

Can student attitudes toward immigration be changed? Evidence from a survey experiment in Croatia

Ria Ivandić^{1,*}, Velibor Mačkić¹ and Miroslav Mandić¹

¹ Faculty of Economics and Business, University of Zagreb, Trg J.F. Kennedy 6, 10000 Zagreb, Croatia

E-mail: [\{rivandic, vmackic2, mmandic1\}@net.efzg.hr](mailto:{rivandic, vmackic2, mmandic1}@net.efzg.hr)

Abstract. Extreme right-wing parties are increasing in polls around Europe, largely fueled by an anti-migrant rhetoric. Political economy literature points to, on average, net positive effects that migrants bring to the economy, but the balance on the political market is more worrisome. For a small open economy, overly dependent on tourism, whose population reduced by more than 1 million in the last 30 years, the question of successful integration of migrants represents a first order condition of public policy. Thus the research question set in this paper is how to change attitudes on immigration among students in the Croatian society. Our approach is based on an experiment within a survey and it is tested on a sample of 1,450 students from five university cities in Croatia (Osijek, Pula, Rijeka, Split and Zagreb). Results indicate that there is a sizeable and statistically significant effect for the treated groups vis-a-vis their attitudes on the effect that migrants have on the labour market, social security system, overall safety and the economic development of Croatia.

Keywords: behavioural political economy, experiment, immigration, students, survey analysis

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1. Introduction

"An idea is like a virus, resilient, highly contagious. The smallest seed of an idea can grow." (Inception)

The number of immigrants to Croatia is estimated to have quadrupled since 2018 according to numbers from the Croatian Pension Insurance Institute and the Ministry of Interior. According to estimates from the Ministry of the Interior [25], in 2024, there were close to 207 thousand working permits issued for citizens born outside of Croatia, up from 170 thousand issued in 2023, and up from only 70 thousand issued annually in earlier years. If these trends continue, it is evident that Croatia has entered a wave of immigration which could have overarching consequences on the Croatian society. Yet, little academic literature is available on the determinants of preferences on immigration and how these could be changed in Croatia. This article aims to fill this gap.

Existing international literature has extensively studied both the causes of preferences on immigration and the consequences of large immigration shocks on political preferences and economic outcomes of native populations. A large body of literature examines the effects of immigration on wages, unemployment rates and fiscal deficits in receiving countries. When studying the Miami boat lift that led to a sudden immigration wave that increased the workforce

*Corresponding author.

by 6%, Card [6] showed no discernible effects on wages nor employment rates of the native population. Overall, studies [21, 7] across a wide variety of contexts and countries, find very little or no impact of immigrant workers' arrival on natives wages. This impact is likelier to be null or positive if the skills of the immigrants are complementary rather than substitutory to the skills of natives. On the other hand, the strand of literature in political economy has found large effects on changes in political preferences and social cohesion in society. The political economy literature has demonstrated evidence that immigration waves have led to the popularisation of the extreme right parties across Europe that have exploited the salience of the topic to profile themselves as anti-immigrant [20, 22]. Beyond these changes in political preferences, immigration shocks, including the arrival of a large number of asylum seekers, have led to an increase in hate speech and hate crime [12, 28].

This research asks two questions. First, it descriptively asks which individuals are in favour or against immigration into Croatia among the student population. Within this research question, we specifically focus on understanding how individual characteristics such as their education, income level and age correlate to their views on the desirability of immigration to Croatia. Our second research question asks whether these negative attitudes on immigration can be changed through information nudging. Within this research question, we explore whether and which incentives (economic versus historical-compassion) affect respondents' attitudes. From the above research questions, we derived two hypotheses. H1: Information nudging based on scarcity in the labour market positively affects economics and business students' attitudes on immigration. H2: Information nudging based on historical experience and compassion positively affects economics and business students' attitudes on immigration.

For the purpose of answering these questions, we collected novel survey data on a sample of 1,450 business and economic students from five university cities in Croatia (Osijek, Pula, Rijeka, Split and Zagreb) in 2024. The survey consisted of thirteen questions across a series of socio-demographic and attitudinal questions. In the first part of our research, we rely on descriptive statistics and a linear regression estimated with ordinary least squares to understand covariates that predict immigration attitudes. Our second approach is based on a survey experiment. "A survey experiment is the deliberate manipulation of the form or placement of vignettes in a survey instrument, for purposes of inferring how public opinion changes" [15]. It implies random assignment of respondents to the control and treatment groups which allows the differences in preferences and behaviors of respondents between the two groups to be interpreted as causal. We construct two treatments - one information vignette describing the El Shatt refugee camp, and, another information vignette describing the lack of workforce in the Croatian labour market. While this methodology has been used in the research on immigration attitudes (for a review see [19]), our contribution lies in its, to the best of our knowledge, novel application in Southeast Europe. Moreover, this new national context, whose recent history is characterised by experiences of war-induced displacement, allows us to make a theoretical contribution by juxtaposing the effects of information targeting an economic justification versus a compassionate justification, building on the population's own collective memory of displacement and forced migration.

Descriptive results suggest that very few (one in ten or one in twenty) young individuals think that immigration to Croatia is a positive development. It seems this is not driven directly by economic concerns of immigrants taking their jobs or becoming a financial burden to society as many more individuals do not raise this as a concern. Examining correlates of immigration attitudes, we find that attitudinal variables predict attitudes on immigration well, while socio-demographic variables of individuals do not predict their attitude on immigration. Across almost all the outcomes, individuals who report that they believe all people are trustworthy are likelier to also have positive views on immigration. On the opposite side, individuals who report to be religious consistently are associated with a lower likelihood of accepting immigration. The findings from our survey experiment show the potential of information updating in changing

views on immigration, if focused on a specific concern around immigration. Results indicate that there is a sizeable and statistically significant effect for the treated groups vis-a-vis their attitudes on the effect migrants have on the labour market and the social security system. This effect is stronger for the information vignette on workers' shortage. The information vignette discussing labour market shortages was more effective at changing attitudes on the economic effects of migration - namely reducing the number of individuals who believe immigrant workers will take natives' jobs or become a financial burden on the social security system.

The paper is organized as follows. Section 2 discusses the literature review and how this article contributes to it. Section 3 describes the data and research methodology while Section 4 discuss the results. Section 5 concludes this article.

2. Literature review

This research speaks to two strands of literature within political economy. First, it contributes to the literature on the political and economic causes and effects of immigration on society. A common starting point in the literature is that the domestic population misperceive both the size and the effects of immigration [1, 29]. Second, methodologically it contributes to the literature that uses survey experiments to advance our knowledge of the determinants of preferences on immigration.

An extensive literature has discussed the channels through which individuals form opinions on immigration, which can be summarised across two juxtaposing channels - one formed around political and economic concerns, and the other formed around social and cultural concerns. If political and economic concerns are important for our view on immigration, then citizens form attitudes about immigration based on its effects on their personal economic situation. For example, if citizens believe immigrants would depress their wage or 'take' their job, they are likelier to be opponents of immigration. However, empirical literature has not found support for such assumptions. For example, Hainmueller and Hiscox [18] discuss how immigration that changes individual's competitiveness on the labour market does not predict immigration attitudes. Empirically, this is supported by the lack of correlation between individuals' own education levels (whether less or highly educated) and their attitudes toward immigrants of differing education levels. Crepez and Damron [10] also show that comprehensive welfare states are associated with lower nativist sentiment across the EU, where plausibly, if the hypothesis that concerns of immigrants becoming a burden to the social security system were true, we would expect the opposite direction of the association. Yet, the literature on the social and psychological reasons behind the formation of immigration attitudes has found a series of determinants. Overall it seems immigration-related attitudes are driven by concerns about "national identity": specifically either the (lack of future) cultural assimilation [33, 17] or concerns driven by ethnocentrism and stereotyping [23].

A special and interesting research avenue within political economy of migration are electoral effects of immigration. Immigration fuels support for populist radical right parties regardless of the absence of its negative impact on employment or political economy outcomes [2]. On a political market immigrants matter less for what they are and more for what they mean: cultural concerns and anxieties about identity and the "loss of control over our way of living". Increased news coverage (salience) rather than quality substance often drives electoral outcomes towards radical political options and towards polarization of the electorate as reported in France [31]. Informational distortion, carried out by social media and news, regarding the true number of immigrants in Italy [3] or "density stress" rhetoric - a narrative emphasizing overcrowding and social saturation contrary to the reality - in Switzerland [2] represent examples of "successful" strategies that demonise immigrants in the eyes of local and national electorates. Barone et al. [4] report several mechanisms that channel natives fear (labour market, public services and cultural diversity) into support for centre-right parties, particularly those with anti-immigration

stances in Italy. Adding a novel twist to the demographic-political nexus, Dancygier et al. [11] argue that both trends, immigration of foreign workers and emigration of natives, change the composition of electorates as well as the political preferences of natives due to emotional grievances about being left behind. Together, they add to right-wing populism's success at the subnational level across Europe. With respect to Croatia and its electoral cycles the topic of immigrants has still not surfaced while the interest of the scientific community for overall migration topics is present and correlated, albeit with a time lag, with immigration trends. Namely, during the "migration crisis" of 2015-2016, when more than 650,000 migrants passed through the Croatian part of the Balkan route, respondents actively demonstrated a high level of solidarity with migrants who basically just passed through Croatia without an intent to stay and settle here [8]. Several years later the situation has evolved as it was documented on all levels within the society. Research that captured high school students' attitudes toward immigrants, based on Croatian subsample of students and their parents from the 2018 PISA survey, reports that attitudes towards immigrants are transmitted primarily through family socialization and online sources [30]. In a similar study to ours with respect to the sample, Mrakovčić et al. [27] report results of two rounds of surveys (2019 and 2024) on attitudes of students at four law faculties in Croatia towards migrants, foreign workers and asylum seekers. Social distance increased towards all groups of potential immigrants, except towards immigrants from the countries of the former Yugoslavia. In both rounds, value orientations were the strongest predictor of expressed social distance towards migrants and in the 2024 survey, as opposed to 2019 survey results, respondents perceived foreign workers as "undesirable". Focusing on the whole society and using data from the fourth, fifth, ninth and tenth rounds of the European Social Survey, in which Croatia participated, Medimurec et al. [26] identify four societal subgroups with respect to immigration attitudes. The study reports that two groups (pro- and moderate pro-immigration) have a majority within the society and that the share of the population with the most negative attitudes on immigration declines slightly over time. Using the same ESS dataset Čačić-Kumpes et al. [8] report right-wing political orientation, together with low levels of education and religion as the main causes of respondents' negative stance toward migrants whose number significantly increased between 10th (2020-2021) and 11th (2023-2024) wave of ESS surveys in Croatia. The respondents emphasized cultural and not economic threats when asked what is their main concern regarding immigrants. Focusing on economic aspect of immigrants' life in Croatia, Butković [5] concludes that the success of their integration will depend on the type of services that they provide (intellectual vs. physical labour) and the role of digital platforms in their careers. Emphasizing that managing migration is a complex task Gregurović et al. [16] drew attention to the possible implications and challenges of the long-term settlement of foreign workers in Croatia. Since the goal of their paper is to provide an overview of the immigration of foreign workers to Croatia in the last two decades, our goal is to empirically test whether we could address economic concerns that should be of an interest for students of economics and business in the five university cities in Croatia. Moreover, the aim of this paper is to test whether attitudes can be changed and whether information targeting an economic justification has differential effects to information targeting a compassion justification. In the current climate, these questions are crucial political economic issues that deal with social spending, optimal taxation and determine the boundary between the activities of the state, companies and migrants in the integration process.

3. Data and research design

3.1. Data

This research is based on survey data collected among 1,450 business and economic students from five university cities in Croatia (Osijek, Pula, Rijeka, Split and Zagreb) in 2024. Through

surveying random groups (grouped by the alphabetical order of their surnames) from different years and subjects, the research includes individuals with different socio-economic backgrounds and educational interests across all geographic regions of Croatia. The survey was short and only required 5-10 minutes to complete, which led to a negligible attrition rate of respondents that opened the survey in the first place. There were in total 1,450 respondents which determines our sample size. The survey experiment was conducted within the Qualtrics program. Students were informed that participation in the survey was voluntary and presented with an informed consent description before taking the survey. It described the purpose and the topics of the questionnaire, anonymity and data collection procedure, and the length of the survey to the participants who could voluntarily take part in it. Our research sample is broadly representative of the population of undergraduate students in Croatia, as the distribution of key characteristics closely matches population patterns. The gender profile (65% in the sample vs. roughly 60% in the population), the age profile (mostly 21–23) and regional composition (predominantly Central and Northern Croatia) align well with national data. Parental education is also similar: in both the sample and the population, parents most commonly have a high-school degree. It is also important to note that in the field of behavioural economics students are considered a usual subject pool as research is often conducted at universities and students are easy to recruit and motivate, they are computer literate and willing to take part in the research for non-monetary reasons [13, 14, 24].

There are five key questions in our survey that measure attitudes on immigration. They are phrased in the following way:

1. Immigrants are taking jobs from Croatians. "Please indicate your level of agreement with the statements below from zero to five (highest)"
2. Immigrants make the fight against crime worse. "Please indicate your level of agreement with the statements below from zero to five (highest)"
3. Immigrants represent an additional cost to the social security system. "Please indicate your level of agreement with the statements below from zero to five (highest)"
4. What would you say is the influence of immigrants on the development of Croatia? Responses are: 1 "strongly negative" 2 "negative" 3 "neither positive nor negative" 4 "positive" 5 "strongly positive"
5. The arrival of a larger number of immigrants to Croatia should be made possible. "Please indicate your level of agreement with the statements below from zero to five (highest)"

We additionally asked a series of socio-demographic variables. These included the age, date of birth, sex, whether the individual is working (categorical variable that included answers of working part time, and/or working while studying), their father's and mother's education levels, whether they believe their family was better/worse/equal off financially as compared to other families, and the region of their origin. We asked three attitudinal variables: i) whether the individual believes people are trustworthy, ii) whether the individual is religious, and iii) how the individual situates themselves on values around abortion, divorce, death penalty and other norms.

3.2. Survey experiment

Within the survey, we ran a survey experiment with two treatments and a control group. Individuals were randomly assigned to either the control group or the treatment group on the basis of the month they were born in. Once randomly assigned through the survey, each group

saw a different information vignette before proceeding to answer five questions on immigration attitudes. The control group consists of 474 individuals, the first treatment group (El Shatt) of 493 individuals and finally the second treatment group (labour shortage) of 483 individuals. The balance in observables across the control and two treatment groups is shown in Table 1, where we show that there are no observable differences between these groups across variables such as gender, age, regional background, religiosity, and their father’s education.

	Control: Mean (SD)	El Shatt: Mean (SD)	Labour: Mean (SD)
Female	0.65 (0.48)	0.64 (0.48)	0.66 (0.47)
Age under 23	0.94 (0.24)	0.91 (0.28)	0.93 (0.26)
North and Central	0.60 (0.49)	0.63 (0.48)	0.59 (0.49)
Religious	0.73 (0.45)	0.75 (0.43)	0.74 (0.44)
Father has a High School Degree	0.51 (0.50)	0.53 (0.50)	0.52 (0.50)

Table 1: *Balance table across treatment and experiment groups.*

The information vignettes are the following:

1. **El Shatt:** 250 words that describe the El Shatt refugee camp. El Shatt was a refugee camp in Egypt that housed 40,000 civilians mainly from Dalmatia (Croatia) that were fleeing the German offensive in the fall and winter of 1943–1944. The civilians and many children lived there for two years until the end of the war and their repatriation in 1946. The topic of this information vignette was chosen to incite empathy and compassion with immigrants as this episode in history represents an occasion when Croatians were on the receiving end of another country’s hospitality and is often met with fond memories from Croatians.
2. **Labour market shortage:** 250 words that describe the current shortage of labour and workers across Croatia and the negative economic consequences this lack of workers might have on the wider economy if it were to persist. The topic of this information vignette was chosen to encourage the realisation that immigrants are very needed in certain aspects of the Croatian economy.
3. **Control: History of university:** 250 words that describe how the Faculty of Economics and Business was founded at the University of Zagreb.

As our study was a survey experiment, we pre-registered the study on the Open Science Framework OSF Preregistration prior to conducting the analysis, which can be accessed on the following OSF link or under the following DOI.

Our estimation specification is the following which we estimate using Ordinary least squares (OLS):

$$Y_i = \alpha + \beta_1 \text{El Shatt}_i + \beta_2 \text{Labour Shortage}_i + \epsilon_i \quad (1)$$

where Y_i are the five outcome variables that have been dichotomised and measure immigration attitudes of individual i , El Shatt estimates the effect of being in the treatment group receiving that information vignette, and Labour Shortage estimates the effect of being in the treatment group receiving that information vignette.

4. Results

This section describes the results in two parts, first describing the correlates that explain positive views on immigration within the student population, and second, by discussing the results from the survey experiment.

4.1. What correlates to having positive views on immigration?

As a starting point, the aim was to give an overview of attitudes and preferences about immigration among the student population in Croatia. We analyzed the five questions on immigration attitudes described in detail in the data section dichotomising them to capture positive attitudes towards immigration (the equivalent of ‘positive’ and ‘extremely positive’ or values of 4 and 5 for the variables whose answers were on a 1-5 scale). The summary statistics of these binary variables are shown in Table 2. When we look at the means of having a positive attitude across different consequences of immigration, we observe very different answers across these aspects. While for example 43.5% of respondents think that immigrants will not take their job, only 5.5% believe more immigration to Croatia is desirable and 11% of respondents believe immigration has overall positive effects on Croatian society. As many as 34% think that immigrants do not cause an increase in crime and 23.5% think that they there are not a social and financial burden to society. These results suggest that very few (one in ten or one in twenty) young individuals think that immigration to Croatia is a positive development, yet this is not driven directly by economic concerns of those immigrants taking their jobs or becoming a financial burden to society as many more individuals do not raise such concerns. This points to the fact that at least for a significant share of citizens, cultural reasons and fear of a lack of assimilation might be hindering their approval of immigration to Croatia.

	Mean	SD	Min	Max
Immigrants do not take jobs	0.4351724	0.4959506	0	1
Immigrants do not cause crime	0.3413793	0.474336	0	1
Immigrants are not a burden	0.2331034	0.4229534	0	1
Immigration has positive effects	0.1124138	0.3159838	0	1
More immigration is desirable	0.0565517	0.2310637	0	1
Observations	1450			

Table 2: *Summary statistics of main variables describing immigration attitudes.*

Next, we examine how each of these measures of preferences on immigration is correlated to each other in Table 3. Perhaps expectedly, we find they are all positively correlated to each other, so that, for example individuals who think that immigrants do not take jobs or cause crime are likelier to think that immigration has positive effects on society and is overall desirable. Within these positive correlations, we do find higher within correlation coefficients between the two overall measures of attitudes (such that individuals who think immigration has positive effects on society are also much likelier to think immigration is desirable) and lower correlation coefficients among measures of overall effects of immigration and those zooming into an aspect of immigration consequences.

Finally, to understand immigration preferences we use the five attitudes on immigration as outcome variables and estimate a simple linear model using ordinary least squares with the following socio-demographic independent variables describing the respondent: sex, age, whether they are working, whether their parents were poorer than other families, whether their

	Immigration has positive effects	Immigrants do not take jobs	Immigrants do not cause crime	Immigrants are not a burden	More immigration is desirable
Immigration has positive effects	1				
Immigrants do not take jobs	0.216***	1			
Immigrants do not cause crime	0.227***	0.345***	1		
Immigrants are not a burden	0.196***	0.302***	0.401***	1	
More immigration is desirable	0.357***	0.116***	0.151***	0.147***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: *Correlation matrix of migration preferences.*

father and mother have a college or vocational degree and higher, and which region they are from. We also add two attitudinal variables: whether the respondent believes people are in general trustworthy and whether the respondent is religious (regardless of the type of religion). The results are reported in Table 4. Overall, across the five attitudes on immigration, we don't find that the socio-demographic characteristics are good predictors of whether or not the individual has more positive views on immigration. While occasionally some coefficients are statistically significant, none are significant across the majority of outcomes. However, we find that attitudinal variables, conditional on the socio-demographic characteristics, correlate to attitudes on immigration. Across almost all the outcomes, individuals who report that they believe all people are trustworthy are 9 to 18 percentage points likelier to also have positive views on immigration. On the opposite side, individuals who report to be religious are consistently associated with a lower likelihood of accepting immigration, from around 5 to 12 percentage points across the five measures.

4.2. Survey experiment results

The aim of this research was to also test whether and how attitudes on immigration could be altered. We randomised the treatment, consisting of participants either being shown the vignette describing the El Shatt refugee camp or a vignette describing the shortage in the workforce in Croatia. As the treatment is randomly assigned, we can interpret the estimates from Equation 1 as causal. The outcomes shown below are measured after seeing the vignettes. The full results are reported in Table 5.

We do not find any significant effects of the vignettes on the attitudes that immigration has overall positive effects nor that more immigration is desirable, as shown in Table 5. This could be explained by ex-ante overall low support for immigration across these attitudes or a treatment whose salience is not strong enough to change overall attitudes.

We do find significant and positive effects of the labour shortage treatment on the perception whether immigrants take jobs or become a social and financial burden to the receiving country. We do not find that this vignette has an effect on the perception whether immigrants cause crime. These findings are suggestive that a treatment targeting concerns around the economic impact of immigrants can change the perception of immigration as an economic threat, namely whether the immigrant workers will take natives' jobs or become a financial burden on the social security system. Moreover, the treatment effects have a large magnitude - reading the information on the lack of workers in the labour market in Croatia increases the likelihood of believing immigrants do not take jobs by 5.7 percentage points and increases the likelihood of perceiving immigrants as not being a burden on the social security system by 9.6 percentage

VARIABLES	(1) Immigrants do not take jobs	(2) Immigrants do not cause crime	(3) Immigrants are not a burden	(4) Immigration has positive effects	(5) More immigration is desirable
Men	-0.016 (0.028)	-0.058** (0.027)	-0.002 (0.024)	0.015 (0.018)	0.028** (0.013)
Sex(NA)	-0.052 (0.114)	-0.043 (0.110)	0.038 (0.098)	-0.026 (0.073)	0.094* (0.054)
Older than 20	0.006 (0.026)	0.015 (0.026)	-0.059*** (0.023)	0.001 (0.017)	-0.020 (0.012)
Working	0.037 (0.027)	0.000 (0.026)	0.025 (0.023)	0.011 (0.017)	0.006 (0.013)
Poorer parents	0.043 (0.048)	0.063 (0.047)	0.022 (0.042)	0.009 (0.031)	0.015 (0.023)
Educated father	0.059** (0.029)	0.002 (0.028)	0.025 (0.025)	0.027 (0.019)	0.021 (0.014)
Educated mother	-0.009 (0.029)	0.002 (0.028)	-0.010 (0.025)	0.012 (0.018)	0.009 (0.014)
Dalmacija	-0.001 (0.039)	0.014 (0.037)	0.043 (0.033)	-0.031 (0.025)	0.017 (0.018)
Slavonija and Baranja	-0.011 (0.037)	0.027 (0.036)	0.083*** (0.032)	0.010 (0.024)	0.037** (0.017)
Istra and Primorje	0.184** (0.086)	0.096 (0.083)	0.121 (0.074)	-0.034 (0.055)	-0.026 (0.040)
Bosna i Hercegovina	0.055 (0.055)	0.016 (0.053)	0.059 (0.047)	0.008 (0.035)	0.019 (0.026)
Other region	-0.174* (0.102)	-0.129 (0.098)	-0.111 (0.088)	-0.046 (0.065)	0.015 (0.048)
People are trustworthy	0.178*** (0.038)	0.089** (0.036)	0.101*** (0.032)	0.113*** (0.024)	0.012 (0.018)
Religious	-0.118*** (0.030)	-0.111*** (0.029)	-0.053** (0.026)	-0.076*** (0.019)	-0.023 (0.014)
Observations	1,450	1,450	1,450	1,450	1,450
R-squared	0.041	0.021	0.023	0.035	0.017

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: *Immigration preferences: socio demographic characteristics and attitudinal variables.*

points. In relative terms, this is a 13% increase for the former outcome and a 40% increase for the latter outcome which is an economically sizeable effect.

The El Shatt vignette overall did not change attitudes on immigration. The only exception is that the vignette positively affected the likelihood of perceiving that immigrants are not a social and financial burden. Unlike Čapo [9] we do not report the awakened solidarity with migrants due to, a rather distant, refugee past that some Croatian citizens experienced during WW2. There are several possible reasons for the lack of solidarity. First, we opted for a refugee experience during WW2 instead of a more recent refugee experience during the Homeland war

in 1990s. Second, the El Shatt vignette was rather a regional experience that affected people from Dalmatia. Third, since the 1990s and its independence, nationalist ideology has dominated Croatia [32] and the El Shatt exodus experience does not fit well within that framework and it is also questionable how familiar current students are with the story. A recent paper by researchers from the Faculty of Political Sciences shows that during the last 30 years, the positive image of Tito and socialist movement has actually decreased over time especially among the young, the so called democratic generation born after 1982 [34].

In sum, our research shows that attitudes are changeable, at least in the short run. Our findings point to the fact that effects of potential information campaigns should be directed at one specific concern against immigration where they might have stronger effects. Specifically, in the two examples of the information vignettes, the one discussing labour market shortages was more effective at changing attitudes on the economic effects of migration - whether the immigrant workers will take natives' jobs or become a financial burden on the social security system.

VARIABLES	(1) Immigrants do not take jobs	(2) Immigrants do not cause crime	(3) Immigrants are not a burden	(4) Immigration has positive effects	(5) More immigration is desirable
El Shatt Treatment	0.052 (0.032)	0.026 (0.031)	0.052* (0.027)	0.006 (0.020)	-0.012 (0.015)
Labour Shortage Treatment	0.057* (0.032)	-0.002 (0.031)	0.096*** (0.027)	0.021 (0.020)	-0.001 (0.015)
Observations	1,450	1,450	1,450	1,450	1,450
R-squared	0.003	0.001	0.009	0.001	0.001

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: *Survey experiment results.*

5. Conclusion

This paper investigates how individual characteristics correlate to students' attitudes on immigration and, more importantly, whether these attitudes can be changed through information nudges. A survey analysis was conducted among 1,450 economics and business administration students of various majors and subjects from five university cities in Croatia. The regression results show that socio-demographic characteristics are not good predictors of immigration preferences, but attitudinal variables, conditional on the socio-demographic characteristics, correlate to attitudes on immigration. The empirical strategy, for the second research question, relied on a randomly assigned survey experiment with two treatments and one control group. Interestingly, the main result is that the labour shortage information treatment causes a significant change in attitudes about immigrants in the labour market and the social security system. We find no evidence that the El Shatt treatment – when Croats were refugees – had a causal influence on any of the five questions that measure attitudes on immigration. In a nutshell, economics and business students positively reacted to an economic incentive (scarcity in the labour market) while compassion and the exodus experience that their fellow citizens experienced had no statistical effect on their responses.

The main limitation of our study is already recognised within the field of behavioural economics: uncertain long term effects. Information nudges, even if detected in the short run, might not persist long enough to have an effect on long term attitudes that influence behaviour. Moreover, while the responses were anonymous, they could still display social desirability effects at the baseline.

Overall, this research points to the positive effects information nudges can have on changing attitudes towards migrants. If policymakers are interested in promoting a more open attitude toward migrants, an effective strategy is to identify their main fears related to migrants through surveys, and then with various behavioral interventions, including short-term nudges and long-term educational policies, use evidence-based empirical analysis to dismantle myths about the impact of immigration on various economic, social, and political outcomes in society.

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