Refining the Salience Hypothesis: Does the Response to Immigration Differ Across Countries?

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ABSTRACT

Applied to immigration, Blalock's (*Toward a Theory of Minority-Group Relations. A Capricorn Giant*, 1967) *salience hypothesis* predicts that contact with immigrants will tend to highlight the role of nationality in the identities of natives and thereby increase opposition to immigration. Drawing on group threat and cultural perspectives hypotheses, we consider the roles of macroeconomic conditions and national culture in salience effects. Our results indicate that economic concerns over immigration are more sensitive to the immigrant population share during difficult economic times and in countries with less religious diversity and more collectivist cultures. In contrast, cultural concerns over immigration are not sensitive to the macroeconomic and cultural variables we examine. Thus, the attitudinal response to immigration differs significantly across countries, a finding that is relevant to attempts to manage the social and political consequences of large immigration inflows.

HIGHLIGHTS

- We test the Blalock's (1967) salience hypothesis, which suggests that citizens' anti-immigration concerns are rising in the size of the out-group in the total population.
- We refine this hypothesis by listing the country's macroeconomic and macro-cultural characteristics that mediate in the relationship noted above.
- Our results suggest caution in extrapolating results regarding attitudes toward immigration across countries or periods with different macroeconomic conditions.

INTRODUCTION

In a recent survey, immigration ranked second, after unemployment, among a list of the 14 most important issues faced by European countries (Eurobarometer87, 2017). Research finds that concerns over immigration have important real-world consequences. Card et al. (2012) find that concerns over immigration play a large role in explaining attitudes toward immigration policy and,

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more broadly, emerging literature links immigration to the emergence and electoral success of ethno-nationalist, anti-immigration parties in twenty-first century Europe and to support for Britain's exit from the European Union.[1,2]

An important theoretical reference point for much of the empirical work on attitudes toward immigration is Blalock's (1967) *salience hypothesis*. Originally developed to explain attitudes toward racial minorities, the *salience hypothesis* holds that exposure to an outgroup increases the salience of group identity among members of the ingroup. Applied to immigration, the salience hypothesis predicts that contact with immigrants will tend to highlight the role of nationality in the identities of natives and thereby increase opposition to immigration, a proposition with strong empirical support e.g. Quillian (1995), Dustmann and Preston (2001), Semyonov et al. (2008), Ceobanu (2010), and Enos (2014).

In spite of its importance, our understanding of the factors that influence the strength of the salience effect – how strongly a population responds to a given change in the immigrant population share – is quite limited. International differences in the socio-economic characteristics of the survey respondents explain a relatively small share of the cross-country variation in concerns over immigration (Malchow-Møller et al., 2009). In addition, most studies that analyze attitudes toward immigration consider international cross-sectional data from a single point in time.[3] These studies cannot address the how attitudes toward immigrants respond to *changes* in immigrant population share, nor can they effectively control for the omitted country characteristics. Other studies consider either panel or repeat cross-sectional data from a single country and are, therefore, not informative about international differences in the response to immigration.[4] We address this lacuna by developing and providing empirical evidence in support of three hypotheses regarding the macroeconomic and cultural determinants of how attitudes toward immigration respond to changes in the immigrant population share.

The first hypothesis is that the attitudinal response to a change in the immigrant population share is greater during challenging economic times, which we identify with a high unemployment rate and low levels of per capita income.[5] This hypothesis is motivated by *group threat theory*, which suggests that hostility to immigration is a response to perceived threat of immigration to the interests or social position of the dominant group (Blumer, 1958; Blalock, 1967). Perceived threats are greatest in challenging economic times, tend to be increasing in the size of the immigrant population, and may reflect threats to the economic welfare, social status, or cultural hegemony of the dominant group.

Support for group threat theory is found in a large body of work that investigates the role of economic self-interest related to labor market competition and the provision of public goods in the response to immigration (Scheve and Slaughter, 2001; Dustmann and Preston, 2006, 2007; Facchini and Mayda, 2009; Senik et al., 2009; Helbling and Kriesi, 2014; Jaime-Castillo et al., 2016).[6] In addition, a substantial body of existing research studies the relevance of macroeconomic environment for citizens' attitudes towards immigration, including GDP and GDP growth (Schneider, 2008; Semyonov et al., 2008; Sides and Citrin, 2007; Billiet et al., 2014) and the unemployment rate (Espenshade and Hempstead, 1996; Wilkes and Corrigall-Brown, 2011; Billiet et al., 2014). However, none of these studies investigates the role of the country's macroeconomic environment in shaping how its citizen's attitudes toward immigration respond to *changes* in the immigrant population share, as we do here.

The second and third hypotheses propose that the response to immigration will depend on a country's cultural make-up. These hypotheses draw on the *cultural perspectives hypothesis*, which has intellectual roots in the work of Max Weber, holds that cultural factors may play an independent causal role in economic and political life.[7] According to Vallas et al. (2009, p. 202), the cultural perspectives hypothesis "*attributes independent causal power to normative orientations*" of the native population. Normative concerns may reflect nationalism (Quillian, 1995; Mayda, 2006; Sides and Citrin, 2007), racism or ethnocentrism (Quillian, 1995; Citrin et al., 1997; Dustmann and

Preston, 2007), parochialism (Schneider, 2008; Vallas et al., 2009), language (Chandler and Tsai, 2001), religious sectarianism (Facchini et al., 2013), or concerns over immigrant work ethic (Helbling and Kriesi, 2014). The cultural perspectives approach is sometimes presented as an independent theoretical construct and sometimes as a strand of the group threat theory.

The second hypothesis holds that the response to a change in the foreign-born share of the population will be smaller in countries with a greater history of religious diversity. This hypothesis is motivated by *contact theory*, which holds that hostility to immigration stems from social and institutional barriers between immigrant and native populations (Vallas et al., 2009).[8.] Not only is religious difference itself an important marker of cultural differences, and a potential source of concern over the cultural impact of immigration, but it may also be that the experience of living in a religiously diverse society would tend to make natives less concerned with or threatened by other forms of social diversity, including those associated with immigration. As a result, we expect that attitudes toward immigration will be less sensitive to changes in the immigrant population share in countries with a history of greater religious diversity.

Our final hypothesis regards a country's position on the individualism-collectivism continuum. Individualism and collectivism reflect the importance of social relationships in an individual's identity (Gorodnichenko and Roland, 2011). Our interest in the role of individualism is rooted in several considerations. First, individualism may reduce the degree to which individuals are attached to various group identities, including those rooted in national, ethnic, and religious identity, reducing the role of group threat in the response to immigration. In particular, individualists may be less sensitive to the perceived threats to these group identities posed by immigration. Second, individualism is associated with more moderate distinctions between social insiders and outsiders (Nikolaev and Salahodjaev, 2017) and with a general rather than limited morality (Alesina and Giuliano, 2015), both of which ought to reduce the scope of xenophobia. Finally, adherence to an individualist perspective may reduce the degree to which an individual is willing to express attitudes toward immigrants as a group. All three considerations suggest that individualism may serve to temper the strength of salience effects.

We investigate these hypotheses using data from the first five waves of the European Social Survey with OECD measures. Matched with data on culture and immigrant population shares, we have information from 22 countries. We consider two dimensions of the attitudes toward immigration, as reflected in concern over the economic impact of immigration and concern over the impact of immigration on national culture. Differentiating between economic and cultural concerns over immigration is potentially important for policymakers, as the locus of concern may suggest different policy responses. For example, concerns over the economic impact of immigration may suggest policies to increase native employment, while cultural concerns may be addressed by policies designed to foster assimilation.

Our key results are as follows. First, while salience effects matter for both economic and cultural concerns over immigration, economic concerns are significantly more sensitive to immigration flows. Second, when considering economic concerns over immigration, both macroeconomic conditions and national culture matter for the strength of salience effects. As predicted, economic concerns over immigration are more sensitive to the immigrant population share in difficult macroeconomic times and in countries with less diverse and more collectivist cultures. In contrast, neither macroeconomic conditions nor national culture appears to influence the sensitivity of cultural concerns to the immigrant population share. Finally, we find that an individual's economic characteristics matter more in her economic than cultural concerns over immigration, and vice versa.

Thus, our results suggest that there are substantial international differences in the intensity of response to immigration across countries. This finding may be important to policymakers attempting to manage the social and political consequences of large immigration inflows, such as those associated with the European refugee crisis.

The remainder of our paper is organized as follows. Section 2 introduces the data. Section 3 presents results on 1) immigration concerns and 2) examines the individual-level determinants of concerns over immigration. Section 4 considers the role of macroeconomic conditions and national culture. Section 5 concludes.

DATA

Our primary data source is the first five waves of the European Social Survey (ESS) consisting of observations from 22 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Slovenia, the Slovak Republic, Sweden and Switzerland. ESS is a biennial survey that started in the year 2002. Its special focus on migration and minorities adds value to our choice of the survey. We limit our analysis to the first five rounds, e.g. through 2010. We also restrict the analysis to respondents who are citizens of the country in which they are surveyed.

Individual-level variables

Individual-level variables are taken from the ESS survey responses and include economic and cultural concerns over immigration, and a variety of demographic, economic and cultural characteristics that may influence attitudes toward immigration. Summary statistics for these variables are presented in Table 1.

The main dependent variables in our analysis consist of two variables that record a respondent's concerns over the economic and cultural impact of immigration on their country. The question recording a citizen's economic concerns towards immigration asks: "Would you say it is generally bad or good for [country's] economy that people come to live here from other countries?" The individual response to this question ranges in the scale from 0–10, where 0 indicates that the respondent believes immigration is bad for the economy, and 10 indicates that respondent perceives that immigration is good for the economy. Our measure of cultural concerns over immigration is derived from a similar question, which asks: "Would you say that [country's] cultural life is generally undermined or enriched by people coming to live here from other countries?" The answer 0 to this question signifies that the respondent believes that immigration undermines the cultural life, and the response 10 suggests that the respondent perceives that immigration enriches the cultural life of her country.

We manipulate the raw data on concern over immigration in two ways. First, we reverse the order of the responses so that higher values are associated with greater concern over the impact of immigrants. To give an example, individual's economic concerns now range from 0 (immigration is good for country's economy) to 10 (immigration is bad for country's economy). Second, we normalize these variables using the standardized coefficients technique. The resulting variables have zero means and standard deviations of one. Normalization facilitates our investigation as we can now compare results for regressions employing the two distinct measures of concerns over immigration as dependent variables.

In investigating the individual-level determinants of concerns over immigration, we employ a variety of variables that reflect an individual's demographic, economic and cultural characteristics. Demographic variables include an individual's age, gender, marital status, and a dummy variable for whether there are children living at home. Economic variables include measures of an individual's income, education level, and employment status. Cultural variables include an individual's religious affiliation, immigration status of their parents, a dummy variable for belonging to an

TABLE 1

DESCRIPTIVE STATISTICS

Variables	(1) Mean	(2) Standard deviation	(3) Observations
Immigrant Population Share (IPS)	11.21	5.742	136,970
Attitudes towards immigration (scale 0–10)			
Immigration bad for country's economy (EC)	5.156	2.361	163,429
Country's cultural life undermined by immigrants (CC)	4.445	2.472	163,429
Macroeconomic indicators			
Log GDP per capita	10.33	0.333	163,429
Unemployment rate	7.704	3.713	162,516
Macro-cultural indicators			
Hofstede's individualism index	63.32	14.54	156,829
Historical religious diversity (1-Herfindahl)	0.332	0.223	163,429
Demographic characteristics			
Female	0.524	0.499	163,235
Age	47.21	18.26	162,662
Married	0.509	0.500	163,429
Urban	0.312	0.463	163,005
Live with children	0.381	0.486	162,881
Economic characteristics			
Education	12.23	4.024	161,845
Household income	6.012	2.659	121,192
Business owner	0.015	0.122	147,587
Retired	0.241	0.428	163,429
Self-employed	0.124	0.329	147,587
Ever unemployed for 3 months	0.247	0.431	162,726
Cultural characteristics			
Immigrant father	0.077	0.267	162,705
Immigrant mother	0.076	0.265	163,100
Islam	0.007	0.086	163,429
Catholic	0.345	0.475	163,429
Protestant	0.168	0.374	163,429
Eastern Orthodox	0.054	0.226	163,429
Jew	0.001	0.028	163,429
Other Christian Religion	0.014	0.118	163,429
Eastern Religion	0.003	0.052	163,429
Other Religions	0.002	0.048	163,429
Belong to an ethnic minority	0.030	0.170	161,536
Religiosity	5.674	2.967	162,401

NOTE: This table summarizes the data variables used in this study. Respondent's attitudes towards immigration are recorded on a scale from 1 to 11 (1 being the lowest). 'The data on country's immigrant share, GDP per capita and unemployment rate are macro indicators obtained from the OECD database. Variable *Female* takes the value of 1 if the respondent reports her gender as female and 0 otherwise. Similarly, variable *Married* takes the value of 1 if the respondent has reported being married and 0 otherwise. *HH income* indicates the total income of the household. Variables indicating employment relation of the respondent take the value of 1 if the respondent reports himself/herself as an employee, business owner, retired or self-employed personnel and 0 otherwise. Variables indicating respondent's religious beliefs take the value of 1 if the respondent has reported his/her religion as Islam, Catholic, Protestant, Eastern Orthodox, Jew, etc, and 0 otherwise.

ethnic minority, and a measure of religiosity, as indicated by attendance at religious services. This categorization is clearly imperfect, as many variables could count in multiple categories, e.g. education arguably influences an individual's cultural identity as well as her economic situation, and is based in part on our subjective judgment and partly on previous work.

Country-level variables

Country-level variables include the immigrant population share, and the two measures of national culture. Data on immigrant population share comes from OECD's migration statistics.[9.] Our measure of religious diversity is from McCleary and Barro (2006) and equals one minus the sum of the squares of the population shares belonging to ten religious traditions. This measure reflects the probability that any two randomly selected individuals will belong to different religious or philosophical tradition. To avoid issues of reverse causation, we measure religious diversity in 1970.[10.] Finally, our measure of individualism is from Hofstede (1985, 2001) and is the most commonly used measure of individualism in the social sciences. Summary statistics for these variables are presented in Table 1.

RESULTS AND DISCUSSION

Immigration, individual characteristics, and concerns over Immigration

We begin the empirical investigation by examining the salient effect of immigrant population share in a country on citizen's economic and cultural concerns over immigration. Our baseline empirical model is as follows:

$$A_{ict} = \beta_0 + \beta_1 IPS_{ct} + \beta_2 X_{ict} + \beta_3 E_{ict} + \beta_4 C_{ict} + \gamma_c + \gamma_t + \mu_{ict} \tag{1}$$

In this specification, the dependent variable A_{ict} measures self-reported concern towards immigration of individual i living in country c and at year t; IPS_{ct} is the immigrant share of population in the country c at time t; X_{ict}, E_{ict} and C_{ict} are vectors of i's demographic, economic and cultural characteristics; and γ_c and γ_t are the country and time specific dummies; and μ_{ict} is the error term. The inclusion of country fixed effects allows us to control for unobserved, time-invariant variables that might be correlated with key variables of interest, such as the immigrant share. Similarly, the inclusion of period fixed effects allows us to control for Europe-wide shocks to concerns over immigrants.

Note that since the immigrant share of a country's population is endogenous, coefficient estimates presented below should not be interpreted as causal effects. One source of endogeneity is the reverse causation. The available evidence suggests that hostility to immigration may likely reduce immigration flows, either by influencing immigration policy (Facchini and Mayda, 2008; Facchini et al., 2011) or by making a country's social environment less hospitable to immigrants (Knabe et al., 2013). The econometrically appropriate way to address the endogeneity of immigration is through the use of instrumental variables. However, we were unable to identify appropriate instruments. The econometrically appropriate way to address the endogeneity of immigration is through the use of instrumental variables. Because we were unable to identify appropriate instruments, our results should not be interpreted as causal estimates.[11.] Nevertheless, we refer to the previous work that indicates that the magnitude of any bias due to reverse causation is likely to be small (Olivier and Wong, 2003).

Table 2 presents the main results. Columns (1) and (2) provide strong support for the salience hypotheses.[12.] The immigrant population share is a statistically significant determinant of both

TABLE 2

IMMIGRANT POPULATION SHARE AND CONCERNS

Variables	(1) EC	(2) CC
Immigrant Population Share (IPS)	0.0853***	0.0311***
	(3.537)	(3.383)
Female	0.134***	−0.0218
	(9.844)	(−0.736)
Age	−0.00689**	−0.00510
	(−2.585)	(−1.135)
Age-squared	0.0000333	0.0000496
	(1.536)	(1.093)
Married	0.0283***	0.0587***
	(2.931)	(2.984)
Urban	−0.0877***	−0.0827***
	(−6.093)	(−7.566)
Live with children	0.0199**	−0.00561
	(2.155)	(−0.571)
Education	−0.0568***	−0.0566***
	(−9.169)	(−7.214)
Household income	−0.0345***	−0.0315***
	(−7.443)	(−8.449)
Owner	−0.0257	0.0291
	(−0.788)	(0.671)
Retired	0.0251	0.0260
	(1.124)	(1.059)
Self-employed	−0.0307**	−0.00152
	(−2.125)	(−0.0734)
Ever unemployed for 3 months	0.0392*	−0.00336
	(1.727)	(−0.157)
Immigrant father	−0.114***	−0.0711***
	(−5.047)	(−3.309)
Immigrant mother	−0.0898***	−0.111***
	(−4.097)	(−3.108)
Islam	−0.425***	−0.537***
	(−4.052)	(−7.250)
Catholic	0.0751**	0.136***
	(2.175)	(8.161)
Protestant	0.0318	0.0720
	(0.971)	(1.648)
Eastern orthodox	0.184	0.278***
	(1.584)	(3.255)
Jew	−0.149**	0.0534
	(−2.120)	(1.011)
Other Christian	−0.0286	0.00695
	(−0.733)	(0.225)
Eastern religion	−0.0974	−0.272***
	(−1.531)	(−3.160)
Other religion	−0.00814	−0.113
	(−0.113)	(−0.812)
Belong to an ethnic minority	−0.0627***	−0.0345
	(−3.529)	(−1.435)
Religiosity	−0.0137***	−0.0118
	(−2.949)	(−1.672)
Country FEs	YES	YES
Year FEs	YES	YES

TABLE 2

(CONTINUED)

Variables	(1) EC	(2) CC
Constant	−2.329** (−2.811)	−0.458 (−1.304)
F-test for Economic characteristics	28.53	19.64
F-test for Cultural characteristics	88.28	137.50
Observations	93,546	93,546
R-squared	0.129	0.154

NOTE The dependent variables used in this table are: EC – Immigrants are bad for economy, and CC – Immigrants undermine culture. The results for all the individual level controls are uniquely shown. The standard errors are clustered on the country level for all the regressions. t statistics in parentheses: *p < 0.10, **p < 0.05, ***p < 0.01.

measures of concern over the impact of immigration. We note also that economic concerns are 2.74 times as sensitive to the immigrant share as are cultural concerns. Because we are controlling for country fixed effects, these coefficients reflect the association of changes in the share of the immigrant population with changes in immigration concerns. Moreover, these effects are economically large. For example, a 1.34 percentage point increase in the share of the foreign-born has roughly the same association with economic concerns over immigration has having a native, rather than immigrant father. Similarly, having a native father shares a similar association with an individual's cultural concerns over immigration as a 3.66 percentage point rise in the immigrant population share does.

Robustness checks

Table 3 presents a number of robustness checks on our results. While we continue to control for the individual level characteristics used in Table 2, we do not report or discuss these results. In our initial robustness test, we rerun our baseline specification augmented to include a country-specific linear time trend. The country and year fixed effects present in the baseline specification are substituted by country-specific linear time trends to control for other changes in outcome variables that vary by country. As indicated in columns 1 and 2, our results are largely robust to this change of specification. The coefficients on the immigrant share are positive, significant and very similar in magnitude to those reported in Table 2. Next, we examine the effect of restricting the sample the countries of continental Europe and to EU member countries. As seen in columns 3-4 of Table 3, the immigrant population share continues to be strongly related to concerns over the economic and cultural impact of immigration.

Finally, we investigate specifications in which the relationship between migrant share and concerns among citizens towards immigration is non-linear. We do this by considering a quadratic relationship between the immigrant population share and native concerns. As seen in columns 5 and 6, the pattern of coefficient signs indicates a concave relationship between the immigrant share and economic and cultural concerns over immigration, though the coefficients on the squared term are not statistically significant.

In conclusion, we find substantial support for the salience hypothesis. Regarding the salience hypothesis, both economic and cultural concerns are increasing in the immigrant population share. Economic concerns over immigration also appear to be significantly more sensitive to changes in

TABLE 3

ROBUSTNESS CHECKS

Variables	Full sample		Continental European countries		Full sample	
	(1)	(2)	(3)	(4)	(5)	(6)
	EC	CC	EC	CC	EC	CC
IPS	0.0710***	0.0282***	0.0801***	0.0316***	0.114**	0.0435***
	(3.458)	(3.685)	(3.430)	(3.323)	(2.534)	(3.076)
IPS Squared					−0.00112	−0.000494
					(−0.597)	(−0.887)
Individual Controls	YES	YES	YES	YES	YES	YES
Country FEs	NO	NO	YES	YES	YES	YES
Year FEs	NO	NO	YES	YES	YES	YES
Country Time Trend	YES	YES	NO	NO	NO	NO
Constant	60.56***	5.940	−2.180**	−0.452	0.815***	0.817***
	(3.204)	(0.621)	(−2.715)	(−1.239)	(4.979)	(6.964)
Observations	93,546	93,546	83,505	83,505	93,546	93,546
R-squared	0.128	0.153	0.126	0.150	0.129	0.154

NOTE: The first two columns re-estimate the baseline regressions using country-specific linear time trends as a robustness check. Columns (3) and (4) repeat the baseline regressions presented in Table (2) by restricting the sample to Continental European countries only (all countries except, Great Britain, and Ireland). The analysis presented in columns (5) and (6) considers the non-linear relationship between immigrant share of population and concerns. The standard errors are clustered on the country level for all the regressions. *t* statistics in parentheses *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

immigration than are cultural concerns. In addition, we find that both individually and collectively, respondent's cultural characteristics play a larger role in determining her cultural than economic concerns over immigration, and economic characteristics play a larger role in determining economic than cultural concerns. Next, we turn our attention to the role of macroeconomic and national-cultural characteristics in influencing economic and cultural concerns over immigration.

IS THE RESPONSE TO IMMIGRATION UNIFORM ACROSS COUNTRIES?

The previous section demonstrates support for the salience hypothesis in that both economic and cultural concerns over immigration are increasing in the immigrant population share. An important limitation of these findings is that the specifications used to restrict the response to immigration to be uniform across countries and, indeed, our results may be thought of as reflecting this relationship in a hypothetical average European country. In this section, we broaden the analysis to test for the presence of systematic differences in the response to immigration across countries associated with a country's macroeconomic conditions and dimensions of national culture.

Macroeconomic conditions and salience effects

We begin by considering several variations on group threat theory, which suggests that native hostility to immigrants will be a function of macroeconomic conditions and of the relative size of the minority group. The macroeconomic indicators we employ are the unemployment rate and the log

of per capita income. Higher rates of unemployment may increase anxiety over immigration by increasing the perceived competition between native and immigrant job seekers and by increasing the shares of the native and immigrant populations requiring public assistance. Per capita income may affect concerns over immigration by reducing the perceived burden of immigrant consumption of public services. More generally, economic growth may make people less concerned with horizontal social comparisons and, thus, more accepting of policies that benefit excluded or marginalized groups, as argued by Friedman (2005).

Our results are presented in Table 4. We begin by adding the national unemployment rate to the baseline specifications used in Table 2. Columns one and two show that unemployment increases the level of economic concern over immigration while leaving cultural concerns over immigration unchanged. The association of unemployment with economic concerns over immigration is also economically large.[13.] The point estimates indicate that a one percentage point increase in unemployment is roughly 80 percent of the effect of a one percentage point increase in the immigrant population share.

In interpreting these results, it is important to note that our baseline specification includes several controls for the respondent's income level and employment status, including an indicator for whether he or she was unemployed during previous three months. Because of this the results reported in Table 4 for macroeconomic variables are more naturally interpreted as a measure of group threat, or concern for the welfare of the native population as a group, rather than as an indication of the perceived personal threat of immigration to the individual's economic situation.

In columns three and four, we include an interaction term to test whether the unemployment rate affects the sensitivity of concerns over immigration to the immigrant population share. Our results, a positive and significant coefficient on the interaction terms, suggest that it does. Point estimates indicate that unemployment increases economic concerns over immigration for countries in which the immigrant share of the population is greater than 6.2%, a threshold that is significantly below the sample average of 11.7%. As seen in column four, we find a similar result using cultural concerns over immigration as the dependent variable. However, in this case, the coefficient on the unemployment-immigrant population share is both smaller in magnitude, about one-third as large as that in column 3, and less precisely estimated, being significant only at the 10% level.

In columns five to eight, we study the other macroeconomic indicator: the log per capita income. Unlike the analysis of unemployment rate, in columns five and six, we find that the association between log per capita income and economic and cultural concerns over immigration are statistically insignificant.[14.] In columns seven and eight, we include both the log of per capita income and its interaction with the immigrant population share. As seen in column 7, the coefficient on the interaction term is both negative and significant, indicating that for economic concerns over immigration the strength of salience effect is falling in the level of per capita income. Our results for cultural concerns over immigration are qualitatively similar, though again, here the coefficient on the interaction term is both smaller and less precisely estimated than it was for economic concerns over immigration. Evaluated at the mean level of per capita income for our sample, a ten percent increase in per capita income reduces the size of the salience effect by 6.6% for economic concerns over immigration and by 4.5% for cultural concerns.

These results are consistent with group threat theory and, more particularly, with the hypothesis that macroeconomic conditions matter for how a country's population responds to immigration. An increase in the immigrant population share will generate a greater rise in concern over immigration in countries with poor macroeconomic environment. In addition, while the evidence suggests that the country's macroeconomic environment mediates the relationship between the foreign-born share and an individual's economic and cultural concerns over immigration, the association is both larger and more precisely estimated for economic than cultural concerns. This outcome is consistent with our results from Table 2, which suggest that economic concerns are more sensitive to the immigrant population share than are cultural concerns.

TABLE 4
MACROECONOMIC CHANNELS THAT SHAPE CONCERNS

VARIABLES	(1) EC	(2) CC	(3) EC	(4) CC	(5) EC	(6) CC	(7) EC	(8) CC
IPS	0.0441**	0.0285**	−0.00868	0.00879	0.0828***	0.0318***	0.707***	0.195**
	(2.633)	(2.735)	(−0.324)	(0.585)	(3.538)	(3.393)	(3.677)	(2.158)
UR	0.0355***	0.00217	−0.0292	−0.0220*				
	(11.10)	(0.795)	(−1.528)	(−1.845)				
IPS*UR			0.00471***	0.00176*				
			(3.335)	(2.052)				
Log GDP per capita					−0.419	0.114	0.277	0.295
					(−0.584)	(0.376)	(0.384)	(0.908)
IPS* Log GDP per capita							−0.0596***	−0.0155*
							(−3.274)	(−1.772)
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.421***	0.825***	1.440***	1.206***	2.377	−1.734	−4.143	−3.433
	(3.062)	(5.716)	(3.979)	(4.298)	(0.310)	(−0.507)	(−0.541)	(−0.969)
Observations	93,104	93,104	93,104	93,104	93,546	93,546	93,546	93,546
R-squared	0.132	0.154	0.133	0.154	0.130	0.154	0.130	0.154

NOTE: This table presents the analysis for the macroeconomic channels (country-level information on unemployment rate and GDP per capita) that should shape respondent's concerns towards immigration. The standard errors are clustered on the country level for all the regressions. t statistics in parentheses
*p < 0.10, **p < 0.05, ***p < 0.01.

Davis and Deole

National culture and salience effects

Next, we consider how national culture shapes native concerns over immigration, focusing on two dimensions of national culture, religious diversity and individualism. Contact theory suggests that a county's historical experience of religious diversity may tend to make natives less concerned with immigration and less sensitive to increases in the immigrant share of the population, while individualism is associated with reduced attachment to group identities, which may reduce the weight given to any perceived group threat from immigration.

We rely on a single measure of each variable for each country; religious diversity is measured in 1970 and Hofstede's individualism measure is constructed from survey data collected between 1967 and 1973. Because national culture is highly persistent, the use of a single observation of each variable is appropriate. A downside to this approach is that it precludes directly examining the effect of culture on concerns over immigration, as our cultural variables are perfectly collinear with the country fixed effects. Instead, we consider specifications in which national culture is interacted with the immigrant population share, which allows us to address how culture affects the presence or strength of salience effects.

Our results, presented in Table 5, indicate that national culture plays a significant role in shaping concerns over immigration and suggest significant international differences in the sensitivity of these concerns to the immigrant share of the population. In particular, we find that economic concerns over immigration are lower for countries with greater religious diversity and more individualistic cultures. For example, in a country with the mean level of religious diversity, equal to 0.341, a one percent increase in the immigrant share of the population raises economic concerns by 0.0431 standard deviations. In contrast, in a country that is one standard deviation less diverse, religious diversity = 0.12, it raises economic concerns by 0.0755 standard deviations, an effect that is seventy-five percent larger. The finding that religious diversity is associated with reduced salience

TABLE 5

MACRO CULTURAL CHANNELS THAT SHAPE CONCERNS

	(1)	(2)	(3)	(4)
VARIABLES	EC	CC	EC	CC
IPS	0.0932***	0.0320***	0.196***	0.0533***
	(6.038)	(3.954)	(12.27)	(5.838)
IPS*Religious Diversity 1970	−0.147***	−0.0169		
	(−3.490)	(−0.632)		
IPS*Individualism			−0.00207***	−0.000416
			(−4.161)	(−1.522)
Individual Controls	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Constant	−1.456**	−0.358	−1.884***	−0.369
	(−2.479)	(−0.838)	(−3.204)	(−1.042)
Observations	93,546	93,546	91,820	91,820
R-squared	0.130	0.154	0.130	0.154

NOTE: This table presents the analysis for macro-cultural channels that shape an individual's concerns towards immigration. The first two columns of the table analyze the religious channel in the form of historical presence of religious diversity in the country. Columns (3) and (4) analyze another cultural channel: Individualism - the individualistic or collectivistic values present in the culture of the respondent's country. The standard errors are clustered on the country level for all the regressions. *t* statistics in parentheses *p < 0.10, **p < 0.05, ***p < 0.01.

effects is consistent with contact theory. In particular, familiarity with one form of cultural diversity, associated with religion, may make natives less concerned with forms of cultural diversity arising from immigration.

Differences in individualism and collectivism have an economically significant effect on the size of the relationship between immigration and economic concerns over immigration. For a country with the mean level of individualism, a one percent increase in the immigrant share of the population is associated with a rise in economic concerns by 0.065 standard deviations. While for a country that is one standard deviation below the mean level of individualism, it is associated with an increase in economic concerns by 0.095 standard deviations, an effect that is roughly 50% larger. These results suggest that it makes little sense to talk about the effect of immigration on concerns over immigration in general, as this response depends very strongly on a country's cultural makeup.

Finally, note that neither religious diversity nor individualism appears to influence the sensitivity of cultural concerns over immigration to the immigrant share of the population. In particular, the interaction effects in columns two and four are not significantly different from zero. To some degree, these non-results violate our priors. For example, we expected natives in religiously diverse countries to feel less culturally threatened by immigration than natives in more religiously homogenous countries.

CONCLUSION

This paper investigates the determinants of native concerns over the economic and cultural impact of immigration. We find strong and consistent support for the salience hypothesis, the proposition that native concerns over immigration are increasing in the immigrant share of the population (Blalock, 1967). Our findings also indicate the presence of significant international differences in how native attitudes toward immigration respond to changes in the immigrant population share. In particular, we find that economic concerns over immigration are more sensitive to changes in the immigrant population share in countries with 1) higher unemployment rates, 2) lower levels of per capita income, 3) less religious diversity, and 4) more collectivist cultures. In general, cultural concerns over immigration are less sensitive to changes in the immigrant population share, and these effects appear to be weaker in a stronger macroeconomic environment. Finally, we did not find that national culture affected the strength of salience effects related to cultural concerns over immigration.

We believe these findings may be of use to policymakers in the European Union and other international bodies attempting to reduce the social and political challenges associated with immigration in a multinational setting. More generally, our results suggest caution in extrapolating results regarding attitudes toward immigration across countries or periods with different macroeconomic conditions.

NOTES

1. These studies make causal claims using single-country panel datasets, e.g. Halla et al. (2017) for Austria; Dustmann et al. (2016) and Harmon (2017) for Denmark; Otto and Steinhardt (2014) for the city of Hamburg (Germany); Sekeris and Vasilakis (2016) for Greece; Barone et al. (2016) for Italy; Brunner Kuhn & Falk (2018) for Switzerland; Becker and Fetzer (2016) for the UK. Davis & Deole (2017) provide evidence on the association between the country's immigration population share and citizens' the propensity to vote for a far-right party using European data.
2. Additionally, Podobnik et al. (2019) show that the fraction of right-wing populist voters in a given EU country may also depend on the total immigration to entire EU area as the immigration policy for

constituent countries is decided at the EU-level. More recently, Podobnik et al. (2019) introduces immigrant's integration in the host country as another determinant of the far-right populism.

3. Examples of studies relying on cross-sectional data include Quillian (1995), Espenshade and Hempstead (1996), Evans and Need (2002), Sides and Citrin (2007), Semyonov et al. (2004), Semyonov et al. (2008), Strabac and Listhaug (2008), Ceobanu (2010), Card et al. (2012), Ortega and Polavieja (2012). Studies using national panel include Dustmann and Preston (2001), Wilkes and Corrigall-Brown (2011), and Jolly and DiGiusto (2014). To the best of our knowledge, Polavieja (2016) is the only other study that uses an international repeated cross-sectional data (2004 and 2010 ESS waves) and investigates the impact of 2009 Great Recession on European's attitudes towards immigration.

4. These studies include Dustmann and Preston (2001), Semyonov et al. (2004), Wilkes and Corrigall-Brown (2011), and Jolly and DiGiusto (2014).

5. While most analyses of group threat theory focus on the unemployment rate, Friedman (2005) argues that economic growth alters people moral sentiments, making them less concerned with horizontal social comparisons and more accepting of policies that benefit excluded or marginalized groups. See Davis & Knauss (2013) for a discussion and empirical test of Friedman's hypothesis

6. We do not consider the association of refugee inflows with native attitudes, separate from other forms of immigration. For work on this, please see Zimmermann et al. (2000), O'Rourke and Sinnott (2006), Deole and Huang (2020).

7. See Guiso et al. (2006) for further discussion of this point.

8. Contact theory may appear to conflict with the salience hypothesis, since it predicts that exposure to immigrants will reduce hostility to that group. We believe these two theories are potentially compatible if one views salience effects as being about *changes* in the immigrant population share, and contact theory as being about the *level* of the immigrant population share.

9. The data for the immigrant population share in European countries is collected from OECD (2014) International Migration Outlook.

10. McCleary and Barro (2006) provide measures of religious diversity in 1900, 1970 and 2000. We view the first as too early to influence attitudes in our survey window, and the latter to be too recent. In any event, the correlation between religious diversity in 1970 and 2000 exceeds 0.95, and results using the 2000 religious diversity measure are both qualitatively and quantitively similarly to those using the 1970 measure.

11. Halla et al. (2012) use past immigrants' settlement patterns as an instrumental variable to address the issue of endogeneity in their analysis of the impact of immigrant share on the vote share of FPO in Austria. However, we consider that these historical patterns are not entirely exogenous to our modeling strategy and hence, are not appropriate instruments.

12. We employ weights provided by the survey for our study. These weights include both the design weight (DWEIGHT) and the population weight (PWEIGHT). For more information, please see "Weighting European Social Survey Data": https://www.europeansocialsurvey.org/methodology/ess_methodology/data_processing_archiving/weighting.html. The standard errors are clustered on country level for all the regressions.

13. Espenshade and Hempstead (1996) and Wilkes & Corrigall-Brown (2011) find that there exists a positive association between the unemployment rate and anti-immigration attitudes. However, Billiet et al. (2014) find no such relationship between the unemployment rate in the time of economic crisis in 2010 and the perceived ethnic threat towards immigrants.

14. Sides & Citrin (2007), Semyonov et al. (2008), and Schneider (2008) find a negative association between GDP per capita and anti-immigration attitudes. Furthermore, Billiet et al. (2014) find that both the GDP growth rate in the time of economic crisis in 2010 as well as the change in GDP growth rate over the period from 2007-2010 significantly and negatively affect the perceived ethnic threat towards immigrants.

REFERENCES

Alesina, A. and P. Giuliano
   2015   "Culture and institutions", *Journal of Economic Literature*, 53(4): 898–944.
Barone, G., A. D'Ignazio, G. de Blasio, et al.
   2016   "Mr. Rossi, Mr. Hu and politics. The role of immigration in shaping natives' voting behavior", *Journal of Public Economics*, 136(8228): 1–13. https://doi.org/10.1016/j.jpubeco.2016.03.002.

Becker, S.O. and T. Fetzer.
   2016   Does Migration Cause Extreme Voting? Warwick Working Paper Series, (306).
Billiet, J., B. Meuleman and H. De Witte
   2014   "The Relationship between ethnic threat and economic insecurity in times of Economic crisis: Analysis of European social survey data", *Migration Studies*.
Blalock, H.M.
   1967   *Toward a Theory of Minority-Group Relations. A Capricorn Giant*. Wiley, Hoboken, New Jersey.
Blumer, H.
   1958   "Race Prejudice as a Sense of Group Position", *The Pacific Sociological Review*, 1(1): 3–7.
Brunner, B. and A. Kuhn
   2018   "Cultural distance and attitudes towards immigration: Evidence from Swiss voting results", *Kyklos*, 71(1): 28–58.
Card, D., C. Dustmann and I. Preston
   2012   "Immigration, wages, and compositional amenities", *Journal of the European Economic Association*, 10(1): 78–119.
Ceobanu, A.M.
   2010   "Usual suspects? Public views about immigrants' impact on crime in European countries", *International Journal of Comparative Sociology*, 52(1–2): 114–31.
Chandler, C.R. and Y. Tsai
   2001   "Social factors influencing immigration attitudes: An analysis of data from the general social survey", *The Social Science Journal*, 38(2): 177–88.
Citrin, J., D.P. Green, C. Muste, et al.
   1997   "Public opinion toward immigration reform: the role of economic motivations", *The Journal of Politics*, 59(03): 858–881.
Davis, L.S. and S.S. Deole
   2015   "Immigration, Attitudes and the Rise of the Political Right: The Role of Cultural and Economic Concerns over Immigration". CESifo Working Paper No. 5680.
   2017   "Immigration and the rise of far-right parties in Europe", *CESifo DICE Report*, 15: 10–14.
Deole, S.S. and Y. Huang
   2020   "How do new immigration flows affect existing immigrants?". *SSRN Electronic Journal*, https://doi.org/10.2139/ssrn.3364152
Dustmann, C. and I. Preston
   2001   "Attitudes to ethnic minorities, ethnic context and location decisions", *Economic Journal*, 111 (470): 353–73.
   2006   "Is immigration good or bad for the economy? Analysis of attitudinal responses", in S. Polachek, C. Chiswick and H. Rapoport (Eds), *The Economics of Immigration and Social Diversity*, (vol. 24). Research in Labor Economics. Emerald Group Publishing Limited, Bingley, UK: 3–34.
   2016   .Refugee Migration and Electoral Outcomes. CReAM Discussion Paper Series CPD 19/16. https://doi.org/10.1016/S1043-2760(97)84344-5
Enos, R.D.
   2014   "Causal effect of intergroup contact on exclusionary attitudes", *Proceedings of the National Academy of Sciences of the United States of America*, 111(10): 3699–3704. https://doi.org/10.1073/pnas.1317670111.
Espenshade, T.J. and K. Hempstead
   1996   "Contemporary American attitudes toward U.S. immigration", *International Migration Review*, 30 (2): 535–570.
Eurobarometer 87
   2017   "Public Opinion in the European Union": http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/STANDARD/surveyKy/2142
Evans, G. and A. Need
   2002   "Explaining ethnic polarization over attitudes towards minority rights in Eastern Europe: A multilevel analysis", *Social Science Research*, 31: 653–80.
Facchini, G. and A.M. Mayda
   2008   "From individual attitudes towards migrants to migration policy outcomes: Theory and evidence", in *Economic Policy*, Blackwell Publishing Ltd, Hoboken: 653–714.

2009   "Does the welfare state affect individual attitudes toward immigrants? Evidence across countries", *Review of Economics and Statistics*, 91(2): 295–314.

Facchini, G., A.M. Mayda and P. Mishra
2011   "Do interest groups affect US immigration policy?", *Journal of International Economics*, 85(1): 114–28.

Facchini, G., A.M. Mayda and M. Mendola
2013   "What drives individual attitudes towards immigration in South Africa?", *Review of International Economics*, 21(2): 326–41.

Friedman, B.M.
2005   *The Moral Consequences of Economic Growth*. Alfred A. Knopf, New York.

Gorodnichenko, Y. and G. Roland
2011   "Which dimensions of culture matter for long-run growth?", *The American Economic Review*, 101 (3): 492–98.

Guiso, L., P. Sapienza and L. Zingales
2006   "Does culture affect economic outcomes?", *Journal of Economic Perspectives*, 20(2): 23–48.

Halla, M., A. Wagner and J. Zweimüller
2012   Does immigration into their neighborhoods incline voters toward the extreme right? The case of the freedom party of Austria. IZA Discussion papers No. 6575 (2012).

Halla, M., A.F. Wagner and J. Zweimüller
2017   "Immigration and Voting for the Far Right", *Journal of the European Economic Association*, 15 (6): 1341–1385.

Harmon, N.A.
2017   "Immigration, ethnic diversity and political outcomes: Evidence from Denmark", *The Scandinavian Journal of Economics*, Accepted. https://doi.org/10.1111/sjoe.12239

Helbling, M. and H. Kriesi
2014   "Why Citizens prefer high- over low-skilled immigrants. Labor market competition, welfare state, and deservingness", *European Sociological Review*, 30(5): 1–20.
1985   "The interaction between national and organizational value systems[1]", *Journal of Management Studies*, 22(4): 347–57.
2001   *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*. SAGE Publications, Thousand Oaks, CA.

Jaime-Castillo, A.M., I. Marques-Perales and J. Alvarez-Galvez
2016   "The Impact of social expenditure on attitudes towards immigration in Europe", *Social Indicators Research*, 1089–1108.

Jolly, S.K. and G.M. DiGiusto
2014   "Xenophobia and immigrant contact: French public attitudes toward immigration", *Social Science Journal*, 51(3): 464–73.

Knabe, A., S. Rätzel and S.L. Thomsen
2013   "Right-wing extremism and the well-being of immigrants", *Kyklos*, 66(4): 567–90.

Malchow-Moller, N., J.R. Munch, S. Schroll, et al.
2009   "Explaining cross-country differences in attitudes towards immigration in the EU-15", *Social Indicators Research*, 91(3): 371–390.

Mayda, A.M.
2006   "Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants", *Review of Economics and Statistics*, 88(3): 510–30.

McCleary, R.M. and R.J. Barro
2006   "Religion and economy", *Journal of Economic Perspectives*, 20(2): 49–72.

Nikolaev, B. and R. Salahodjaev
2017   "Historical prevalence of infectious diseases, cultural values, and the origins of economic institutions", *Kyklos*, 70(1): 97–128.

O'Rourke, K.H. and R. Sinnott
2006   "The Determinants of Individual Attitudes towards Immigration", *European Journal of Political Economy*, 22(4): 838–61.

OECD
2014   *International Migration Outlook*, OECD Publishing, Paris.

Oliver, J. and J. Wong
  2003   "Intergroup prejudice in multiethnic settings", *American Journal of Political Science*, 47(4): 567–582.

Ortega, F. and J.G. Polavieja
  2012   "Labor-market exposure as a determinant of attitudes toward immigration", *Labour Economics*, 19 (3): 298–311. https://doi.org/10.1016/j.labeco.2012.02.004.

Otto, A.H. and M.F. Steinhardt
  2014   "Immigration and election outcomes - Evidence from city districts in Hamburg", *Regional Science and Urban Economics*, 45(1): 67–79.

Podobnik, B., I.S. Kirbis, M. Koprcina, et al.
  2019   "Emergence of the unified right- and left-wing populism—When radical societal changes become more important than ideology", *Physica A: Statistical Mechanics and Its Applications*, 517: 459–474.

Polavieja, Javier G.
  2016   "Labour-market competition, recession and anti-immigrant sentiments in Europe: occupational and environmental drivers of competitive threat", *Socio-Economic Review*, 14(3): 395–417.

Quillian, L.
  1995   "Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe", *American Sociological Review*, 60(4): 586.

Scheve, K.F. and M.J. Slaughter
  2001   "Labor market competition and individual preferences over immigration policy", *Review of Economics and Statistics*, 83(1): 133–45.

Schneider, S.L.
  2008   "Anti-immigrant attitudes in Europe: Outgroup size and perceived ethnic threat", *European Sociological Review*, 24(1): 53–67.

Sekeris, P. and C. Vasilakis
  2016   "The mediterranean refugees crisis and extreme right parties: Evidence from Greece", *Mpra*, 72222: 1–14. https://doi.org/10.1227/01.NEU.0000349921.14519.2A.

Semyonov, M., R. Raijman and A. Gorodzeisky
  2008   "Foreigners' impact on European societies: Public views and perceptions in a cross-national comparative perspective", *International Journal of Comparative Sociology*, 49(1): 5–29.

Semyonov, M., R. Raijman, A.Y. Tov, et al.
  2004   "Population size, perceived threat, and exclusion: a multiple-indicators analysis of attitudes toward foreigners in Germany", *Social Science Research*, 33(4): 681–701.

Senik, C., H. Stichnoth and K. Van der Straeten
  2009   "Immigration and natives' attitudes towards the welfare state: Evidence from the European social survey", *Social Indicators Research*, 91(3): 345–70.

Sides, J. and J. Citrin
  2007   "European opinion about immigration: The role of identities, interests and information", *British Journal of Political Science*, 37(03): 477–504.

Strabac, Z. and O. Listhaug
  2008   "Anti-Muslim prejudice in Europe: A multilevel analysis of survey data from 30 countries", *Social Science Research*, 37(1): 268–86.

Vallas, S.P., E. Zimmerman and S.N. Davis
  2009   "Enemies of the state? Testing three models of Anti-Immigrant sentiment", *Research in Social Stratification and Mobility*, 27(4): 201–17.

Wilkes, R. and C. Corrigall-Brown
  2011   "Explaining time trends in public opinion: attitudes towards immigration and Immigrants", *International Journal of Comparative Sociology*, 52(1–2): 79–99.

Zimmermann, K.F., T. Bauer and M. Lofstrom
  2000   "Immigration Policy, Assimilation of Immigrants and Natives' Sentiments towards Immigrants: Evidence from 12 OECD-Countries", *Swedish Economic Policy Review*, 7: 11–53.