	0.0783	0.0789
AIC of ordered logit	279,126.2	278,345.9	275,679.1	275,465
Observations	225,360	225,360	225,242	225,222

Robust standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$. * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of our main regressor of interest (time spent watching TV) in determining the positive answers which are more than 5 in the (0–10) question about how immigrants are good for the economy. Omitted benchmark: Swedish, female, aged below 20, married, interviewed in the third wave, in the first income decile among the respondents in her country, not watching TV at all, with less than lower secondary education; native, clerk(except the first column), with extreme left-wing political opinion (for third and fourth columns), and giving very much importance to traditions (for column 4)

the more negative the opinion on the economic effects of migrations with respect to the omitted benchmark of individuals not watching TV (4.16 percent of the sample). Note that coefficients become progressively larger in absolute value and more significant as far as TV exposure grows. The economic significance of our result can be evaluated by calculating marginal effects. We calculate in our case that watching TV for more than 3 h a day decreases by one percent the probability of choosing the highest positive item (10 on the 0–10 scale) in the question about how immigrants are good for the economy.

The effect is much sharper if we look at the probability of declaring at least a value higher than 5 (that is, not less than a moderately positive opinion). In this case, the probability is around 7 percent lower for those watching TV for more than three hours per day than for the omitted benchmark (Table 3).

Findings on the relationship between the type of occupation and opinion about immigrants' effects on the economy are consistent with the evidence in the

literature related to the differential effect of migrations on native workers (Ottaviano and Peri 2012) and with the competition threat perceived by them (Facchini and Mayda 2012). Respondents seem to be rational in anticipating that the economic impact of immigrants is less favourable for low skilled jobs. The strongest negative and significant effect is for operators and other manual occupations who have 6 percent lower probability of choosing the positive responses to the question about how immigrants are good for the economy with respect to the omitted benchmark (clerks), followed by low skilled workers and agricultural workers with 4 and 3 percent lower probabilities respectively (extended Table 3 in Appendix).

Findings on the effect of education on the dependent variable are as well consistent with the idea of the differential effect of migrations on native individuals according to their level of education. The difference with respect to the omitted benchmark of respondents whose education titles are lower than secondary school raises with increasing levels of education. More specifically, respondents with tertiary education have a 2 percent higher probability to give the highest positive response, and 16 percent higher probability to give positive responses with respect to the omitted benchmark.⁹

The effect of self-declared political orientation is not linear. The omitted benchmark is the extreme left location. With respect to this omitted benchmark more moderate left (center-left) location has a more positive and significant view on the role of immigrants in the economy, while the extreme right has a more negative and significant view⁹.

4 Robustness Checks

As shown by the specification presented above, we decided not to eliminate the “refusal” and “do not know” answers since also these responses provide information. For instance, a “do not know” answer to the education question is highly suspected to hide in prevalence a low level of education that the respondent does not want to reveal. The negative and significant effect of this dummy on the dependent variable in estimates presented in Table 3 does not contradict this hypothesis. We however check whether our findings are robust when we set these answers to missing values. Our main findings on the effect of TV Watch on the dependent variable are unchanged. Results are omitted for reasons of space and available upon request.

We as well estimate our main specification in subsamples with results showing that the effect of TV exposure remains significant in male, female, low educated (having secondary or lower education), high educated (more than secondary education), right and left-wing subsamples (Table 4). We find a significant negative effect of watching TV for more than 3 h on the beliefs about immigrants’ effect on the economy for all sample splits. Refusal to answer to the TV watching question gives approximately the same or higher marginal effects than “More than 3 h” answer in

⁹ See extended full versions of Tables 2 and 3 in Appendix.

Table 4 The effect of TV watching on the opinion of immigrants' effects on the local economy—sample splits

Variables	(1) Male	(2) Female	(3) Low Educ	(4) High Educ	(5) Irscale > 5	(6) Irscale < 6
TV watch						
Less than 0.5 h	-0.006*** (0.002)	-0.004*** (0.001)	-0.003*** (0.001)	-0.008*** (0.002)	-0.002 (0.001)	-0.007*** (0.001)
0.5 h to 1 h	-0.007*** (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.011*** (0.002)	-0.001 (0.001)	-0.010*** (0.001)
More than 1 h, up to 1.5 h	-0.009*** (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.013*** (0.002)	-0.002* (0.001)	-0.010*** (0.001)
More than 1.5 h, up to 2 h	-0.009*** (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.014*** (0.002)	-0.002* (0.001)	-0.011*** (0.001)
More than 2 h, up to 2.5 h	-0.011*** (0.001)	-0.006*** (0.001)	-0.003*** (0.001)	-0.016*** (0.002)	-0.003** (0.001)	-0.012*** (0.001)
More than 2.5 h, up to 3 h	-0.012*** (0.001)	-0.006*** (0.001)	-0.004*** (0.001)	-0.018*** (0.002)	-0.003*** (0.001)	-0.013*** (0.001)
More than 3 h	-0.013*** (0.001)	-0.009*** (0.001)	-0.006*** (0.001)	-0.019*** (0.002)	-0.005*** (0.001)	-0.015*** (0.001)
Refusal	-0.030*** (0.007)	-0.007 (0.008)	-0.015** (0.006)	-0.024*** (0.009)	-0.017*** (0.006)	-0.019* (0.010)
Do not know	-0.012*** (0.004)	-0.010*** (0.003)	-0.005* (0.003)	-0.023*** (0.004)	-0.006* (0.003)	-0.014*** (0.004)
No answer	0.010 (0.014)	0.009 (0.012)	0.010 (0.009)	0.012 (0.026)	0.014 (0.011)	0.001 (0.013)
Observations	105,024	120,218	150,165	73,992	99,429	125,813

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of the TV watch categorical variables in determining the highest (10) positive answer to the (0–10) question about how immigrants are good for the economy for different sample splits: male, female, low educated (having secondary or lower education), high educated (having more than secondary education), right-wing (Irscale > 5) and left-wing (Irscale < 6) individuals. No time at all for watching TV is the omitted benchmark. We include in all the estimations the controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, foreignness), ESS round fixed effects, and country fixed effects

Table 5 Estimates for each round for the highest positive answer

Variables	(1) Round 3	(2) Round 4	(3) Round 5	(4) Round 6	(5) Round 7
TV watch					
Less than 0.5 h	-0.006** (0.002)	-0.003 (0.002)	-0.006*** (0.002)	-0.005** (0.002)	-0.002 (0.002)
0.5 h to 1 h	-0.006*** (0.002)	-0.005*** (0.002)	-0.006*** (0.001)	-0.007*** (0.002)	-0.005*** (0.002)
More than 1 h, up to 1.5 h	-0.006** (0.002)	-0.006*** (0.002)	-0.004*** (0.001)	-0.008*** (0.002)	-0.007*** (0.002)
More than 1.5 h, up to 2 h	-0.006*** (0.002)	-0.005*** (0.002)	-0.005*** (0.001)	-0.009*** (0.002)	-0.008*** (0.002)
More than 2 h, up to 2.5 h	-0.008*** (0.002)	-0.007*** (0.002)	-0.006*** (0.001)	-0.009*** (0.002)	-0.007*** (0.002)
More than 2.5 h, up to 3 h	-0.008*** (0.002)	-0.008*** (0.002)	-0.007*** (0.001)	-0.010*** (0.002)	-0.009*** (0.002)
More than 3 h	-0.011*** (0.002)	-0.009*** (0.002)	-0.009*** (0.001)	-0.013*** (0.002)	-0.010*** (0.002)
Refusal	-0.011 (0.011)	-0.022 (0.014)	-0.023*** (0.005)	0.005 (0.026)	-0.032*** (0.003)
Do not know	-0.009 (0.007)	-0.012*** (0.004)	-0.014*** (0.005)	-0.013** (0.006)	0.002 (0.007)
No answer	0.004 (0.018)	0.019 (0.037)	0.006 (0.010)	0.011 (0.017)	0.015 (0.100)
Observations	37,636	51,101	48,009	51,724	36,772

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of the TV watch categorical variables in determining the highest (10) positive answer to the (0–10) question about how immigrants are good for the economy in estimates considering only one ESS round at a time. No time at all for watching TV is the omitted benchmark. We include in all the estimations the controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, and foreignness), and country fixed effects

Table 6 Estimates for each round for all the positive answers

Variables	(1) Round 3	(2) Round 4	(3) Round 5	(4) Round 6	(5) Round 7
TV watch					
Less than 0.5 h	-0.039** (0.017)	-0.030** (0.014)	-0.032** (0.014)	-0.034** (0.013)	-0.012 (0.014)
0.5 h to 1 h	-0.050*** (0.015)	-0.019 (0.012)	-0.035*** (0.012)	-0.042*** (0.012)	-0.031** (0.013)
More than 1 h, up to 1.5 h	-0.040*** (0.015)	-0.032*** (0.012)	-0.026** (0.012)	-0.052*** (0.012)	-0.043*** (0.013)
More than 1.5 h, up to 2 h	-0.049*** (0.015)	-0.030*** (0.012)	-0.029** (0.011)	-0.056*** (0.011)	-0.050*** (0.012)
More than 2 h, up to 2.5 h	-0.053*** (0.015)	-0.045*** (0.012)	-0.038*** (0.012)	-0.058*** (0.012)	-0.053*** (0.013)
More than 2.5 h, up to 3 h	-0.064*** (0.016)	-0.049*** (0.012)	-0.047*** (0.012)	-0.062*** (0.012)	-0.058*** (0.013)
More than 3 h	-0.079*** (0.015)	-0.054*** (0.011)	-0.048*** (0.011)	-0.074*** (0.011)	-0.069*** (0.013)
Refusal	-0.024 (0.120)	-0.071 (0.256)	-0.302*** (0.078)	0.323* (0.166)	
Do not know	-0.039 (0.059)	-0.118*** (0.041)	-0.090* (0.054)	-0.054 (0.041)	-0.116* (0.065)
No answer	0.082 (0.108)	0.089 (0.115)	0.082 (0.115)	0.013 (0.098)	-0.071 (0.414)
Observations	37,636	51,101	48,009	51,724	36,772

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of the TV watch categorical variables in determining the positive answers (whether more than 5 or not) to the (0–10) question about how immigrants are good for the economy in estimates considering only one ESS round at a time. No time at all for watching TV is the omitted benchmark. We include in all the estimates controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, and foreignness), and country fixed effects

Table 7 The effect of TV watching on the opinion of immigrants' effects on the local economy with coarser dependent and independent variables

Variables	(1)	(2)	(3)	(4)
Panel A (Dependent Variable: Immigration good > 5)				
TV watch for more than 3 h	-0.027*** (0.003)	-0.024*** (0.003)	-0.025*** (0.003)	-0.025*** (0.003)
Observations	224,774	224,774	224,658	224,638
Panel B (Dependent Variable: Immigration good)				
TV watch for more than 3 h	-0.004*** (0.000)	-0.004*** (0.000)	-0.004*** (0.000)	-0.004*** (0.000)
Observations	224,774	224,774	224,658	224,638

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of a dummy variable (TV watching for more than 3 h) in determining the positive answers—a score higher than 5 in the (0–10) question—about how immigrants are good for the economy in Panel A (Logit) and in determining the highest positive answer (Ordered Logit, Panel B). Omitted benchmark: Swedish, female, aged below 20, married, interviewed in the third wave, in the first income decile among the respondents in her country, not watching TV at all, with less than lower secondary education; native, clerk(except the first column), with extreme left-wing political opinion (for third and fourth columns), and giving very much importance to traditions (for column 4)

most of the sample splits. Thus, the refusal of those respondents might be because they watch much more than 3 h and do not want to report the information.

We re-estimate the specification separately for each round to see whether the effect of TV watching is robust across waves and find that this is always the case (Table 5). When we look at the impact on the positive answers (whether more than 5 or not), again the effect becomes even more prominent and significantly negative (Table 6).

We further use coarser variables of interest, by looking at the effect of watching TV more than three hours (as a dummy variable) on a dummy indicating whether the response is positive (more than 5) to the question about how immigrants are good for the economy. Besides, we only use watching TV for more than three hours as a dummy variable and re-estimate specification (1). We again find significant negative effects on the opinions about the immigrants in both models, such that those watching TV more than three hours have 0.4 percent lower probability to give the highest positive response, and 2.5 percent lower probability to give any positive response with respect to those watching TV for three or less than 3 h (Table 7).

We as well check whether identity attitudes explain our finding (Table 2, column 4). We add to the fully augmented specification a variable indicating whether it is important to follow traditions and customs. The variable is significant in the expected direction (the more it is considered important, the more negative the view of immigrants' effects on the economy). TV exposure categorical variables remain however strongly significant and their effects do not change in magnitude after introducing this control.

As a robustness check, we also introduce categorical variables for the hours spent listening radio, reading newspaper and internet which are only available in three

Table 8 The effect of TV watching on the opinion of immigrants' effects on the local economy controlling also for news, radio and internet variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Immigood	Immigood	Immigood > 5	Immigood > 5	Immigood > 5	Immigood > 5
TV watch						
Less than 0.5 h	-0.005*** (0.001)	-0.005*** (0.001)	-0.035*** (0.008)	-0.035*** (0.008)	-0.035*** (0.008)	-0.035*** (0.008)
0.5 h to 1 h	-0.006*** (0.001)	-0.006*** (0.001)	-0.036*** (0.007)	-0.036*** (0.007)	-0.035*** (0.007)	-0.035*** (0.007)
More than 1 h, up to 1.5 h	-0.006*** (0.001)	-0.006*** (0.001)	-0.036*** (0.007)	-0.036*** (0.007)	-0.035*** (0.007)	-0.035*** (0.007)
More than 1.5 h, up to 2 h	-0.006*** (0.001)	-0.006*** (0.001)	-0.038*** (0.007)	-0.038*** (0.007)	-0.038*** (0.007)	-0.038*** (0.007)
More than 2 h, up to 2.5 h	-0.008*** (0.001)	-0.008*** (0.001)	-0.050*** (0.007)	-0.049*** (0.007)	-0.049*** (0.007)	-0.049*** (0.007)
More than 2.5 h, up to 3 h	-0.008*** (0.001)	-0.008*** (0.001)	-0.056*** (0.007)	-0.056*** (0.007)	-0.056*** (0.007)	-0.056*** (0.007)
More than 3 h	-0.010*** (0.001)	-0.010*** (0.001)	-0.062*** (0.007)	-0.061*** (0.007)	-0.061*** (0.007)	-0.061*** (0.007)
Refusal	-0.024*** (0.004)	-0.025*** (0.004)	-0.235*** (0.089)	-0.235*** (0.089)	-0.238*** (0.087)	-0.238*** (0.087)
Do not know	-0.013*** (0.003)	-0.013*** (0.003)	-0.095*** (0.030)	-0.094*** (0.030)	-0.094*** (0.030)	-0.094*** (0.030)
No answer	0.008 (0.012)	0.007 (0.012)	0.084 (0.068)	0.081 (0.068)	0.081 (0.068)	0.081 (0.068)
TV watch for more than 3 h						
Observations	136,746	136,746	136,746	136,746	136,396	136,396

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of the TV watch categorical variables in determining the highest (10) positive answer to the (0–10) question about how immigrants are good for the economy (Columns 1 and 2) and in determining a positive answer- score > 5 in the (0–10) question— about how immigrants are good for the economy (Columns 3 to 6). Apart from the dependent variable and TV variables, the estimated models have the same controls of the third and fourth columns in Table 2 respectively (Traditions variable is controlled only in columns 2, 4 and 6), with the difference of including controls for internet, listening radio and reading newspaper in all these models. No time at all for watching TV is the omitted benchmark

Table 9 The effect of TV watching on the opinions about immigrants' contribution to tax and services and whether they create jobs instead of taking away the jobs of the natives

Variables	(1) Contribute to tax and services	(2) Contribute to tax and services	(3) Create new jobs	(4) Create new jobs
TV watch				
Less than 0.5 h	-0.003*** (0.001)	-0.003** (0.001)	-0.003* (0.002)	-0.002 (0.002)
0.5 h to 1 h	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003** (0.001)
More than 1 h. up to 1.5 h	-0.003*** (0.001)	-0.003*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
More than 1.5 h. up to 2 h	-0.004*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
More than 2 h. up to 2.5 h	-0.005*** (0.001)	-0.005*** (0.001)	-0.006*** (0.001)	-0.005*** (0.001)
More than 2.5 h. up to 3 h	-0.005*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.006*** (0.001)
More than 3 h	-0.006*** (0.001)	-0.006*** (0.001)	-0.008*** (0.001)	-0.008*** (0.001)
Refusal	-0.001 (0.025)	-0.001 (0.025)	-0.011 (0.019)	-0.012 (0.019)
Do not know	0.002 (0.004)	0.002 (0.004)	0.004 (0.006)	0.005 (0.006)
No answer	-0.011* (0.006)	-0.011* (0.006)	0.060 (0.504)	0.058 (0.494)
Observations	35,902	35,883	36,727	36,707

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients measuring the impact (calculated in marginal probabilities) of the TV watch categorical variables in determining the highest positive answer in the (0–10) questions about whether they put in more than what they take out in terms of tax and services (answering 10 indicates the strongest opinion that the immigrants put in more than they take out, 0 is the opposite) and whether they create jobs instead of taking away the jobs of the natives (answering 10 indicates the strongest opinion that they create jobs, while 0 that they take away jobs.) We include in all the estimations the controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, foreignness, ESS round fixed effects, and country fixed effects. In addition, we add the Traditions variable for the second and the fourth columns. No time at all watching TV is the omitted benchmark

rounds of the survey. We check the effect in the benchmark specification (1), in that augmented with the tradition variable, and then the specification using coarser variables of interest (Table 8). Results on the effects of TV watching are again highly significant and similar to those obtained without using these other media variables.

We further look at other less general and comprehensive views about the effect of immigrants on economies of destination countries. A question is whether they take away jobs. The question is included only in round 7. Using the controls in the specification (1) and also adding the variable about the importance of traditions as a robustness check, we find that the higher TV watching the more negative the opinion about effects of immigrants on native jobs (Table 9, columns 1 and 2). The same when we look at the question "Tax and services: do immigrants take out more than they put in?". Both results are significantly negative, and slightly smaller in magnitude (0.6–0.8 percent lower probability for the highest positive answer) with respect to results on the opinions about their effects on the economy (1 percent lower probability.)

5 Instrumental Variable Estimates

Endogeneity can affect our findings since omitted variables can have an impact on both television watching and the (negative) opinion on the effects of immigrants on the local economy. Part of these omitted factors should be captured by our education, age and employment variables but it cannot be excluded that other unmeasured factors can contribute to making the observed relationship at least partially spurious.

In order to tackle this problem, we need a relevant and valid instrument, that is, an instrument correlated with the instrumented variable but not directly correlated with the dependent variable. Serious physical activity of the respondents is a good candidate for being an instrument with these characteristics. There is ample literature about the positive correlation among sedentary behaviour and activities such as watching TV, computer and game-console use, sitting in the workplace, and time spent in automobiles (see Hu (2003), Dunstan et al. (2004), Hamilton et al. (2008), Qi et al. (2012) and many others). As sedentary behaviour (from the Latin "sedere", meaning "to sit") includes sitting during commuting, in the workplace and the domestic environment, and during leisure time (Hamilton et al. 2008), watching TV is always used as an indication of sedentary behavior in the literature, and hence we expect an obvious negative correlation between vigorous physical activity and TV watching. The idea is that less active people watch more TV and hence they are more likely to be affected more from negative news.

To construct our instrumental variable (Physical activity), we harmonized the answers of the respondents for three questions in ESS which were asked in third, fifth and sixth rounds (See Table 13 in Appendix for details). The questions were respectively asking whether their life involves a lot of physical activity, the frequency of how they have felt active and vigorous last 2 weeks and how many days they felt physically active for 20 min or longer in the last 7 days.

Table 10 Falsification test

Variables	(1) Immigration Good
Physical activity	0.038* (0.021)
Observations	5221

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficient and standard error for the effect (calculated in marginal probabilities) of being physically active on the beliefs of the respondents who do not watch TV, about the (0–10) question about how immigrants are good for the economy. See Table 13 in Appendix for the details of the construction of physical activity variable. We include in the estimation controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, and foreignness), round fixed effects, and country fixed effects

Regarding the validity of our instrument, there is no reason to believe that the respondents had more negative opinions about immigrants just because they do less physical exercise in their life. Unfortunately, no statistical test allows us to test exogeneity. However, to provide some evidence on this point, we conduct a falsification test following Nunn and Wantchekon (2011) by regressing our dependent variable on the instrumental variable with all the controls in the specification (1) when there is no TV watching, and we find no significant correlation at 5 percent level between our dependent variable and how active is the respondent (Table 10).

We used linear instrumental variable regression statistics to understand whether there is sufficient correlation between our instrument and a dummy variable for more than 3 h of TV watching. We then simultaneously estimate the ordered probit (second stage, immigration good) and probit (first stage, the dummy for watching TV more than 3 h) using the conditional mixed process estimator (Roodman 2011).

The instrumental variable is significantly correlated with watching TV since the first stage F statistics is highly significant and the Kleibergen-Paap LM statistics rejects the hypothesis that the excluded instrument is uncorrelated with the endogenous regressor. As expected, the respondents prefer to watch TV more when they are physically less active (Table 11). As well, it does not make any sense for them to think differently about the immigrants just because they are physically more or less active. Second stage findings confirm that the instrumented variable has a significant negative effect on opinions about the role of migrants on the economy and the magnitude of the effect is remarkably similar to the effect found using the same controls without doing an instrumental variable (IV) estimation. As a result, our main finding from non IV estimates is confirmed also by IV estimates.

Table 11 The effect of TV watching on the opinion of immigrants effects on the local economy (Instrumental Variable estimates)

Variables	(1)	(2)	(3)	(4)
Linear first stage		Probit first stage	Probit second stage	OLogit (no IV)
More than 3 h watching	More than 3 h watching	More than 3 h watching	Immigration Good	Immigration Good
Physical activity	-0.017 *** (0.001)	-0.055*** (0.003)	-0.004*** (0.001)	-0.004*** (0.000)
TV watch for more than 3 h				
Kleibergen-Paap rk LM statistic	300.59 (0.000)			
(p-value)				
F-statistics (p-value)	303.03 (0.000)			
Observations	135,911	143,181	143,181	135,911

Robust standard errors are in parentheses except for the statistics. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The table reports coefficients and standard errors in the third column for our main variable of interest (TV watching dummy variable) from an instrumental variable (IV) regression using as dependent variable the highest modality of the (0–10) question about how immigrants are good for the economy and as an instrument the respondent's frequency of physical activity. See Table 13 in Appendix for the details of the construction of physical activity variable. In column 1, we report the linear first-stage regression results and statistics to show that our instrument is relevant, while in columns 2 and 3 we respectively report the first stage probit index of the physical activity frequency for TV watching and the second stage marginal effect of TV watching in determining the highest (10) positive answer to the (0–10) question about how immigrants are good for the economy which is found by simultaneously estimating the probit and the ordered probit regression through the conditional mixed process estimator. In the last column, we also report the marginal effect of TV watching obtained from ordered logit regression without using an instrument for endogeneity. We include in all the estimations the controls for the respondent characteristics (gender, income, marital status, education, job status, political location on the right-left scale, and foreignness), round fixed effects, and country fixed effects

6 Conclusions

Our research starts from the observation of the strongly negative views on migrants of the public opinion that seem to go beyond what expected for low skilled and less educated individuals feeling themselves more in competition with migrants.

Our research hypothesis is that television exposure plays an important role on it since media tend to overrepresent negative news (included those involving migrants) and give no voice to them.

We find support to our hypothesis since more time spent watching TV has a progressively more negative effect on the opinion about the role of immigrants on the economies of destination countries. Our main finding is robust and its economic significance (coefficient magnitude) is remarkably similar in non IV and IV estimates where we instrument the time spent watching TV with the frequency of physical exercise.

Our conclusion is that part of the hostility to the effect of migrations on the local economy of the public opinion is not based on rational grounds. This is because, beyond the component that can be considered “rational” and due to competition threat (low skilled and low educated having more negative views on them), the part explained by TV exposure cannot be considered rational unless we unrealistically assume that television exposure increases viewers knowledge about the negative effects of migration more than exposure to other media (radio, newspapers, web) that instead affect views about immigrants on the opposite side.

Policy suggestions to address the issue is a more balanced mix between good and negative news (more stories of immigrants’ success), statistical evidence provided to avoid overrepresentation bias of negative events when presenting the latter in TV and more room for immigrants’ voices.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s40797-021-00142-7>.

References

- Alesina A, Michalopoulos S, Papaioannou E (2016) Ethnic inequality. *J Polit Econ* 124(2):428–488
- Alesina A, Miano A, Stantcheva S (2018) Immigration and redistribution (No. w24733). *Natl Bureau Econ Res*
- Alesina A, Murard E, Rapoport H (2019) Immigration and preferences for redistribution in Europe (No. w25562). *Natl Bureau Econ Res*
- Aubry A, Burzyński M, Docquier F (2016) The welfare impact of global migration in OECD countries. *J Int Econ* 101:1–21
- Benhabib J, Jovanovic B (2012) Optimal migration: a world perspective. *Int Econ Rev* 53(2):321–348
- Benson R (2002) The political/literary model of French journalism: change and continuity in immigration news coverage, 1973–1991. *J Eur Area Stud* 10(1):49–70
- Benson R, Saguy AC (2005) Constructing social problems in an age of globalization: a French–American comparison. *Am Sociol Rev* 70(2):233–259

- Bleich E, Stonebraker H, Nisar H, Abdelhamid R (2015) Media portrayals of minorities: muslims in British newspaper headlines, 2001–2012. *J Ethnic Migr Stud* 41(6):942–962
- Boomgaarden HG, Vliegthart R (2009) How news content influences anti-immigration attitudes: Germany, 1993–2005. *Eur J Polit Res* 48(4):516–542
- Borjas GJ (2003) The labor demand curve is downward sloping: reexamining the impact of immigration on the labor market. *Q J Econ* 118(4):1335–1374
- Borjas GJ (2015) Immigration and globalization: a review essay. *J Econ Lit* 53(4):961–974
- Bove V, Elia L (2017) Migration, diversity, and economic growth. *World Dev* 89:227–239
- Branton R, Dunaway J (2008) English- and Spanish-language media coverage of immigration: a comparative analysis. *Soc Sci Quart* 89:1006–1022
- Burscher B, van Spanje J, de Vreese CH (2015) Owning the issues of crime and immigration: the relation between immigration and crime news and anti-immigrant voting in 11 countries. *Electoral Stud* 38:59–69
- Card D (1990) The impact of the Mariel boatlift on the Miami labor market. *ILR Rev* 43(2):245–257
- Clemens MA (2011) Economics and emigration: trillion-dollar bills on the sidewalk? *J Econ Perspect* 25(3):83–106
- Constant AF (2014) Do migrants take the jobs of native workers? *IZA World of Labor*. <https://doi.org/10.15185/izawol.10>
- De Benedictis L, Di Maio M (2011) Economists' views about the economy. Evidence from a survey of Italian economists. *Rivista italiana degli economisti* 16(1):37–84
- Deeming K, Jones K (2013) Social policy and economic development in Europe: investigating the macro determinants of individual health and well-being in a multilevel multivariate analysis of thirty European nations. In: 11th Annual ESPANet (European Social Policy Analysis Network) Conference, pp 5–7
- Di Giovanni J, Levchenko AA, Ortega F (2015) A global view of cross-border migration. *J Eur Econ Assoc* 13(1):168–202
- Docquier F, Machado J, Sekkat K (2015) Efficiency gains from liberalizing labor mobility. *Scand J Econ* 117(2):303–346
- Dunstan DW, Salmon J, Owen N, Armstrong T, Zimmet PZ, Welborn TA et al (2004) Physical activity and television viewing in relation to risk of undiagnosed abnormal glucose metabolism in adults. *Diabetes Care* 27(11):2603–2609
- Dustmann C, Frattini T (2014) The fiscal effects of immigration to the UK. *Econ J* 124(580):F593–F643
- Dustmann C, Preston IP (2007) Racial and economic factors in attitudes to immigration. *BE J Econ Anal Policy*. <https://doi.org/10.2202/1935-1682.1655>
- Dustmann C, Frattini T, Halls C (2010) Assessing the fiscal costs and benefits of A8 migration to the UK. *Fiscal Stud* 31(1):1–41
- Eberl JM, Meltzer CE, Heidenreich T, Herrero B, Theorin N, Lind F, Berganza R, Boomgaarden HG, Schemer C, Strömbäck J (2018) The European media discourse on immigration and its effects: a literature review. *Ann Int Commun Assoc* 42(3):207–223
- Facchini G, Mayda AM (2012) Individual attitudes towards skilled migration: an empirical analysis across countries. *World Econ* 35(2):183–196
- Hamilton MT, Healy GN, Dunstan DW, Zderic TW, Owen N (2008) Too little exercise and too much sitting: inactivity physiology and the need for new recommendations on sedentary behavior. *Curr Cardio Risk Rep* 2(4):292
- Hercowitz Z, Yashiv E (2002) Macroeconomic experiment in mass immigration, IZA Discussion Papers, No. 475
- Héricourt J, Spielvogel G (2014) Beliefs, media exposure and policy preferences on immigration: evidence from Europe. *Appl Econ* 46(2):225–239
- The Ethical Journalism Network (2017) How does the media on both sides of the Mediterranean report migration? ICMPD
- Hu FB (2003) Sedentary lifestyle and risk of obesity and type 2 diabetes. *Lipids* 38(2):103–108
- Igartua JJ, Cheng L (2009) Moderating effect of group cue while processing news on immigration: Is the framing effect a heuristic process? *J Commun* 59(4):726–749
- Kennan J (2013) Open borders. *Rev Econ Dyn* 16(2):L1–L13
- Kim SH, Carvalho JP, Davis AG, Mullins AM (2011) The view of the border: news framing of the definition, causes, and solutions to illegal immigration. *Mass Commun Soc* 14(3):292–314
- Klein P, Ventura GJ (2007) TFP differences and the aggregate effects of labor mobility in the long run. *BE J Macroecon*. <https://doi.org/10.2202/1935-1690.1370>

- Kosho J (2016) Media influence on public opinion attitudes toward the migration crisis. *Int J Sci Technol Res* 5(05):86–91
- Liebig T, Mo J (2013) The fiscal impact of immigration in OECD countries. *Int Migration Outlook* 2013(125):189
- Lundborg P, Segerstrom PS (2002) The growth and welfare effects of international mass migration. *J Int Econ* 56(1):177–204
- Malchow-Møller N, Munch JR, Skaksen JR (2009) Do immigrants take the jobs of native workers?, IZA discussion Papers, No. 4111
- Manacorda M, Manning A, Wadsworth J (2012) The impact of immigration on the structure of wages: theory and evidence from Britain. *J Eur Econ Assoc* 10(1):120–151
- Mayda AM (2006) Who is against immigration? A cross-country investigation of individual attitudes toward immigrants. *Rev Econ Stat* 88(3):510–530
- Moses JW, Letnes B (2004) The economic costs to international labor restrictions: revisiting the empirical discussion. *World Dev* 32(10):1609–1626
- Nunn N, Wantchekon L (2011) The slave trade and the origins of mistrust in Africa. *Am Econ Rev* 101(7):3221–3252
- Ottaviano GI, Peri G (2006) The economic value of cultural diversity: evidence from US cities. *J Econ Geogr* 6(1):9–44
- Ottaviano GI, Peri G (2012) Rethinking the effect of immigration on wages. *J Eur Econ Assoc* 10(1):152–197
- Pritchett L (2010) The cliff at the border. *Equity and Growth in a Globalizing World*, 263–86
- Qi Q, Li Y, Chomistek AK, Kang JH, Curhan GC, Pasquale LR et al (2012) Television watching, leisure time physical activity, and the genetic predisposition in relation to body mass index in women and men. *Circulation* 126(15):1821–1827
- Roodman D (2011) Fitting fully observed recursive mixed-process models with `cmp`. *Stata J* 11(2):159–206
- Rowthorn R (2008) The fiscal impact of immigration on the advanced economies. *Oxf Rev Econ Policy* 24(3):560–580
- Ruhrmann G, Sommer D, Uhlemann H (2006) TV-Nachrichtenberichterstattung über Migranten-Von der Politik zum Terror/TV-Coverage about Immigrants-From Politics to Terror
- United Nations (2018) International migration report 2017-Highlights. UN
- Walmsley TL, Winters LA (2005) Relaxing the restrictions on the temporary movement of natural persons: a simulation analysis. *J Econ Integr* 20(4):688–726