

The Divide Over Independence: Explaining Preferences for Secession in an Advanced Open Economy*

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Abstract

According to the literature on secession, wealthy regions have both motives and opportunities to separate from the host state. Are individual preferences for secession also informed by economic considerations? Building on international political economy and studies on nationalism, we examine the explanatory leverage of individual-level economic considerations and social orientations in forging secession preferences. We rely on data from an original online survey conducted days before the snap regional election held in Catalonia in December 2017, which followed a (suspended) proclamation of independence. We show that trade ties with the state inform secession preference only after identity considerations. Secession supporters are more educated and favor immigration, deviating from antiglobalization movements in Europe. The effect of education, which otherwise challenges the factor returns trade model, is channeled by levels of awareness with the system of interregional transfers. The economic roots of secessionist (and unionist) demands offer an opportunity for transactional politics.

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1 Introduction

War has been the main driver of statehood from the inception of the state in 3000 BCE to date. Nonviolent and democratic self-determination processes have emerged as an alternative path to statehood only recently. Originally believed to be applicable only in countries under colonial rule, self-determination has reached developed economies and beyond. Quebec in 1995 and Scotland in 2014 are examples of peaceful democratic referendums for independence in noncolonial territories.

Far from being exceptional, demands and referendums for self-determination have steadily increased since 1945 (Cunningham and Sawyer 2017 and Mendez and Germann 2018, respectively). This trend is likely to continue because international economic integration reduces the economic costs of separation and the relevance of country size (Alesina and Spolaore, 1997; Casella and Feinstein, 2002). Existing accounts of secession and self-determination emphasize the political and economic factors underlying such demands (Collier and Hoefler, 2006; Gurr, 2000; Hechter, 2001; Horowitz, 1985; Jenne, Saideman, and Lowe, 2007; Sambanis and Milanovic, 2014; Sorens, 2008), and focus on the relative bargaining power of the central state vs. secessionist groups (Breton and Weber, 2003; Buchanan and Faith, 1987; Cunningham, 2014; Griffiths, 2016; Sorens, 2012, 2016). By comparison, we know little about the determinants of individual preferences for secession. Why are some individuals willing to assume the costs of breaking apart from the host state?

The few individual-level accounts of secession preferences emphasize identitarian considerations but omit anticipated potential economic shocks from independence, e.g., exclusion from international trade treaties. We seek to close that gap by studying the micro-foundations of secession support in an open, advanced economy. We inform the hypotheses from canonical work in international political economy, which connects individual economic characteristics, ethnocentric, and cultural considerations to preference for global economic integration (e.g., Hainmueller and Hiscox 2006 and Scheve and Slaughter 2001). Ansell (2017), Ballard-Rosa, Malik, Rickard, and Scheve (2017), and Fetzer (2018) follow a simi-

lar strategy to shed light on the economic drivers of Brexit and the rise of UKIP—namely austerity, declining economic status, and trade shocks. We seek to contribute to this literature by examining the economic motivations of a related but potentially wider phenomenon: seceding from a state.

To that end, we jointly examine individual-level economic and identitarian motivations of secession. Only a joint analysis of both drivers of secession support allows us to establish their relative weight. If the economic rationale for secession is trumped by identitarian considerations, the set for transactional politics—namely addressing economic motivations of secession to preempt a country split (Buchanan and Faith, 1987)—becomes empty. We examine the two drivers of secession demands in Catalonia.

In the last 10 years, this northeastern region of Spain experienced an unprecedented growth in demand for self-determination and secession. A concatenation of events in fall 2017, including the organization of a referendum for independence not sanctioned by Spanish authorities and violently repressed by Spanish police, suspended Catalan self-government and precipitated a snap regional election on December 21, 2017. Stakes were high as both pro-independence and unionist supporters read this election as a covert referendum for independence—one that would ratify or delegitimize the declaration of independence by the Catalan Parliament two months earlier. We conducted an original online survey in the days and hours preceding that election. The survey embedded various experimental and behavioral instruments to disentangle the relative weight of economic interests and social orientations.

The central finding is that trade ties and levels of education are the most powerful predictors of preference for secession only after identitarian considerations. The effect for trade ties is consistent with the Ricardo-Viner sector model and the “new new theory” of trade, which emphasizes firm-level heterogeneity (Kim, 2017): Individuals employed in sectors and firms with strong ties with the rest of the Spanish market show systematic opposition to secession, presumably in anticipation of negative trade shocks following independence. We also show

that the effect of trade ties works mainly through exports, not imports; that is, aversion to independence in Catalonia comes from the fear of losing access to Spanish consumers. Import penetration does not make respondents more or less likely to support independence.

Second, skill levels (proxied by education and occupation) predict support for independence. This result challenges the logic of comparative advantage in the Heckscher-Ohlin factor model of trade. A priori, high-skilled individuals in a capital-intensive economy have the most to lose by separating from a host state and potentially exiting international trade agreements. To understand why education and skills predict secession support, we draw from the literature on self-determination, which points to grievances about interterritorial fiscal transfers as a common cause for independence claims (Bolton and Roland, 1997; Sambanis and Milanovic, 2014). We show that the effect of education is indeed confounded by awareness of interterritorial transfers; that is, the more educated are also the most knowledgeable about the often controversial Spanish system of interterritorial redistribution. There lies the skill–secession association. Our data does not support alternative mechanisms, including social extraction, indoctrination by Catalan schools, or heterogeneous expectations about exiting the European Common Market and the Euro Zone.

Third, nationalism (Catalan and Spanish), and Catalan ancestry (i.e., one, two, or more generations of Catalan ancestors) play a key role in configuring preferences for secession. These preferences, however, seem to characterize socialization rather than ethnic extraction: regardless of origin, support for independence increases linearly in the number of Catalan-born generations in the same family. Anti-immigrant attitudes correlate with unionism. Neither cosmopolitanism nor protectionism is associated with separatism or unionism. Combined, secession demands seem to conform with civic, as opposed to ethnic, notions of nationalism (Brubaker, 2004; Snyder, 2000).

We conduct a broad range of robustness tests, including graded and binary measures of support for independence and a behavioral outcome variable. Following Bechtel, Hainmueller, and Margalit (2014), we offer respondents the possibility to send on their behalf a

non-anonymous message to the president of the Catalan Parliament stating their position on independence. Given the political context of suspended autonomy and the imprisonment of Catalan leaders, we expect this behavioral survey instrument to convey truthful preferences for secession. The analysis of this measurement confirms that education, trade ties with Spain, and nationalist considerations are key elements in structuring respondents' preferences.

Our analysis relies on observational data. We seek to minimize endogeneity in attitudinal questions by working with hardly manipulable individual characteristics (e.g., we use family origin instead of self-reported national identity), objective measures of trade ties, and exploiting recent experimental techniques in survey research. Despite the intrinsic limitations of survey data, our findings open new venues of research of an increasingly popular path to state formation. We believe that some of the mechanisms advanced in this paper, which might be puzzling in light of standard trade models, are worthy of further exploration ideally in a more controlled setting.

Our results speak to a host of separatist regions the identities of which were historically modeled by linguistic, political and economic factors, e.g., the Basque Country, Scotland, Quebec, Flanders, or Corsica. Previous research has emphasized the primary role that identity-related factors play in explaining votes for nationalist parties and in shaping preferences for further autonomy in these territories (Blais and Nadeau, 1992; Boonen and Hooghe, 2014; Burg, 2015; Costa-Font and Tremosa-Balcells, 2008; Muñoz and Tormos, 2015; Paterson, O'Hanlon, Ormston, and Reid, 2014). We show, for the first time as far as we know, that economic and informational considerations also shape individual preferences for secession and remaining. These mechanisms, in play in the Catalan case, should be generally applicable in other advanced economies with territorially concentrated separatist movements. In the conclusion, we speculate how individual-level preferences have been packaged by regional political parties and other political entrepreneurs to fuel secessionist demands (Brancati, 2006).

2 The Politics of Secession

The Catalan affair garnered international attention in fall 2017 when footage of Spanish police brutally charging Catalan voters reverberated on international networks. The Spanish constitutional crisis, however, originated 10 years earlier. In 2006, Catalan citizens voted in a referendum for a new regional constitution (*Estatut d'Autonomia*, Statute of Autonomy) that had been previously approved in both the regional and national Parliaments. The new Estatut was the outcome of a difficult negotiation process involving national and regional governments, parliaments, and political parties. Four years later, in June 2010, a decision of the Spanish Constitutional Court in response to the appeal of the conservative *Partido Popular* (Popular Party, PP) and some regional governments from that party, curtailed the *Estatut*. Importantly, the ruling nullified a symbolic article that defined Catalonia as a nation. The Constitutional Court's decision was perceived as an affront by regional political parties and many citizens in Catalonia, and it helped the prosecession movement to gain momentum.

Following an initiative to hold nonofficial referendums for independence in Catalan municipalities, the *Assemblea Nacional Catalana* (ANC, National Catalan Assembly) was constituted in 2011. The grass-roots organization has been a key actor leading the prosecession movement ever since, pushing nationalist parties to accelerate the secession process (Crameri, 2015). After a massive pro-independence demonstration, organized by the ANC, took place in Barcelona in 2012, Artur Mas, the regional president, called for early regional elections.¹ The November 2012 regional election took place in a context of economic harshness, austerity policies, and political dissatisfaction. After the elections, *Convergència i Unió* (CiU) formed a minority government with the parliamentary support of *Esquerra Republicana de Catalunya* (ERC, *Republican Left of Catalonia*), the long-established prosecession party.

The CiU and ERC then agreed to call for a referendum for independence in November

¹One and a half million marched on that demonstration (out of 7.5 million total population). See "[Huge Turnout for Catalan Independence Rally](#)." *BBC*, September 11, 2012.

2014. More than 2.3 million people participated in the nonbinding referendum. The “yes” option was supported by over 80% of participants, but turnout was estimated at 40.2%.² New regional elections were called again in 2015, two years ahead of schedule. This time the elections were framed by secessionist parties as a plebiscite of independence. *Convergència*, the main party in the CiU coalition, and ERC concurred to the elections with a joint list, *Junts pel Sí* (JxSi, Together for Yes). In those elections 75% of the electorate voted. Pro-independence parties achieved a majority of seats in the Catalan Parliament, and gained 47% of the popular vote.

Pro-independence parties then activated a plan to create new institutions for the future state and to hold a new—this time binding—referendum for independence. The referendum, which was called for October 1, 2017, was deemed illegal by the Spanish Constitutional Court. Unlike in 2014, the Spanish government actively opposed the vote: the websites with information on the referendum were blocked, and thousands of Spanish police officers were deployed in Catalonia to prevent voters from entering the polling stations. On October 1, Spanish police responded violently to citizens’ passive resistance and willingness to cast their vote. Events of the weeks after the referendum were convoluted. On October 27 the Catalan Parliament declared independence; the Spanish government dismissed the Catalan government, dissolved the Catalan Parliament, and imposed direct rule. Immediately afterward, it called for snap regional elections to be held on December 21, 2017. The election was read as a covert plebiscite about the declaration of independence made by the Catalan Parliament weeks earlier. By election day regional autonomy was suspended, and the leaders of the separatist parties and civil society organizations (e.g., ANC) were imprisoned or had fled the country. In this context we expect individuals to hold clear preferences about whether they favor or oppose independence. To retrieve them, we conducted a survey during the days and hours preceding the election.

²The regional government did not publish official results.

3 Determinants of Secession

Two main questions guide research on self-determination: One focuses on the conditions under which some territories are more likely to demand secession from the central government. The other examines the conditions under which secession demands are accommodated by central governments.

The rise of secessionist demands has been associated with the existence of distinctive ethnic and cultural traits and identity (Sorens, 2012; Toft, 2012), the territorial concentration of ethnocultural minorities (Collier and Hoeffler, 2006; Hechter, 2001; Jenne et al., 2007; Toft, 2012), the credibility of the exit option (Siroky, Sean, and Michael, 2016), the international support for the secessionist movement (Jenne et al., 2007), political discrimination, and a history of political autonomy and loss thereof (Hale, 2000; Horowitz, 1985; Siroky and Cuffe, 2015). Economic disparities and the presence of natural resources facilitate the rise of secession movements too (Buchanan and Faith, 1987; Collier and Hoeffler, 2006; Gurr, 2000; Hale, 2000; Hechter, 2001; Siroky et al., 2016). Wealthier regions, the argument goes, would not only perform better if they stopped subsidizing poorer regions, but they would also be more capable of assuming the costs of independence (Sambanis and Milanovic, 2014). Decentralization and fiscal federalism also facilitate the rise of secessionist demands. Originally conceived as an instrument to appease ethnonational conflicts, decentralization of policies and resources may contribute to strengthening regional parties and their opportunities to promote ethnic mobilization and, ultimately, secession (Brancati, 2006).

A second strand in this literature investigates the conditions under which the central government accommodates secession demands: this research has turned attention to the unitary or divided nature of self-determination movements (Cunningham, 2014), the coherence between secessionist movements and administrative divisions (Griffiths, 2016), and the external support for and recognition of secessionist territories by the strongest members of the international community (Coggins, 2014). Secession is portrayed in these studies as a bargaining tool for extracting political or economic concessions from the center (Jenne et al.,

2007).

That the two traditions of secession studies put attention on characteristics of the secessionist territories and groups should now remain clear. Despite the many insights provided in that literature, we still know little about *individual-level* preference for secession. Far from homogeneous blocks, secessionist territories are characterized by a multiplicity of preferences as exemplified by the Quebecois and Scottish referendums for independence, both highly competitive.

The empirical work at the individual level shows that regional identity is the driving factor in structuring preference for independence (Blais and Nadeau, 1992; Boylan, 2015; Burg, 2015; Howe, 1998; Muñoz and Tormos, 2015; Nadeau and Fleury, 1995; Rodon and Guinjoan, 2018; Serrano, 2013). A few scholars have also pointed to the relevance of economic considerations. Boylan (2015), for example, shows that preference for independence in Catalonia is linked to individuals' aspiration to gain full powers over taxation and spending. Muñoz and Tormos (2015) argue that support for independence is greater among those who believe that secession will improve the region's economic performance. They address the endogeneity of individuals' beliefs and secession preferences by administering positive and negative messages of sociotropic economic consequences of secession in Catalonia. The average treatment effect (ATE) in their study is small but positive. Heterogenous effects are present among respondents with dual identities or low party identification. In a similar fashion, Muro and Vlaskamp (2016) analyze the impact of positive and negative information treatments on the prospects of EU membership of an independent Scotland and Catalonia. In Scotland, ATEs are null for both stimuli; in Catalonia, only the positive treatment changes support for independence. Both sets of results illustrate, however, the difficulty of manipulating perceptions in a highly polarized context (Zaller, 1992).

In light of this methodological challenge, we take a different route: we focus on plausibly exogenous individual-level characteristics that speak to key drivers of secession preference—namely identity and economic calculations—a common research design in the inter-

national political economy (IPE) literature that is missing in the existing work on secession.

3.1 Social Orientations and Traits

As previously mentioned, attachment to the regional culture, language or ethnic group has been argued to be the main driver of individuals' preference for secession. Individuals derive utility from conforming with their identity prescriptions and supporting the goals of the group (Akerlof and Kranton, 2000). Empirically, however, the relationship between identity and preference for secession is riddled with endogeneity problems (Costa-Font and Tremosa-Balcells, 2008). Individuals with strong preference for secession also tend to identify more strongly with the prosecession region. To circumvent this challenge we exploit the connection between regional self-identification (endogenous) and the birthplaces of our respondents, which is a nonmanipulable feature.

We take advantage of the heterogeneous origins of Catalan residents resulting from internal and foreign migration, preceding the rise of secession support in the 2010s. Between the 1940s and 1970s, Catalonia experienced various waves of internal migration from poorer regions of Spain. Along with low-skilled internal migrants, a number of public servants, police, and military forces from other parts of Spain settled permanently in Catalonia (Solé, 1981). Compared to older generations, first and second-generation Catalans systematically exhibit lower adherence to Catalan identity. We exploit this property in the empirical analysis to overcome endogeneity issues.

Support for xenophobic and far-right parties has risen in France, the UK, Hungary, and many other European economies coinciding with the economic crises and exposure to international competition (Ballard-Rosa et al., 2017; Colantone and Stanig, 2018; Malgouyres, 2017). Secessionists might respond to the same stimuli, hence share economic roots with non-secessionist nationalist movements. Accordingly, we would expect support for independence to be overrepresented among individuals who favor trade protection and hold anti-immigrant attitudes.

Because secession limits territorial redistribution and creates ethnically homogeneous territories, pro-independence supporters may also show low levels of altruism and cosmopolitanism, defined as “the extent to which people have an interest in, and orientation toward, groups of individuals who are distant from them, geographically or culturally.” (Bechtel et al., 2014, 839). Finally, secession might be interpreted as an expression of lack of solidarity with poorer regions in Spain in direct confrontation with a progressive, redistributive agenda. Were that the case, we should expect an overrepresentation of conservative voters among pro-independence supporters.

3.2 Economic Self-Interest

We expect economic self-interest to structure preference for secession in the same manner that it shapes preferences for trade (Mayda and Rodrik, 2005; Scheve and Slaughter, 2001a), immigration (Scheve and Slaughter, 2001b), monetary policies (Frieden, 1991), and international redistribution (Bechtel et al., 2014). Surprisingly, the literature on secession usually omits egocentric considerations; however, the cost and benefits of secession are expected to vary across individuals based on their economic status, position in the labor market, and economic ties to the host state.

Secessionist territories are often wealthier than the host state. Were independence granted, the median voter in the seceded territory would lie to the right of the median voter in the original political unit. A more affluent median voter implies a decrease in the tax rate levied on the higher echelons of the income distribution (Beramendi, 2012; Hechter, 2001; Sambanis and Milanovic, 2014); hence, the wealthy in the secessionist territory should favor independence, everything else constant.

Low-income individuals may also favor secession, particularly if it reduces transfers to poorer segments of the host state (Beramendi, 2012). Individuals in the lower echelons of the income distribution may prefer tax revenue to be spent locally, either as public-funded consumption or in new infrastructure. This could well be the case in Catalonia, where low-

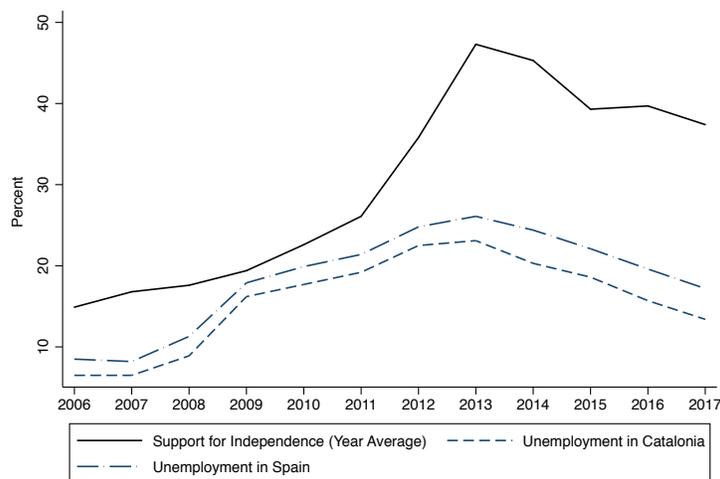
income earners pay 11% more in income taxes than low-income earners in the rest of Spain.³ Together, tax pressure and spending considerations suggest a U-shaped relationship between income levels and support for independence.

Secession might be followed by an economic downturn, at least in the short run. Individuals might face different levels of risk depending on their occupational status. The new state might strain to finance retirement pensions or pay for unemployment benefits. Waiting for better times might be unaffordable for an aged population that lives on retirement pensions or for the unemployed who receive welfare benefits. Accordingly, support for secession should decrease with age and unemployment status as well as among individuals on welfare, particularly if provided by the central state.

The reverse is also possible: the unemployed might see independence as a solution to their misfortune. This is most compelling when local elites are good at taking credit when the economy is strong and shifting blame to the central government when it is poor (Queralt, 2012). Following this logic, in the Catalan case we expect a surge in secession support following the onset of the economic crisis in 2008, which led to unprecedented levels of unemployment. Figure 1 shows that preference for independence and unemployment surged about the same time. Using aggregate data, Cuadras Morató and Rodon (2017) show that the economic crisis cannot account for the surge in secessionist support in Catalonia. Our survey data allows us to avoid any ecological fallacy in analyzing the connection between unemployment and secession preferences.

Other channels connect economic self-interest to support and opposition for independence. Public employment is one of them. Individuals whose jobs depend directly on the host state should oppose independence, everything else constant. In the presence of regional and local bureaucracies, we expect public servants in the central government to be relatively less favorable to secession than public servants in the regional and local government.

³Income tax progressivity in Catalonia is lower than in other Spanish regions. High-income tax earners pay rates similar to those in other regions. Thus, the tax rate compression in Catalonia comes from the relatively high rates levied on the low end of the income distribution. See: [“Cataluña Aplica en 2018 el Mayor IRPF para las Rentas Bajas y Valencia, para las Altas”](#), *Cinco Días*, February 19, 2018.



Source: CEO Barometer for Preferences for Secession. IDESCAT for Unemployment levels

Figure 1: **Support for Independence and Unemployment Levels Before and After the 2008 Economic Crisis.**

Trade ties between the secessionist territory and the rest of the host state are expected to inform preference for secession. If independence implies changing trade partners—either resulting from retaliation from the host state’s consumers or because independence implies exiting a free-trade international treaty—trade shocks should definitely make a difference. These calculations may be grounded on factor endowment (e.g., skill levels) or sector competitiveness. According to the Hercksher-Ohlin model, in a capital-intense economy high-skilled individuals benefit most from participating in the international markets because they exploit their comparative advantage. Trade shocks following secession may discourage this group while making low-skilled individuals more supportive of independence—namely a reduction in trade openness favors the scarce factor.⁴ When factor mobility across sectors is low in the short-run—a common phenomenon—trade gains and losses from independence may be assessed based on sector competitiveness rather than factor endowment—the Ricardo-Viner model. Individuals employed in sectors that are net exporters to the host state should be wary of independence. By the same token, individuals employed in sectors that are import-competing might support independence in expectation of the adoption of tariffs on imports

⁴See Lake (2009, p.13) for a similar conjecture.

from the host state, thus trade protection. Along the same lines, proponents of the “new, new trade theory” argue that individuals base their expected gains from trade (or protection) on firm rather than sector international competitiveness (Kim, 2017). We consider both levels of aggregation.

4 Data and Measurement

We investigate individual-level determinants of secession support based on an original online survey conducted in Catalonia between December 15 and 21, 2017, the election day. To avoid contamination effects, we completed the field minutes before polling stations were closed and the first polls were released. We commissioned Netquest, a leading private survey firm in Spain, to implement the survey. To be eligible for the survey, respondents had to be Spanish nationals over 18 living in Catalonia. In total, we recruited over 2,100 respondents.⁵ We adopted a quota sample based on age, gender, and education. In addition, we apply entropy balancing (Hainmueller, 2012) to match our sample to the demographic margins from the voter population. Table A-1 shows the un-weighted and weighted samples compared to the general population. We used the weighted samples for all subsequent analyses.

Support for independence is measured as a continuous variable, and as a binary choice. In the continuous version we asked respondents how likely they would be to vote in favor of independence if an internationally recognized referendum were held in Catalonia (five categories). Immediately afterward, we asked them what their vote would be if the only answers were Yes and No. The distribution of both variables appears in Table 1. Support for and opposition to independence are virtually tied, consistent with the outcome of the regional election that took place only hours after the survey: proindependence parties received 47% of votes.⁶

⁵This study was reviewed and granted an exemption by the Human Subjects Review Committee at [Anonymized] University.

⁶Notice that in our continuous and dichotomous dependent variables, respondents were asked for their position on an “internationally recognized” referendum. We chose this wording purposely. Much of the political debate preceding the unofficial referendum on October 1, 2017, surrounded its legitimacy. Supporters

Table 1: **Continuous and Binary Measures of Vote in Support for Independence.**

Continuous		Binary	
Most likely in favor	33.3	Yes	43.3
Likely in favor	11.7	No	44.1
Not in favor, not against	10.9	Abstain	5.5
Likely against	12.8	Don't Know	7.0
Most likely against	31.3		

All models include a host of socioeconomic controls, age, gender, household income, and education level. We also include province fixed effects to capture regional variation in support of secession.⁷ Following Bechtel et al. (2014), we transform age, income and education levels into categorical variables. This change allows us to identify nonlinearities while simplifying coefficient comparison.⁸

We use place of birth of respondents and their parents to determine Catalan Ancestry, establishing four categories: first-generation respondents, or individuals who immigrated from other regions of Spain or abroad; second-generation respondents, neither of whose parents are Catalan; and respondents who have one Catalan parent; and respondents both of whose parents are Catalan. Ancestry correlates highly with self-reported measures of national identity;⁹ however, unlike any self-reported measure of identity, the place of birth is nonmanipulable.¹⁰

We investigate the nature of social orientation to find similarities and differences with

in favor of remaining did not participate in the referendum because they did not consider it legitimate. By appealing to an internationally recognized referendum, we expect to overcome the reluctance to recognize a referendum for independence. This wording might legitimize (or minimize the costs of) secession. Our behavioral measure, discussed below, overcomes this while eliciting truthful preference for secession in the midst of a convulsive political context.

⁷These provinces are: Barcelona, Girona, Lleida, and Tarragona. In Table A-4 we dismiss any systematic difference by municipality size.

⁸Refer to Appendix A for coding details.

⁹The “Linz question,” which offers five categories of national identification (“Only Catalan; more Catalan than Spanish; as Catalan as Spanish; more Spanish than Catalan; only Spanish”), correlates at 0.49 with Catalan Ancestry.

¹⁰We dismissed preferred language of communication (Catalan, Spanish, or both) for the same reason; it is an individual choice, thus, endogenous. To further capture our respondents’ emotional ties with Spain, we asked them whether they currently had family in other regions of Spain. Three-quarters of respondents did. This variable is a strong predictor of the remaining option. It correlates highly with our Catalan Ancestry variable, yet the latter offers more fine-grained information.

other nationalist movements in Europe. Nationalism can work both ways: Catalan nationalists might push for independence in the same manner that Spanish nationalists might push for recentralization. To measure nationalism bidirectionally, we asked respondents to what extent they agreed with the following statement: *“In general [political unit] is better than most other countries.”* In this survey question, common in IPE and the literature of nationalism, respondents agree on the political unit of reference. The latter is, however, disputed in a secessionist territory. To address this, we modified the prompt and plugged in “Spain” or “Catalonia” in the question statement based on self-reported identity, which was asked immediately before. For instance, someone who self-identifies with Spain would read *“Spain is better than most other countries.”*¹¹ The range of Nationalism goes from -5 (Full agreement with “Spain is better than most other countries”) to 5 (Full agreement with “Catalonia is better than most other countries”).

At the very beginning of the survey, we informed respondents that one of them would win a €100 Amazon gift card in a random drawing of participants in the survey. Should the respondent win, we proposed that he or she donate the equivalent value in money or a fraction of it to a charity. Our indicator for altruism classifies individuals in two groups: those who agreed to donate the totality or part of the gift to a charity (1), and those who did not agree (0).

To measure cosmopolitanism, we asked respondents the extent to which they agreed with the following statement: *“Even if media offers information about national and local issues, these news items are not as interesting as international information”* (yes/no). This is a modified version of Dye’s (1963) original wording for the cosmopolitanism measure, in which we pool together national and local news and compare these to international news.

Opinions about immigration are subject to social desirability. To minimize it, we added a fiscal cost to immigration and requested agreement with the following statement: *“Illegal immigrants should have full access to public health”* (yes/no). By adding a fiscal justification

¹¹We used “Spain” for those self-identifying “as Catalan as Spanish.”

to prejudice, we hope to capture anti-immigration attitudes more effectively. Finally, we retrieved opinions about trade protection by asking: “*Should imports be limited to protect the domestic economy?*” (yes/no).

We measure aspects of economic self-interest other than income levels in different ways. First, we are interested in understanding the effect of the economic crisis on support for independence. Economic evaluations of the economy are exposed to endogeneity issues. To overcome this, we rely on a single but strong measure of individual exposure to the economic crisis: unemployment status. We classify active population into three groups: employed, short-term unemployed (less than 12 months), and long-term unemployed (more than 12 months).¹²

Finally, we seek to know the extent to which the material well-being of respondents depends on the Spanish economy. We asked them whether they received any benefit from the Spanish central government specifically (e.g., retirement and disability pensions) and whether they worked for the national, regional, or local administration. Because trade ties with Spain and Europe are potentially relevant, too, we asked respondents how many clients and providers (separately) the firm they work for has in other parts of Spain, and Europe (excluding Spain), separately. We classify responses in three categories: no trade ties, weak ties, strong ties. In addition, we asked respondents the sector in which they were employed. We followed the NACE Rev 2.1 two-digit industry classification scheme, matching that information with official two-digit sector export to and import value from the rest of Spain as percentage of sector production. That allows us to compare subjective and objective trade ties measures. Appendix A offers further description of the data and coding decisions.

¹²In Appendix B we control for a raw measure of job status: full-time employed, part-time employed, on public pension, unemployed (no length distinction being made), in education, domestic work, and other. Only students are significantly predisposed in favor of independence. All other coefficients are zero.

5 Results

Table 2 focuses on socioeconomic characteristics, demographic traits, and social orientations. All models build from Column 1, which includes a host of socioeconomic controls: age, education, female gender, and income. The first Column regards various hypotheses in the literature. First, no evidence of a linear (or curvilinear) relationship emerges between individual income and preference for secession.¹³ Second, we find a strong correlation between educational levels and support for independence, a result that seemingly challenges the factor model of trade. We return to it in the mechanism section. Third, we find no aversion to independence as individuals approach retirement age, 67 years old in Spain. If any, the older cohort shows a strong preference for independence, a result repeated across models.¹⁴ Fourth, results show that women are less favorable to independence, a result that is consistent with women’s higher aversion to constitutional change (Verge et al., 2015).

In Columns 2 to 4 we assess the effect of social orientations. We begin with ideology. This variable ranges from 0 to 10, the latter denoting far right. Support for independence concentrates among individuals on the left side of the ideological spectrum. This result is consistent with other work that shows Catalans as reluctant to identify with conservative positions because these are associated with political centralization (Dinas, 2012). In Column 3, we include a nonmanipulable predictor of Catalan identity, catalan ancestry. As expected, this variable has a large (and approximately linear) impact on support for independence. Interestingly, it suggests that preference for secession results from socialization in the local culture, not ethnic background. This is exemplified with second-generation respondents, who show a stronger preference for secession than their parents’ generation.

To assess similarities and differences with recent xenophobic and antiglobalization move-

¹³Table A-4 corroborates these results based on the continuous versions of income, education and age.

¹⁴We data-minded this result in search of an explanation: This group is well-distributed in terms of key socioeconomic characteristics. We find an interesting difference in their perception of the state of civil liberties in Catalonia. Older cohorts show a worse evaluation of civil rights than younger ones, the difference being statistically significant. Recent events in Catalonia (e.g., police brutality on October 1, imprisonment of secessionist politicians and civil society leaders, or the suppression of regional autonomy) might be particularly sensitive for a generation that lived under autocratic rule.

Table 2: **Socioeconomic and Identitarian Determinants of Secession Preferences.**

	(1)	(2)	(3)	(4)
Low-High School	0.282* (0.149)	0.269** (0.136)	0.114 (0.120)	0.115 (0.086)
High-High School	0.532*** (0.139)	0.443*** (0.129)	0.245** (0.114)	0.189** (0.081)
University/College	0.612*** (0.144)	0.540*** (0.133)	0.357*** (0.114)	0.232*** (0.087)
Cohort: 30-39	-0.039 (0.132)	-0.100 (0.118)	0.073 (0.119)	-0.059 (0.092)
Cohort: 40-49	0.072 (0.133)	-0.041 (0.119)	0.120 (0.114)	-0.096 (0.085)
Cohort: 50-59	-0.057 (0.142)	-0.101 (0.131)	0.137 (0.122)	0.032 (0.094)
Cohort: ≥ 60	0.356** (0.149)	0.406*** (0.134)	0.468*** (0.123)	0.023 (0.089)
Female	-0.106 (0.101)	-0.174* (0.091)	-0.119 (0.081)	-0.115* (0.059)
Income Category: Low	0.041 (0.139)	0.095 (0.126)	0.178 (0.118)	0.062 (0.085)
Income Category: Middle	0.042 (0.144)	0.051 (0.129)	0.096 (0.113)	-0.032 (0.086)
Income Category: High	-0.097 (0.148)	-0.026 (0.131)	0.029 (0.120)	-0.143* (0.083)
Income Category: Very High	-0.067 (0.178)	0.074 (0.159)	0.132 (0.138)	-0.044 (0.105)
Ideology (L-R)		-0.314*** (0.017)	-0.287*** (0.017)	-0.099*** (0.013)
2nd Gen.			0.347*** (0.114)	
3rd Gen., One Catalan Parent			0.992*** (0.116)	
3rd Gen., Two Catalan Parents			1.630*** (0.104)	
Nationalism				0.455*** (0.010)
Protectionism				0.013 (0.030)
Altruism				-0.027 (0.062)
Cosmopolitanism				0.055 (0.036)
Anti-immigrant				-0.106*** (0.026)
Constant	2.566*** (0.192)	3.683*** (0.188)	2.845*** (0.188)	1.084*** (0.220)
Province FE	Y	Y	Y	Y
Observations	2,100	2,100	2,100	2,100
R-squared	0.033	0.206	0.355	0.646

OLS coefficients shown with standard errors in parentheses (***p<0.01, **p<0.05, *p<0.1). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Cohort: 18-29; Income Category: Very Low; First-Generation Catalan.

ments in Europe, in Column 4 we replace the nonmanipulable measure of national identity for a battery of social orientations. Nationalism, either Spanish or Catalan, structures preferences for independence and remaining, respectively. Trade protectionism, cosmopolitanism, and the behavioral measure for altruism are not related to preferences for independence, but anti-immigrant attitudes are. Specifically, anti-immigrant attitudes are overrepresented in the remain block.¹⁵ Together, these results show that prosecession preferences in Catalonia do not share the antiglobalization roots of recent xenophobic movements in Europe. Catalan separatism would fit the notion of “civic nationalism” used to define Scottish and Québécois nationalism (Keating, 1996).

Figure 1 showed that support for secession surged coinciding with the worst years of the economic crisis. In Column 1 of Table 3 we indeed find a connection between the economic crisis, its devastating effects on unemployment, and the upsurge of pro-independence preferences. Respondents who had been unemployed for more than one year by the time we fielded the survey were more likely to support independence.

In the remainder of Table 3 we further investigate the economic rationale of independence. Importantly, we do not rely on subjective evaluations of potential gains or losses from independence, which are potentially endogenous. Instead we focus on individual-level economic conditions that grant value to remaining in Spain (or minimize loss in case of independence). In Column 2, we seek to determine whether receiving any social benefit from the *central* government is a deterrent for supporting independence. We also consider public employment, distinguishing between central and local/regional levels. As one would expect if secession were informed by economic decisions, receiving a benefit from the central government or working for it push individuals away from secession. In Column 3, we include a measure of firm-level trade ties with Spain. Whereas *weak* trade ties make no difference with regard to *no* ties—the reference category—*strong* trade ties do. Individuals who work in firms that share strong trade ties with Spain are against secession, everything else con-

¹⁵Results remain the same when these covariates are regressed separately.

Table 3: **Secession and Individual Economic Gains.**

Sample →	All	All	All	All	Rich Trade [†] Information	All	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Unemployed: Short-Term y	-0.065 (0.191)	-0.003 (0.199)	-0.062 (0.204)	-0.063 (0.204)		0.006 (0.201)	0.003 (0.200)
Unemployed: Long-Term	0.383** (0.174)	0.403** (0.173)	0.351** (0.179)	0.349* (0.179)		0.411** (0.173)	0.402** (0.173)
Benefit		-0.172* (0.101)	-0.199* (0.105)	-0.195* (0.105)	-0.177 (0.246)	-0.173* (0.101)	-0.169* (0.101)
Public Employee: Central		-0.712** (0.333)	-0.690** (0.333)	-0.671** (0.336)		-0.745** (0.339)	-0.747** (0.336)
Public Employee: Local/Regional		0.062 (0.205)	0.030 (0.204)	0.039 (0.206)		0.029 (0.213)	0.026 (0.209)
Trade Ties with Spain: Weak			0.047 (0.107)	0.015 (0.138)	-0.222 (0.224)		
Trade Ties with Spain: Strong			-0.297*** (0.115)	-0.368** (0.154)	-0.601** (0.292)		
Trade Ties with EU: Weak				0.042 (0.139)			
Trade Ties with EU: Strong				0.201 (0.162)			
Import Ties with Spain: Weak						-0.031 (0.084)	
Import Ties with Spain: Strong						-0.167 (0.163)	
Export Ties with Spain: Weak							-0.025 (0.092)
Export Ties with Spain: Strong							-0.185* (0.103)
Low-High School	0.099 (0.118)	0.091 (0.118)	0.099 (0.119)	0.095 (0.119)	-0.249 (0.298)	0.089 (0.118)	0.093 (0.118)
High-High School	0.244** (0.114)	0.245** (0.114)	0.239** (0.113)	0.231** (0.113)	-0.301 (0.279)	0.238** (0.114)	0.252** (0.113)
University	0.353*** (0.114)	0.353*** (0.115)	0.350*** (0.115)	0.338*** (0.114)	0.013 (0.260)	0.346*** (0.115)	0.356*** (0.115)
Cohort: 30 39	0.055 (0.117)	0.044 (0.118)	0.064 (0.117)	0.072 (0.116)	0.325 (0.399)	0.053 (0.116)	0.048 (0.117)
Cohort: 40 49	0.102 (0.114)	0.096 (0.115)	0.094 (0.114)	0.097 (0.114)	0.079 (0.399)	0.102 (0.115)	0.098 (0.114)
Cohort: 50 59	0.097 (0.123)	0.106 (0.124)	0.097 (0.124)	0.102 (0.124)	0.268 (0.403)	0.115 (0.123)	0.111 (0.124)
Cohort: ≥60	0.446*** (0.122)	0.534*** (0.131)	0.491*** (0.135)	0.493*** (0.135)	0.745* (0.402)	0.545*** (0.132)	0.544*** (0.131)
Female	-0.124 (0.080)	-0.130 (0.080)	-0.140* (0.080)	-0.132* (0.080)	-0.230 (0.193)	-0.140* (0.081)	-0.150* (0.081)
Income Category: Low	0.205* (0.117)	0.207* (0.116)	0.204* (0.116)	0.207* (0.116)	0.169 (0.293)	0.208* (0.116)	0.213* (0.116)
Income Category: Middle	0.135 (0.113)	0.139 (0.113)	0.147 (0.113)	0.149 (0.112)	0.125 (0.287)	0.145 (0.112)	0.143 (0.112)
Income Category: High	0.083 (0.120)	0.077 (0.120)	0.093 (0.119)	0.094 (0.119)	0.375 (0.270)	0.080 (0.120)	0.083 (0.120)
Income Category: Very High	0.177 (0.138)	0.161 (0.139)	0.164 (0.140)	0.156 (0.140)	0.519* (0.290)	0.162 (0.139)	0.175 (0.140)
Ideology (L-R)	-0.287*** (0.017)	-0.288*** (0.016)	-0.286*** (0.016)	-0.286*** (0.016)	-0.402*** (0.041)	-0.288*** (0.016)	-0.287*** (0.016)
2nd Gen.	0.351*** (0.113)	0.353*** (0.112)	0.356*** (0.112)	0.349*** (0.112)	0.752** (0.300)	0.354*** (0.112)	0.356*** (0.112)
3rd Gen.: One Catalan Parent	1.006*** (0.114)	1.009*** (0.114)	0.997*** (0.114)	0.993*** (0.114)	1.011*** (0.281)	1.011*** (0.114)	1.011*** (0.114)
3rd Gen.: Two Catalan Parents	1.644*** (0.103)	1.638*** (0.102)	1.620*** (0.102)	1.615*** (0.102)	1.508*** (0.256)	1.638*** (0.102)	1.642*** (0.102)
Constant	2.814*** (0.190)	2.854*** (0.191)	2.933*** (0.201)	2.929*** (0.201)	3.688*** (0.497)	2.883*** (0.199)	2.877*** (0.193)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,100	2,100	2,100	2,100	236	2,100	2,100
R-squared	0.358	0.361	0.365	0.366	0.458	0.361	0.362

OLS coefficients shown with standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Cohort: 18-29; Income Category: Very Low; First-Generation Catalan; No Public Employee; No Benefit; Not Unemployed; No Trade Ties with Spain; No Trade Ties with Spain; No Exports to Spain; No Imports from Spain. Regressions also include dummy variables for Trade Ties with Spain: Missing. †The Rich Trade Information Subsample is made of business owners and self-employed individuals, and it excludes individuals working in the public sector.

start. In Column 4 we add an equivalent variable for trade with European countries other than Spain, a variable not correlated with preferences for independence, potentially because economic integration with the rest of Spain is significantly higher than with the rest of the continent.

Trade ties with Spain matter, but do respondents have accurate information about the trade levels of their firm? Are perceived trade ties endogenous to support for independence? And is the effect of trade driven by import competition from Spain or export opportunities to Spain? Column 5 addresses the first question by restricting the sample to individuals who, a priori, should have richer information about the trade ties of their firms: business owners and the self-employed. The coefficient for Strong Trade Ties with Spain for this group is three times larger than for the average respondent, pointing to the economic rationale of opposing secession. We address the endogeneity of self-reported responses on trade ties in Columns 6 and 7. Specifically, we asked respondents for the sector in which they were employed. Sectors are classified following NACE Rev 2.1. and disaggregated at the two-digit level. Our respondents are distributed over dozens of these two-digit sectors. We computed sector-level exports to and imports from Spain (value as percentage of total production) based on input–output tables provided by the Catalan Statistical Office, IDESCAT. We divided sectors in three types based on their trading activity.¹⁶ Results in Column 6 suggest that Imports from Spain are not relevant to predicting preference for secession. In other words, secession support is not grounded in protectionist feelings. By contrast, Column 7 suggests that being employed in a sector that exports a significant share of its output to Spain is a significant deterrent of secessionism.

This section has confirmed the preponderance of identity politics in configuring preference for secession. Catalan ancestry, our nonmanipulable proxy for social identity, plays an unmatched role in structuring preferences for independence. Figure 2 offers a good illustration of that; however, holding identitarian considerations constant, room still exists

¹⁶Appendix explains these cutoffs.

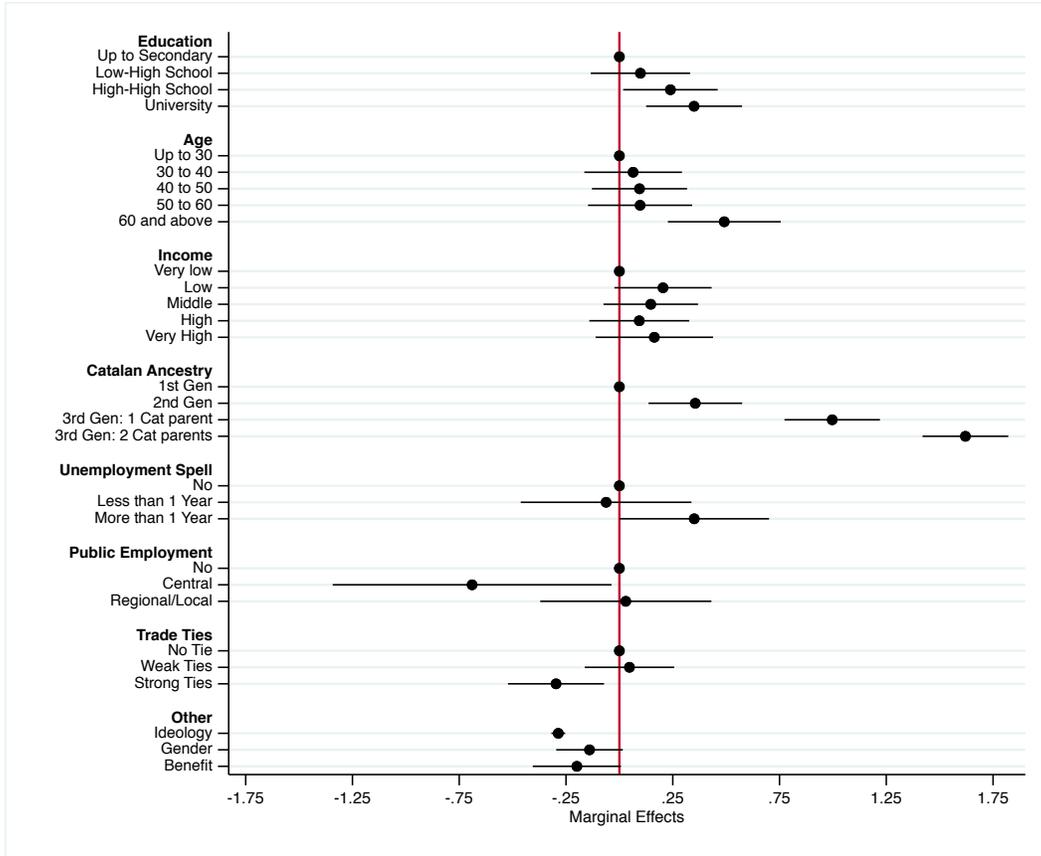


Figure 2: **Support for Independence: Nonbehavioral Response.** Coefficients are drawn from Column 4 in Table 3.

for economic calculations, working mainly against independence. Key among them are existing trade ties with Spain in general and exports in particular. These considerations are particularly relevant for individuals with rich trade information like business owners and self-employed individuals. Unsurprisingly, Catalonia experienced significant capital flight during fall 2017.¹⁷

5.1 Vote in a Referendum of Independence

The outcome variable in the preceding section might not capture the nonlinearities of a yes/no direct question about independence at the ballot box. To address this issue, we asked

¹⁷“More than 3,000 firms have quit Catalonia amid its political upheaval”, *Business Insider*, December 2, 2017.

respondents how would they vote in a referendum for independence,¹⁸ and 44.1% of them said they would vote against it, 43.3% would vote in favor, 5.5% would abstain, and 7.0% did not know. Column 1 in Table 4 we regress the dichotomous outcome variable (yes/no) on a full model. Results remain virtually identical: Catalan ancestry is the main driver of independence. Holding it constant, support for secession is high among the most educated and low among those working for a company with strong trade ties with Spain. Column 2 shows a Linear Probability Model (LPM) in relation to the same specification. Columns 3 and 4 repeat the same steps, including those who abstained in the No block. Results across specifications are equivalent to results in Table 3.¹⁹

5.2 Behavioral Measure of Secession Preference

Stakes were high in fall 2017. By the time our survey went to field, self-government in Catalonia had been suppressed, and Catalan pro-independence civil society leaders and politicians had been imprisoned or fled the country. Anonymous pro-independence sympathizers were arrested for criticizing Spanish police deployed in Barcelona to impede the referendum.²⁰ Following Bechtel et al. (2014), we included a final question in our survey in which we offered respondents the possibility of sending on their behalf a nonanonymous letter to the would-be president of the Catalan Parliament stating their preferred strategy to address the ongoing political crisis. Given the political context in which our survey was fielded, we expect this behavioral instrument to retrieve sincere preferences for secession.

Specifically, we asked respondents to select one of the following messages:

On my behalf, please let the next president of the Catalan Parliament know that I want....

1. *The new Parliament to cooperate with Spanish authorities to return part of its political and fiscal autonomy to the central government.*

¹⁸This question was placed immediately after the continuous version of the dependent variables so far analyzed.

¹⁹In Columns 1 and 2, the short-term unemployed appear to be less favorable to independence. These results, however, are not robust to any other specification.

²⁰See “[La Guardia Civil denuncia a un vecino de Tremp \(Lleida\) por incitación al odio en Facebook tras las cargas del 1-O](#)”, *La Vanguardia*, November 17, 2017.

Table 4: **Dichotomous Outcome Variable and Behavioral Measurement of Secession Support.**

	Yes vs. No Vote		Yes vs. No Vote/Abstain		Petition to Parliament			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Logit	LPM	Logit	LPM	oProbit	OLS	oProbit	OLS
Low-High School	0.098 (0.230)	0.017 (0.037)	0.223 (0.214)	0.038 (0.037)	0.126 (0.122)	0.090 (0.086)	0.116 (0.122)	0.087 (0.086)
High-High School	0.443* (0.226)	0.068* (0.036)	0.354* (0.204)	0.062* (0.036)	0.102 (0.124)	0.091 (0.087)	0.120 (0.124)	0.104 (0.087)
University	0.495** (0.221)	0.075** (0.035)	0.414** (0.207)	0.070** (0.036)	0.234* (0.124)	0.147* (0.086)	0.234* (0.126)	0.148* (0.087)
Cohort: 30 39	0.403 (0.256)	0.048 (0.038)	0.185 (0.241)	0.031 (0.040)	-0.098 (0.147)	-0.081 (0.101)	-0.092 (0.146)	-0.076 (0.101)
Cohort: 40 49	0.513** (0.253)	0.064* (0.037)	0.220 (0.231)	0.033 (0.038)	-0.033 (0.144)	-0.049 (0.103)	0.012 (0.144)	-0.022 (0.102)
Cohort: 50 59	0.282 (0.265)	0.024 (0.040)	0.015 (0.252)	-0.001 (0.042)	0.015 (0.152)	-0.011 (0.110)	0.043 (0.153)	0.008 (0.110)
Cohort: ≥60	1.003*** (0.295)	0.144*** (0.042)	0.506* (0.262)	0.086** (0.043)	0.295* (0.153)	0.174* (0.101)	0.324** (0.150)	0.196* (0.100)
Female	-0.253 (0.161)	-0.044* (0.026)	-0.301** (0.153)	-0.054** (0.026)	-0.017 (0.092)	-0.021 (0.062)	-0.035 (0.093)	-0.034 (0.062)
Income Category: Low	0.363 (0.237)	0.057 (0.038)	0.168 (0.218)	0.029 (0.038)	0.150 (0.137)	0.114 (0.097)	0.156 (0.137)	0.115 (0.097)
Income Category: Middle	0.302 (0.225)	0.051 (0.036)	0.076 (0.218)	0.017 (0.037)	0.209 (0.143)	0.177* (0.100)	0.217 (0.143)	0.179* (0.099)
Income Category: High	0.148 (0.231)	0.028 (0.037)	-0.062 (0.222)	-0.005 (0.039)	0.574*** (0.130)	0.397*** (0.087)	0.588*** (0.132)	0.404*** (0.089)
Income Category: Very High	0.358 (0.285)	0.055 (0.046)	0.282 (0.271)	0.050 (0.047)	0.317** (0.153)	0.229** (0.109)	0.353** (0.155)	0.251** (0.110)
Benefit	-0.382* (0.203)	-0.061* (0.032)	-0.256 (0.207)	-0.044 (0.035)	-0.090 (0.112)	-0.048 (0.079)	-0.087 (0.107)	-0.048 (0.074)
Public Employee: Central	-1.543** (0.603)	-0.247*** (0.095)	-1.491*** (0.578)	-0.261*** (0.095)	-0.828* (0.465)	-0.602* (0.358)	-0.952** (0.476)	-0.680* (0.365)
Public Employee: Local/Regional	-0.158 (0.334)	-0.022 (0.059)	-0.049 (0.326)	-0.010 (0.059)	-0.054 (0.219)	-0.028 (0.144)	-0.082 (0.223)	-0.049 (0.147)
Unemployed: Short-Term y	-0.836** (0.387)	-0.138** (0.059)	-0.166 (0.475)	-0.034 (0.079)	-0.303 (0.249)	-0.170 (0.192)	-0.293 (0.248)	-0.165 (0.191)
Unemployed: Long-Term y	0.436 (0.362)	0.086 (0.059)	0.536 (0.334)	0.100* (0.058)	0.367 (0.230)	0.261* (0.149)	0.365 (0.227)	0.257* (0.147)
Trade Ties with Spain: Weak	0.072 (0.214)	0.010 (0.034)	0.078 (0.201)	0.011 (0.034)	0.199 (0.127)	0.116 (0.080)		
Trade Ties with Spain: Strong	-0.641*** (0.226)	-0.100*** (0.037)	-0.538** (0.212)	-0.094** (0.038)	-0.233* (0.132)	-0.153 (0.096)		
Export Ties with Spain: Weak							-0.082 (0.100)	-0.044 (0.067)
Export Ties with Spain: Strong							-0.241* (0.135)	-0.175* (0.099)
Ideology (L-R)	-0.510*** (0.038)	-0.081*** (0.005)	-0.427*** (0.037)	-0.075*** (0.005)	-0.223*** (0.021)	-0.148*** (0.014)	-0.224*** (0.021)	-0.149*** (0.014)
2nd Gen.	0.468** (0.213)	0.086** (0.035)	0.357* (0.198)	0.074** (0.037)	0.221* (0.119)	0.192** (0.091)	0.216* (0.120)	0.187** (0.092)
3rd Gen.: One Catalan Parent	1.652*** (0.223)	0.303*** (0.036)	1.414*** (0.203)	0.284*** (0.037)	0.616*** (0.125)	0.452*** (0.091)	0.615*** (0.126)	0.454*** (0.091)
3rd Gen.: Two Catalan Parents	2.710*** (0.223)	0.472*** (0.033)	2.383*** (0.204)	0.442*** (0.033)	1.126*** (0.129)	0.688*** (0.083)	1.157*** (0.128)	0.708*** (0.082)
Constant	-0.074 (0.388)	0.485*** (0.062)	0.377 (0.369)	0.552*** (0.065)		3.993*** (0.159)		4.011*** (0.151)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,847	1,847	1,953	1,953	1,212	1,212	1,212	1,212
R-squared		0.364		0.310		0.297		0.294

Coefficients shown with standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Cohort: 18-29; Income Category: Very Low; First-Generation Catalan; No Public Employee; No Benefit; Not Unemployed; No Trade Ties; No Exports; No Imports. Regressions also include dummy variables for Trade Ties with Spain: Missing.

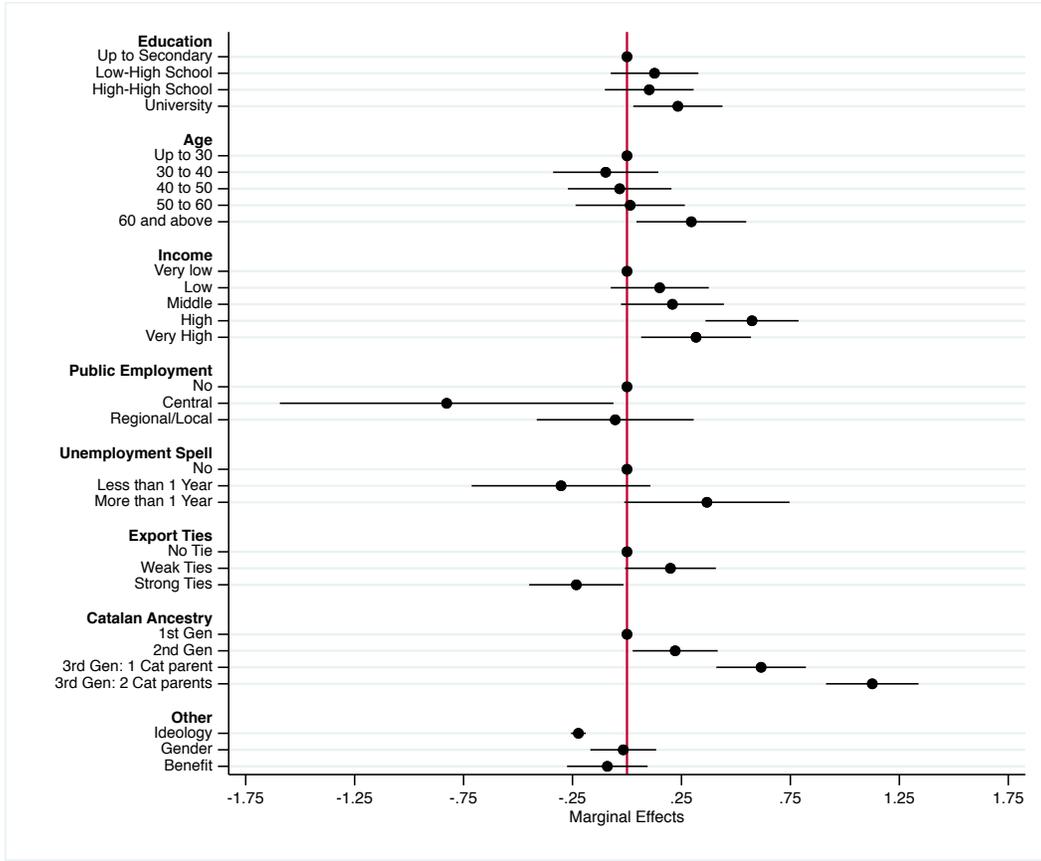


Figure 3: **Support for Independence: Behavioral Response.** Estimates are drawn from Column 5 in Table 4.

2. *The new Parliament to adhere to the Estatut d'Autonomia of 2006.*
3. *The new Parliament to demand further political and fiscal autonomy to the Spanish government but not independence.*
4. *The new Parliament to keep working to achieve independence.*

Participation was voluntary, and 58% of respondents agreed to participate.²¹ The four options spanned the full spectrum of options (marginals in parenthesis): recentralization (9.6%), status quo (8.7%), further decentralization (40.51%), and independence (41.2%).

The behavioral and the nonbehavioral measures correlate at 0.78.

²¹Earlier in the questionnaire we asked respondents whether civil rights in Catalonia had improved or worsened in recent times. Individuals who thought that civil rights had improved substantially (a tiny proportion) or worsened substantially (a large proportion) were more likely to participate than individuals who had milder opinions (“somewhat worsened”). Low-high school, gender, leftist, and having both parents born in Catalonia (highest level of Catalan ancestry) also predict participation. In addition, Table A-7 shows a Heckman selection model. Results when we correct for selection on observables remain the same.

Columns 5 to 6 report full models for the behavioral response. Because linearity assumption is not obvious, we fit an ordinal logit and an OLS model, respectively. We replicate the same analyses in Columns 7 and 8 including, this time, the objective sector-level measure of trade ties, Exports to Spain.

Overall, results for the behavioral measure are similar to those in previous specifications, but they incorporate an interesting nuance. First, Catalan ancestry remains the strongest predictor, but it plays a milder role relative to other covariates. See Figure 3 for a visual illustration of this. Second, high levels of education and trade ties with Spain still predict support for and opposition to independence, respectively.

Third, household income turns statistically significant in favor of secession, the relation being linear.²² Do wealthier individuals oppose interterritorial redistribution, or does income speak to socioeconomic resources necessary to engage in costly political action (Schlozman et al., 2018)? To shed light on this question, we exploit an embedded item count technique or “list experiment” (Blair and Imai, 2012) in which we included a list of nonsensitive items to support independence—hence, it was asked only of secession supporters—along with a sensitive item listed only in the treatment group: “*I do not want my tax money to leave Catalonia.*”²³ We divided respondents into a high- and low-income groups, and compared the average number of items in the treatment and control groups.²⁴ Figure 4 shows that Catalans do not want their tax money to be redistributed to other parts of Spain, but that effect is not focused on the higher spectrum of the income distribution; it is a shared preference of pro-independence supporters along the income ladder.²⁵ By implication, the

²²Neither coefficient in a second-order income polynomial is statistically significant.

²³The nonsensitive items are listed in Appendix C. When the sensitive question is not sensitive enough, the result of a list experiment is upward biased. This was not an obvious case. The rapid succession of events in fall 2017 did not offer time to pilot the list experiment, but to assess the differential effect of interterritorial redistribution by income level, we can safely focus on the differences *within* the treatment condition.

²⁴The low income group includes individuals in the lower half of the income distribution (Categories 1–6 in the original variable), and the upper group includes individuals in the upper half of the income distribution (Categories 7–13).

²⁵These results are consistent with Balcells et al. (2015), who explore preferences for interterritorial redistribution by exploiting information shocks about the regions’ income position (above or below the mean) and out-group priming. These scholars find that Catalan respondents oppose territorial redistribution when they are primed with the poorest region in Spain (Extremadura); however those preferences do not vary by

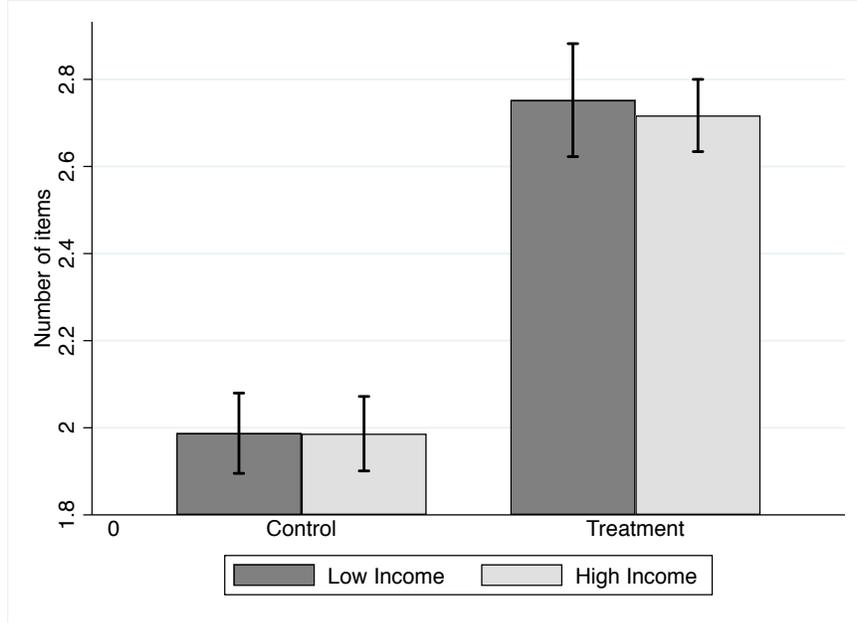


Figure 4: **List Experiment of Territorial Redistribution.**

income effect shown in Table 4 seems to point to the socioeconomic resources required to participate in a costly political action, namely supporting independence in an unfriendly political context.

6 Mechanisms

Results for the three sets of outcome variables are mostly consistent with theoretical expectations: Identity matters greatly to explain secessionist preferences, and economic ties with Spain do as well but to a lesser extent. The most striking result, however, is the role of education, which systematically correlates with support for independence. Given that independence might imply new borders (and potentially leaving the European Common Market if only temporarily), support for independence by high-skilled individuals in a capital-intensive economy is inconsistent with the logic of comparative advantage. In other words, individuals with high levels of human capital in a capital-intensive economy should benefit the most from participating in international trade. The economic uncertainties that come

income levels either.

with secession should make them averse to supporting independence. Results suggest the opposite.

One explanation for this result might be that our education variable does not properly measure skill levels. Following Bechtel et al. (2014), we use the respondents' occupation to generate a four-category skill variable. In Table A-5 we regress preference for secession (in its behavioral and nonbehavioral version) on the skill variable and find the same results for education. Preference for secession increases with individuals' skill levels. Importantly, results hold for subset analyses based on their job market participation (i.e., currently working, out of labor force, and retired): if the association between skills and secession were grounded on self-interest (e.g., highly skilled individuals benefiting from a highly open small economy), we should not necessarily find an effect for those outside the labor force and clearly not among the retired regardless of their skill set; yet we do. This result is, therefore, consistent with the absence of association between education and expected individual benefits from secession.

Another possibility for the effect of education is that it shapes expectations about the economic consequences of secession. We asked respondents how likely Catalonia was to drop from the EU and the European Common Market. We find no significant relationship between that score and education or skill levels (see Appendix E). The same holds when we focus on the likelihood of exiting the Euro zone (the single currency area). A third possibility is that the expected benefits from secession vary by levels of education. High-skilled respondents might believe that secession will lead to a larger internationalization of Catalonia's economy, thus maximizing returns of human capital. We asked our respondents how much they would benefit from secession (1-4 scale), and regressed that on levels of skills and education. Figure E.2 in the Appendix shows no significant effect across skill or education levels, nor does it when we focus on sociotropic gains.

The role of education in shaping preference for secession is hardly explained by anticipated shocks on human capital returns following economic independence. Building on existing

accounts of secessionism, we identify three mechanisms other than factor returns that connect education and support for independence: information about interterritorial fiscal structure, interpersonal redistribution, and exposure to Catalan schooling. Our data shows evidence consistent with the former mechanism.

Information. Bolton and Roland (1997) and Sambanis and Milanovic (2014) argue that grievances with the interterritorial transfer (or fiscal) system underlie secessionist demands. Consistently, Boylan (2015) shows that Catalans who prefer higher regional autonomy in taxing and spending strongly support independence. Next we assess whether respondents with higher levels of education are more aware of the fiscal imbalance between Catalonia and Spain, thus explaining the connection between education and secession.

Spain is divided into 17 regions, belonging in either the general or foral track. Regions in the foral track are virtually financially sovereign. The Basque Country and Navarra are the only two regions in the foral track.²⁶ The remaining 15 regions belong in the general model. Catalonia, being one of the richest regions in Spain, is a net contributor to the general model, meaning that more tax Euros flow to the central government than come back. The size of this deficit is highly contested, ranging from 4–8% of the Catalan GDP.²⁷ Critics of the existing fiscal system claim that it leads to irresponsible fiscal management in general and systematic under-investment in key public services in Catalonia in particular. Regardless of the size of the territorial deficit, regions in the general track have somewhat limited fiscal discretion. The 2016 OECD Fiscal Federalism Report ranked Spain last in terms of *regional fiscal autonomy* (i.e., subnational tax, spending, and budgeting autonomy) among the 15 federal states in the OECD (Blöchliger and Kim, 2016).

²⁶The foral or quota model is an economic agreement between the Spanish state and the Basque Country and Navarra. The origin of this agreement dates back to the Third Carlist War (1876). The foral model remained in force during the Franco dictatorship and was deemed constitutional in 1981, following democratic transition. The two territories contribute a minimal quota to the Spanish treasury to cover some state services: e.g., the military.

²⁷See, for example, “Hacienda: el déficit fiscal catalán es de 9.900 millones.” *La Vanguardia*, August 9, 2017 or [La Generalitat cifra el déficit fiscal catalán en 16.570 millones en 2014, el 8,4%](#). *La Vanguardia*, December 4, 2017.

In recent years, Catalan fiscal autonomy shrank. The general track of territorial finance requires regular updating to adjust for sociodemographic changes. The last update was due in 2014.²⁸ The Spanish government postponed any renegotiation of the fiscal agreement until after the economic and territorial crises were over. The lack of updating of the common track criteria pushed many regions into budget deficits (AIReF, 2016). In 2012, the Spanish government created a new public bank to bail out Spanish regions and achieve austerity goals. Catalonia, a highly indebted region, was its largest client. In 2015 the Catalan government was required to submit a copy of all expenditures monthly to the Spanish Treasury for its approval. The rationale behind this decision was to prevent the Catalan government from using taxpayers' money to organize a referendum for independence.²⁹ Starting in September 2017, the monitoring was conducted on a weekly basis. Following the October 1 referendum, the Spanish government assumed direct control over Catalonia, and fiscal autonomy was completely suppressed.³⁰ Siroky and Cuffe (2015) show that autonomy retractions (like the one gradually experienced in Catalonia) are conducive to the rise of secessionist demands. We expect this effect to be reflected at the individual-level among those who are better informed about the system of territorial transfers in Spain.

To measure levels of fiscal awareness, we asked respondents to name the two regions in Spain under the foral model:³¹ 39% answer did not know, 26% knew one, and 35% knew both. To assess whether fiscal awareness is a plausible mechanism, we ran the full model for each level of this variable: low, medium, and high awareness. If the effect of education on support for independence travels via fiscal awareness (i.e., mediator), no effect of education should be detected in the subset analysis, as observed in Table 5. For those who have no fiscal awareness, education does not make them more favorable to independence. Similarly,

²⁸As of September of 2018, the general track has not been updated.

²⁹“[Rajoy Takes Over Catalonia’s Finances.](#)” *Ara*, Nov 11, 2015.

³⁰In June 2018, six months after the snap regional election, a corruption scandal involving lead members of the ruling party caused a government crisis in Spain. The new government was led by the Socialist. Catalan autonomy was then reinstated.

³¹All regions were listed on the screen, and respondents were to check two of them to move to the next screen.

for those who have high levels of fiscal awareness, education does not make them more or less likely to support secession. Results are the same for the behavioral and nonbehavioral outcome variables.

Table 5: **Information Mechanism #1: The Effect of Education on Preference for Secession by Levels of Fiscal Awareness**

	Nonbehavioral			Behavioural		
	Fiscal Information			Fiscal Information		
	Low (1)	Medium (2)	High (3)	Low (4)	Medium (5)	High (6)
Low-High School	-0.131 (0.158)	0.340 (0.237)	0.126 (0.214)	-0.056 (0.136)	0.178 (0.144)	0.075 (0.133)
High-High School	0.203 (0.157)	0.339 (0.212)	0.004 (0.207)	0.136 (0.129)	-0.123 (0.155)	0.077 (0.141)
University	0.126 (0.169)	0.425* (0.222)	0.321 (0.208)	0.106 (0.148)	-0.022 (0.147)	0.217 (0.139)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	827	509	764	452	300	460
R-squared	0.337	0.434	0.388	0.319	0.473	0.303

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). Entropy weighting applied to match the voter population. Regressions also include dummy variables for Trade Ties with Spain: Missing (coefficients not shown here). Controls included but not reported are Ancestry, Gender, Age, Province, Income, Unemployment Spell, Government Employee, Benefits, Ideology and Trade Ties. The reference category for education is: Up to Secondary Education. Constant not reported.

In Table 6 we treat political knowledge as an additional covariate. To set a benchmark, we fit the main model without this control in Column 1 (nonbehavioral) and Column 5 (behavioral outcome). Table 6 shows that fiscal awareness is a strong predictor of independence, which, as expected, attenuates the effect of education (Columns 2–5) or completely cancels it (Columns 8–11).

Fiscal awareness may not be randomly assigned. Political parties favoring independence are more likely to advertise the fiscal deficit of Catalonia with the rest of Spain than parties against independence. To address this possibility, in Columns 3 and 8 we control for vote intention.³² Presumably, individuals pay attention to the parties for which they intend to

³²Our survey did not include any question about media consumption because this is fully endogenous.

Table 6: Information Mechanism #2: Effect of Education on Preference for Secession controlling for Levels of Fiscal Awareness

	Nonbehavioral Continuous					Behavioural				
	(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(10)	(11)
Low-High School	0.099 (0.119)	0.095 (0.117)	0.067 (0.078)	0.074 (0.114)	0.095 (0.117)	0.090 (0.086)	0.068 (0.085)	0.078 (0.078)	0.070 (0.084)	0.112 (0.086)
High-High School	0.239** (0.113)	0.182 (0.113)	0.153** (0.076)	0.183 (0.113)	0.182 (0.116)	0.091 (0.087)	0.027 (0.088)	0.001 (0.077)	0.024 (0.088)	0.039 (0.090)
University	0.350*** (0.115)	0.258** (0.117)	0.198** (0.079)	0.248** (0.117)	0.246** (0.121)	0.147* (0.086)	0.064 (0.090)	0.017 (0.077)	0.071 (0.090)	0.083 (0.091)
Fiscal Knowledge: Medium		0.203** (0.100)	0.087 (0.068)	0.192* (0.098)	0.268*** (0.101)		0.177** (0.076)	0.153** (0.070)	0.174** (0.075)	0.192** (0.077)
Fiscal Knowledge: High		0.403*** (0.093)	0.132** (0.066)	0.398*** (0.092)	0.434*** (0.093)		0.280*** (0.075)	0.173** (0.068)	0.272*** (0.075)	0.290*** (0.076)
Vote Intention	No	No	Yes	No	No	No	No	Yes	No	No
Municipality-level Associationism	No	No	No	Yes	No	No	No	No	Yes	No
Municipality-level Secession Support	No	No	No	No	Yes	No	No	No	No	Yes
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,100	2,100	2,100	2,094	1,957	1,212	1,212	1,212	1,210	1,127
R-squared	0.365	0.373	0.704	0.386	0.399	0.297	0.310	0.483	0.319	0.348

OLS coefficients shown with standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Entropy weighting applied to match the voter population. Regressions also include dummy variables for Trade Ties with Spain: Missing (coefficients not shown here). Controls included but not reported are Ancestry, Gender, Age, Province, Income, Unemployment Spell, Government Employee, Benefits, Ideology and Trade Ties. The baseline categories for education is: Up to Secondary Education. Constant not reported.

vote; thus they are exposed to different informational cues. High fiscal awareness is still statistically different from zero, but, as expected, the size of the coefficient decreases.

Alternatively, political information might be transmitted via personal participation in civil society organizations, or by interacting with individuals who participate in those. This channel seems particularly compelling in Catalonia, where the pro-independence movement has excelled in mobilizing hundreds of thousands of supporters on a regular basis since 2012. To control for this source of information acquisition, we compute the number of cultural and civic associations at the ZIP code level, and match that information to our respondents' residence ZIP code. We divide this variable into four quartiles and include them in Columns 4 and 9 as an additional battery of fixed effects.³³

Finally, we capture nonrandom opportunities to learn about the fiscal system by computing the vote share of pro-independence parties in the previous regional election of 2015 in the respondents' municipality of residence. Presumably, respondents who are surrounded by prosecessionist voters should be more likely to learn about the current fiscal structure. We create four variables based on the quartile distribution of prosecession party vote shares and add them to Columns 5 and 10 as another battery of fixed effects. Across specifications, fiscal awareness remains a strong predictor of secession support, while the effect of education decreases or vanishes.

One might wonder whether fiscal awareness captures political knowledge specific to the Catalan–Spain fiscal relationship or political knowledge in general. To address this question, we consider two additional information measures: a easy one and a hard one. First, we asked respondents the name of the Minister of Finance (as of December 2018). Respondents had to identify him from a list of four names, and 85% knew the correct answer. Next, we requested respondents to name the coalition partner of Angela Merkel's government in the past legislature,³⁴ and 31% of respondents correctly named the Social Democrats. Appendix

³³Our respondents are distributed in 446 zip codes (42% of all zip codes in Catalonia. The average number of associations per zip code in our sample is 98, that is, 42,935 in total. In other specifications, not reported here, we normalize the number of associations by population and by area. Results hold.

³⁴We listed the following possibilities: the Greens, the Liberals, the Social Democrats, Merkel's govern-

Table A-8 shows results when we control for these measures of general political knowledge: not only they do not predict support for independence but their inclusion leaves the effect of education intact, suggesting that the latter effect does not travel via general political knowledge but is specific to the fiscal relationship between Spain and Catalonia.

Internal Migration and Catalan Schooling. Starting in the 1860s, a mass influx of low-skilled workers and public servants from other parts of Spain settled permanently in Catalonia. In 1950, the Catalan population was 3,240,313. In 20 years, as a result of internal migration, the population increased by 40%. The new settlers worked in the local manufacturing industry and lived on the outskirts of Barcelona in relatively poorer neighborhoods with lower quality public services (Solé, 1981). Conditions have changed radically over the years, but differences persists to date. Based on the household socioeconomic conditions, second generations might have had fewer opportunities to attend universities than the native population. The education coefficient might capture social extraction in ways that our Catalan ancestry and income variables cannot. To address this possibility, Columns 1 and 2 in Table A-9 runs separate analyses for first- and second-generation Catalans. Within each group, the effect of education persists.

During the Franco regime, Catalan was banned from the public sphere, including education. The Catalan school system changed radically starting in the early 80s, following democratic transition. In 1983, the Catalan Parliament passed the Law of Language Normalization, which sanctioned a model of schooling promoted by the political party that better represented Spanish immigrants in Catalonia, the Socialist Party of Catalonia (PSC), the local branch of the Spanish Socialist Party (PSOE). The PSC advocated for an assimilation system that made no distinction among students with different home languages. This system sought to preempt any social fracture between native Catalans and migrants from other parts of Spain (Lo Cascio, 2008). Building from this consensus, CiU, the ruling regional party in Catalonia between 1980 and 2003, implemented an assimilationist curriculum in compulsory

ment was single party, and Don't Remember. Respondents were to choose one.

education while promoting a definition of Catalanness based on individuals' willingness to be part of the group. Proponents of this strategy sought to expand the use of Catalan language and foster integration of immigrants and their descendants (Keating, 1996). The system was well accepted by Spanish immigrants and their descendants and never deemed problematic until 2006, when *Ciudadanos* (Citizens), a new party in the Catalan parliament, made this issue salient.

Clots-Figueras and Masella (2013) have shown that years of compulsory education in Catalan influence both individuals identification with Catalonia and their preferences for independence. If the effect of education is driven by exposure to the new school system, we should expect no effect of education among Spanish immigrants who settled in Catalonia *after* their school years. To test this, we work with a sub-sample of respondents who were born in other parts of Spain and settled in Catalonia when they were more than 25 years old. We assume that at that age the likelihood of going to school is negligible. Column 3 in Table A-9 shows that for this group, who was never exposed to Catalan schooling, education levels are also a strong predictor of support for independence.

To further explore the influence of Catalan schooling on preferences for independence, we conduct an additional analysis inspired by Clots-Figueras and Masella (2013). We divide our sample into two groups based on their exposure to the Catalan school system. To establish exposure, we divide individuals between those who were born before and after 1970. By 1983, the first year the reform was implemented, those born before 1970 had already completed compulsory schooling and were thus entirely educated under the Francoist education system, which had banned Catalan. This is our control group. Generations born after 1970 were treated by the Catalan school system at least one year.³⁵ Table A-10 confirms that for those generations educated after the 1983 reform was implemented, education was an important influence on preferences for independence.³⁶ Table A-10 offers mixed results

³⁵The intensity of the treatment may be bigger for those born after 1970 because they were exposed to more years of Catalan schooling; however, to investigate our mechanism, we are mainly interested in those who were not treated at all, that is, those in the control group.

³⁶Using individual household data, Hierro (2015) shows that the effect of Catalan schooling decreases

for the control group: results for education for the nonbehavioral variable are null. When we focus on the behavioral measure, however, we observe that those who attained higher levels of education before the 1983 reform—and who could not have feasibly been exposed to Catalan schooling—also lean towards independence. Combined, these results suggest that Catalan schooling may magnify the effect of education but also that education independently shapes preferences for secession—arguably because the more educated are more knowledgeable of the system of interregional transfers.

7 Conclusion

Economic integration reduces independence costs (Casella and Feinstein, 2002) and makes the size of countries less consequential (Alesina and Spolaore, 1997). Accordingly, secession demands are expected to grow in the future. Understanding the microfoundations of independence movements is crucial to accommodate their demands, understand the playing field where political entrepreneurs maneuver, and provide a peaceful and ordered solution to this type of conflict. We have considerable understanding of the institutional and economic conditions under which these demands are likely to occur. By comparison, our understanding of the individual calculus that structures support and opposition to independence is somewhat limited. Our analysis of the Catalan case offers four insights that transcend the time when this study was conducted and illuminate the individual calculus of secession preferences in open advanced economies.

First, our findings confirm the role of social identity in forging preference for secession, in line with aggregate level accounts (Toft, 2012; Siroky et al., 2016; Sorens, 2012). The demographic configuration of Catalonia, with an important part of its population born or with relatives in other regions of Spain, makes Catalan ancestry an important individual characteristic determining individuals' preferences for secession; however, preferences for

significantly once one accounts for residential segregation because of internal immigration and parents' school selection.

secession increase across immigrant generations, suggesting that they are the result of individual socialization and embeddedness in the host community, and not a matter of ethnic traits.

Second, secession demands in Catalonia are not rooted in the anti-immigrant and antiglobalization considerations that characterize other xenophobic nationalist movements in Europe (Ballard-Rosa et al., 2017). In this regard, preference for secession in Catalonia aligns better with a civic version of nationalism (Brubaker, 2004; Snyder, 2000). This result is consistent with similar characterizations of secessionist movements in Scotland, Quebec, or Flanders, all hosted in advanced economies. The shared nature of these political movements may seek to overcome negative connotations that nationalism has carried in the developed world since World War II. Unionist parties often associate secessionism with supremacism while tracing parallels with Nazi Germany. Support for immigration and the absence of antiglobalization attitudes among secessionist supporters are consistent with the effort of pro-independence elites to preempt parallels with ethnic expressions of nationalism.

Third, individual economic loss from secession is a strong deterrent of individuals' willingness to secede. Central governments and the media in the UK and Spain have emphasized such costs when secessionist threats were highest.³⁷ These findings, the first of its kind, show the effectiveness of a calculated strategy conducted by unionist parties. Trade ties at the firm and sector level, and specifically exports to the host state, are strong individual-level inhibitors of secession support. Low levels of factor mobility in Catalonia (and Spain) might explain the significant traction of the Ricardo-Viner model in predicting support for remaining.

Finally, our results suggest that informed belief in the fiscal system in Spain is a powerful driver of support for independence. Although based on observational evidence, our individual-level results are consistent with aggregate-level explanations of secession demands,

³⁷See, for example, “David Cameron: Scottish Independence Would Increase Cost of Mortgages and Hit Value of Savings.” *The Telegraph*, August 24, 2014, on Scotland. And *La Factura de la Independencia*. *El País*, October 8, 2017 or “Margallo afirma que Catalunya ‘vagaría por el espacio’ si se independiza.” *La Vanguardia*, March 10, 2014, on Catalonia.

which predict a rise of secessionism in the presence of disparities in economic development between the secessionist territory and the host state (Collier and Hoeffler, 2006; Sambanis and Milanovic, 2014; Sorens, 2008). Informed beliefs are overrepresented among educated individuals, hence explaining the association between education and support for secession. This unexpected connection explains why the high skilled, who otherwise have the most to lose from a trade shock following secession, show strong support for secession. By the same token, it illuminates the strategic gains for secessionist elites instrumentalizing fiscal grievances to widen support for independence.

We leave for further research to investigate the elasticity between identitarian and fiscal considerations in depth. Specifically, can a better fiscal agreement overcome secession support among the nationally identified with Catalonia? Our results speak to the possibility of compromise: The mere existence of economic considerations in configuring secession preferences opens some room for transactional politics via credible territorial fiscal reform.

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****NOT FOR PUBLICATION****
Supplementary Online Appendices

These appendices contain materials, results and robustness checks that supplement the main text.

- A Data Details 2
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A Data Details

This appendix includes: (1) Table A-1, which shows population weighted and unweighted statistics. The weights are computed based on age, gender, origin (i.e., Catalan born), and education attainment; (2) Table A-2, which reports descriptive statistics for all variables; and (3) Coding details of selected variables.

Table A-1: **Population and Survey Demographics.**

Group	Population	Sample	Weighted Sample
Education			
Up to secondary	23.5	17.3	23.4
High School Lower Tier	35.4	18.3	35.2
High School Upper Tier	20.9	26.5	20.9
University	20.3	38	20.5
Age			
18 to 29	14.2	20.8	15.0
30 to 39	20.1	19.8	19.6
40 to 49	13.3	22.1	13.0
50 to 59	18.9	17.8	18.3
60 and above	33.5	18.2	32.6
Female	49.8	52.14	49.8
Born in Catalonia	64.9	82.2	65.0

Table A-2: Summary statistics (un-weighted sample).

Variable	Mean	Std. Dev.	Min	Max	N
Support for Independence (5 cat)	3.212	1.662	1	5	2104
Support for Independence (2 cat)	0.568	0.496	0	1	1851
Support for Independence (2 cat including Abstain)	0.591	0.492	0	1	1957
Petition: Recentralization	0.075	0.263	0	1	1215
Petition: Estatut 2006	0.075	0.263	0	1	1215
Petition: More devolution	0.384	0.487	0	1	1215
Petition: Independence	0.466	0.499	0	1	1215
Education: Up to Secondary	0.173	0.379	0	1	2104
Education: Low-High School	0.183	0.387	0	1	2104
Education: High-High School	0.265	0.441	0	1	2104
Education: University	0.378	0.485	0	1	2104
Skills: Low Skill	0.067	0.251	0	1	1825
Skills: Medium-Low Skill	0.545	0.498	0	1	1825
Skills: Medium-High Skill	0.138	0.345	0	1	1825
Skills:High-Skill	0.249	0.433	0	1	1825
Cohort: 18-29	0.207	0.405	0	1	2104
Cohort: 30-39	0.198	0.399	0	1	2104
Cohort: 40-49	0.221	0.415	0	1	2104
Cohort: 50-59	0.178	0.383	0	1	2104
Cohort: ≥ 60	0.183	0.386	0	1	2104
Female	0.521	0.5	0	1	2104
1st Gen.	0.171	0.376	0	1	2104
2nd Gen.	0.243	0.429	0	1	2104
3rd Gen., one Catalan parent	0.239	0.427	0	1	2104
3rd Gen., two Catalan parents	0.347	0.476	0	1	2104
Ideology (L-R)	3.292	2.213	0	10	2104
Nationalism	5.485	2.67	1	10	2104
Protectionism	2.938	1.023	1	5	2104
Altruism	0.344	0.475	0	1	2104
Cosmopolitanism	2.636	0.889	1	5	2104
Anti-immigrant	2.777	1.223	1	5	2104
Income: Very low	0.2	0.4	0	1	2104
Income: Low	0.197	0.398	0	1	2104
Income: Middle	0.206	0.404	0	1	2104
Income: High	0.245	0.43	0	1	2104
Income: Very High	0.153	0.36	0	1	2104
Unemployment Duration: No	0.914	0.28	0	1	2104
Unemployed: Short-Term y	0.036	0.187	0	1	2104
Unemployed: Long-Term y	0.049	0.217	0	1	2104
Full Time Worker	0.532	0.499	0	1	2104
Part Time Worker	0.109	0.312	0	1	2104
On Public Pension	0.159	0.366	0	1	2104
Unemployed	0.087	0.282	0	1	2104
Student	0.076	0.265	0	1	2104
Housekeeper	0.03	0.172	0	1	2104
Other	0.006	0.078	0	1	2104

Continued next page...

Table A-3: Summary statistics (un-weighted sample) continued.

Variable	Mean	Std. Dev.	Min	Max	N
... continues from previous page.					
Public Employee: No	0.958	0.201	0	1	2104
Public Employee: Central	0.009	0.095	0	1	2104
Public Employee: Regional/Local	0.033	0.179	0	1	2104
Benefits from Central Government	0.25	0.433	0	1	2104
Trade Ties (self-reported): No Ties	0.501	0.5	0	1	2104
Trade Ties (self-reported): Weak	0.231	0.422	0	1	2104
Trade Ties (self-reported): Strong	0.158	0.365	0	1	2104
Trade Ties (self-reported): Don't Know	0.11	0.313	0	1	2104
Import Ties (objective): No Ties	0.378	0.485	0	1	2104
Import Ties (objective): Weak	0.565	0.496	0	1	2104
Import Ties (objective): Strong	0.058	0.233	0	1	2104
Export Ties (objective): No Ties	0.613	0.487	0	1	2104
Export Ties (objective): Weak	0.268	0.443	0	1	2104
Export Ties (objective): Strong	0.119	0.324	0	1	2104
Expected individual Benefits from independence	0.47	0.499	0	1	2104
Fiscal Knowledge: No	0.394	0.489	0	1	2104
Fiscal Knowledge: Low	0.242	0.429	0	1	2104
Fiscal Knowledge: High	0.364	0.481	0	1	2104
General Political Knowledge 1.0000	0.315	0.465	0	1	2104
Province Bcn	0.774	0.418	0	1	2100
Province Girona	0.087	0.282	0	1	2100
Province Lleida	0.047	0.211	0	1	2100
Province Tarragona	0.092	0.289	0	1	2100
Rural	0.838	0.369	0	1	1957
Total Associations: 1st Quartile	0.254	0.435	0	1	2094
Total Associations: 2nd Quartile	0.249	0.432	0	1	2094
Total Associations: 3rd Quartile	0.261	0.439	0	1	2094
Total Associations: 4th Quartile	0.237	0.425	0	1	2094
Percent vote for Independence ParTies: 1st Quartile	0.251	0.434	0	1	1957
Percent vote for Independence ParTies: 2nd Quartile	0.471	0.499	0	1	1957
Percent vote for Independence ParTies: 3rd Quartile	0.031	0.174	0	1	1957
Percent vote for Independence ParTies: 4th Quartile	0.247	0.431	0	1	1957

Socioeconomic Covariates Age categories coincide with decades. Household income categories are: Very Low (€750 or less- 1,200); Low (€1,201-1,700); Middle (€1,701-2,300); High (€2,301-3,550); Very High (€3,551-6,000 or more). Education is divided in four categories based on skill acquisition: Up to secondary school includes people with a primary education or below, low tier of high school includes people who have completed ten years of general education or a lower degree of vocational training, high tier of high school includes people with twelve years of general education or an upper degree of vocational training, and college/university.

Preference for Secession: Behavioral measure. The wording of this item in the questionnaire was as follows: “*Currently there is much discussion about whether the new Parliament should move forward to implement independence or back down and forget about secession. Should we inform, on your behalf, the would-be president of the Catalan Parliament about your opinion on this matter? This information notice would contain your full name.*”

Trade Ties: Self-Reported. These variables measure the respondent’s subjective perception of levels of trade ties with the rest of Spain and the rest of European countries, separately. The question wording is: “*To what extent has your employer clients or supplies in other parts of Spain (outside Catalonia)?*” and “*To what extent has your employer clients or supplies in other parts of the European Union (outside Spain)?* The answer categories are:”

- “No client/supplier in [Spain/European Union]”: *No Tie*.
- “Some clients/supplier in [Spain/European Union]”: *Weak Ties*.
- “Most clients/suppliers” and “All Clients in [Spain/European Union]”: *Strong Ties*. We pull strong and very strong into the same category, as there is only 1% of respondents fall in the Very Strong category.
- “Don’t Know”: *Missing Ties*.
- “Doesn’t Apply”: This option is disproportionately chosen by individuals employed in the public administration and the education sector. These individuals are pooled in the *No Tie* category, as those are nontradable sectors.

The *No Tie* category includes also all individuals that are not in the labor market, and consequently are not asked this question in the first place. We assume that they cannot

anticipate the trade shock to a job that they do not have. Results are robust to more disaggregated specifications.

Trade Ties: Objective Measure We asked respondents about their employment sector at the two-digit levels (NACE Rev 2.1). For each two-digit sector, we computed export and import levels as a percentage of total sector production. These data are drawn from sectoral input-output tables collected by Idescat, the Catalan Statistical Office.

Following Bechtel, Hainmueller, and Margalit (2014), we also avoid linearity assumptions by creating a series of indicator variables. These scholars establish two thresholds to differentiate between levels of dependence. We use more modest thresholds to account for the lower trade dependence of the Catalan economy relative to Germany. *Nontradable sectors* are those that do not export/import, *low trade dependence* are those with trade dependence up to 25%, and *high trade dependence* are sectors with trade dependence over 25%. Based on this criterion, 13% are in the highest category of Export Intensity, and 6% are in the highest category of Import Exposure.

Figure A-1 shows the coefficient for High Export Ties in a full model specification for different cutoffs for High Export Ties in the 20 to 30% interval. As a sector becomes more export oriented in this interval, the magnitude of the coefficient grows in the expected direction. There are few high export sectors, hence confidence intervals grow as the threshold rises.

Overall, the two objective measures of trade ties lean support to the working hypothesis, while qualifying it. Import exposure from Spain does not drive preference for independence. By contrast, working in a sector that exports to the rest of Spain does predict opposition to independence, reinforcing the economic calculations of secession and remaining.

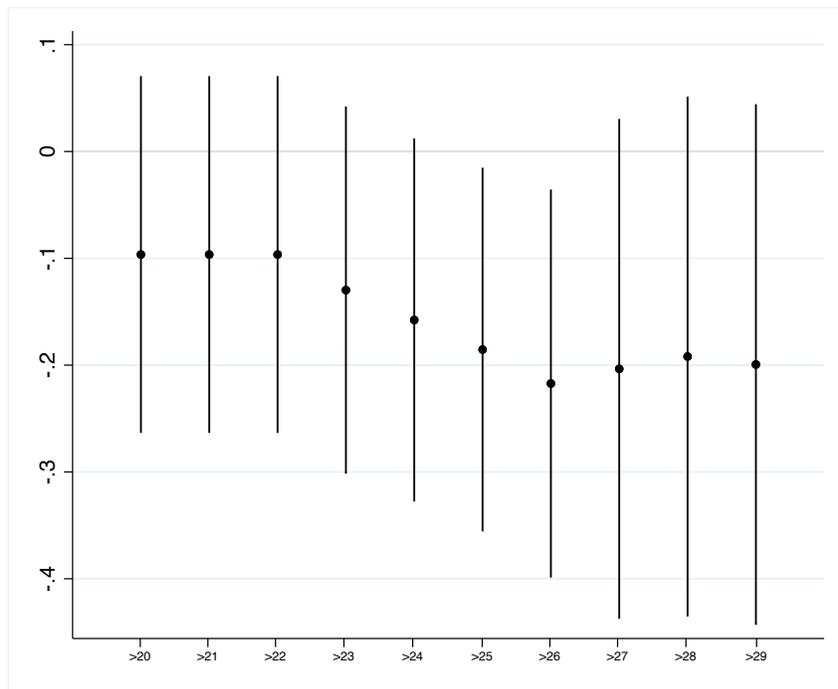


Figure A-1: Different Thresholds to establish High Export Ties.

B Continuous Socio-Economic Controls

Table A-4 reports the effect of baseline socio-economic controls when they are expressed continuously. In addition to socio-economic variables, we include Job Status and Municipality Size, which is recoded into five categories: Very Small (<10,000 inhabitants), Small (10,001-25,000), Medium (25,001-100,000), Large (100,001-500,000), and Very Large (>1,000,000).

Table A-4: **Socio-Economic Model with Continuous Variables plus Municipality Size.**

	(1)	(2)	(3)	(4)	(5)	(6)
Income	-0.009 (0.018)	0.067 (0.053)				
Income Squared		-0.030 (0.020)				
Income Category: Low			0.053 (0.142)	0.033 (0.140)	0.034 (0.141)	0.035 (0.147)
Income Category: Middle			0.042 (0.145)	0.027 (0.144)	0.036 (0.148)	-0.031 (0.154)
Income Category: High			-0.106 (0.149)	-0.109 (0.148)	-0.085 (0.151)	-0.095 (0.155)
Income Category: Very High			-0.079 (0.178)	-0.110 (0.180)	-0.072 (0.183)	-0.076 (0.189)
Age	0.008*** (0.003)	0.008*** (0.003)	0.008*** (0.003)			
Cohort: 30-39				-0.065 (0.131)	0.161 (0.140)	0.158 (0.145)
Cohort: 40-49				0.040 (0.130)	0.278* (0.143)	0.269* (0.148)
Cohort: 50-59				-0.073 (0.139)	0.155 (0.152)	0.067 (0.156)
Cohort: ≥60				0.347** (0.144)	0.705*** (0.208)	0.635*** (0.216)
Education	0.065*** (0.014)	0.066*** (0.014)	0.066*** (0.014)	0.066*** (0.014)		
Low-High School					0.275* (0.149)	0.306** (0.154)
High-High School					0.471*** (0.142)	0.516*** (0.147)
University					0.603*** (0.146)	0.620*** (0.152)
Job Status: Part Time					-0.009 (0.154)	-0.026 (0.158)
Job Status: Retired					-0.209 (0.198)	-0.147 (0.209)
Job Status: Unemployed					0.052 (0.167)	0.032 (0.173)
Job Status: Student					0.677*** (0.194)	0.588*** (0.199)
Job Status: Work-at-Home					-0.112 (0.249)	-0.083 (0.258)
Job Status: Other					0.042 (0.516)	0.149 (0.517)
Municipality Size: Small						0.028 (0.183)
Municipality Size: Medium						-0.241 (0.153)
Municipality Size: Large						-0.238 (0.165)
Municipality Size: Very Large						-0.101 (0.161)
Female	-0.089 (0.102)	-0.083 (0.102)	-0.088 (0.101)	-0.107 (0.101)	-0.109 (0.103)	-0.134 (0.106)
Constant	2.178*** (0.220)	1.987*** (0.250)	2.123*** (0.222)	2.455*** (0.180)	2.383*** (0.210)	2.531*** (0.251)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,100	2,100	2,100	2,100	2,100	1,957
R-squared	0.027	0.029	0.028	0.033	0.040	0.045

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, (**) $p < 0.05$, (*) $p < 0.1$). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Cohort: 18-29; Income Category: Very Low; Full-Time Employed; Municipality Size: Very Small.

C List Experiment of Territorial Redistribution

The list experiment of interterritorial redistribution reads as follows:

We want to know how many of the following reasons to support independence you agree with. Notice that we want to know how many, not which:

[Control and Treatment Groups]

- 1 I feel part of a different political community.*
- 2 I do not believe any promise made by the Spanish government.*
- 3 Independence brings us closer to populist movements in Europe, such as the National Front in France and la Lliga Nord in Italy.*

[Only Treatment Group]

- 4 I do not want my tax money spent outside of Catalonia.*

D Skill Levels and Support for Independence

In Table A-5 we replace education for skill levels. Skill levels are adapted from O’Rourke and Sinnott (2001) following Bechtel et al. (2014) coding scheme.³⁸ Participants in our survey reported their occupation from the CNO11 (two digits) list of occupations.³⁹ Respondents with elementary occupations fall in the category *skill level 1*; clerical support workers, service and sales workers, skilled agricultural, forestry and fishery workers, craft and related trades workers, and plant and machine operators, and assemblers fall in the category *skill level 2*; technicians and associate professionals have a *skill level 3*; and professionals and managers have a *skill level 4*.

We run separate regressions based on the same three categories in Bechtel et al. (2014): Individuals in labor force (full or part time), out of labor force, and retired. The sub-sample of individuals out of the labor force include: unemployed, retired, and public servants, who are not subject to the dynamics of the labor market.

Results are virtually the same for all the groups. The most interesting result is for retired respondents: this group has nothing at stake in terms of factor returns. Yet, the more skilled individuals in this group are, the stronger their preference for secession is. This result is consistent with a nonmarket explanation, arguably dissatisfaction with the existing system of interterritorial redistribution.

³⁸O’Rourke, Kevin H. and Richard Sinnott. 2001. “What Determines Attitudes Towards Protection? Some Cross-Country Evidence.” in *Brookings Trade Forum* ed. Susan M. Collins and Dani Rodrik. Washington, DC: Brookings Institute Press, 57-206.

³⁹CNO11 is the 2011 Classification of Occupations of the Spanish Statistical Institute (Instituto Nacional de Estadística).

Table A-5: **Support for Independence by Skill Level and Participation in the Labor Force**

	Non-Behavioral Preference				Behavioral Preference			
	All	In Labor Force	Out of Labor Force	Retired	All	In Labor Force	Out of Labor Force	Retired
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Skill Level 2	0.492*** (0.177)	0.370* (0.223)	0.828*** (0.273)	1.017*** (0.347)	0.209 (0.132)	0.202 (0.152)	0.401* (0.210)	0.460* (0.260)
Skill Level 3	0.640*** (0.230)	0.706*** (0.269)	0.768* (0.411)	0.672 (0.504)	0.260 (0.166)	0.276 (0.189)	0.440* (0.252)	0.589** (0.286)
Skill Level 4	0.621*** (0.209)	0.600** (0.255)	0.833** (0.330)	0.821* (0.423)	0.376** (0.150)	0.343** (0.166)	0.530** (0.249)	0.662** (0.302)
Observations	1,824	1,309	560	332	1,059	734	333	227
R-squared	0.031	0.028	0.061	0.076	0.048	0.054	0.103	0.138

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). Entropy weighting applied to match the voter population. Controls include Income, Age, and Gender, and Province FE. Reference Category: Skill Level 1.

E Anticipated Economic Consequences of Secession

E.1 Exiting European Institutions

In the introduction of the Mechanism section, we discussed possible explanations for the robust association between education and preference for secession. The expected outcomes of secession might differ by levels of education: for instance, more educated individuals might anticipate that an independent Catalonia would not exit the European Union (EU), the European Common Market (ECM), and the Euro zone because trade wars are sub-optimal for both parties.

In Table A-6 we regress our questions about the likelihood of Catalonia being dropped from the EU and ECM and the Euro zone upon independence on education and skills levels, holding preference for secession and other socio-economic factors constant. Both outcome variables range from 1 to 7, and higher values indicate higher probability of exit. Columns 1 to 4 in Table A-6 suggest that anticipated expectations to exiting European institutions are endogenous to secession support—a reason why one should avoid regressing attitudes on attitudes—but not to education or skills levels.

Table A-6: Anticipated Consequences of Secession

	Exit Common Market (1)	Exit Euro (2)	Exit Common Market (3)	Exit Euro (4)
Low-High School	0.099 (0.144)	0.055 (0.148)		
High-High School	0.042 (0.136)	-0.017 (0.147)		
University	0.084 (0.140)	-0.108 (0.150)		
Skill Level 2			-0.143 (0.185)	-0.242 (0.198)
Skill Level 3			-0.094 (0.216)	-0.221 (0.234)
Skill Level 4			-0.203 (0.212)	-0.332 (0.224)
Vote for Secession: Likely Against	-1.130*** (0.153)	-1.210*** (0.177)	-1.141*** (0.163)	-1.242*** (0.193)
Vote for Secession: Not in Favor, not Against	-2.060*** (0.175)	-2.065*** (0.182)	-2.086*** (0.186)	-2.028*** (0.201)
Vote for Secession: Likely in Favor	-2.485*** (0.172)	-2.685*** (0.165)	-2.484*** (0.188)	-2.643*** (0.178)
Vote for Secession: Most Likely in Favor	-3.288*** (0.115)	-3.609*** (0.123)	-3.340*** (0.124)	-3.638*** (0.134)
Controls	Yes	Yes	Yes	Yes
Municipality Fixed Effect	Yes	Yes	Yes	Yes
Observations	2,100	2,100	1,824	1,824
R-squared	0.408	0.423	0.421	0.424

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, (**) $p < 0.05$, (*) $p < 0.1$. Entropy weighting applied to match the voter population. Reference categories: Up to Secondary School; Skill Level 1, Vote for Secession: Against.

E.2 Expectations about Egocentric and Sociotropic Gains from Secession

We asked respondents whether they would individual benefit from secession, or whether the Catalan people as a whole would benefit from secession. We plot these scores (1-7 scores, where 1 denotes large loss and large win) against education and skill levels. Figure A-2 shows that anticipated individual and sociotropic gains from secession do not vary by education or skill level.

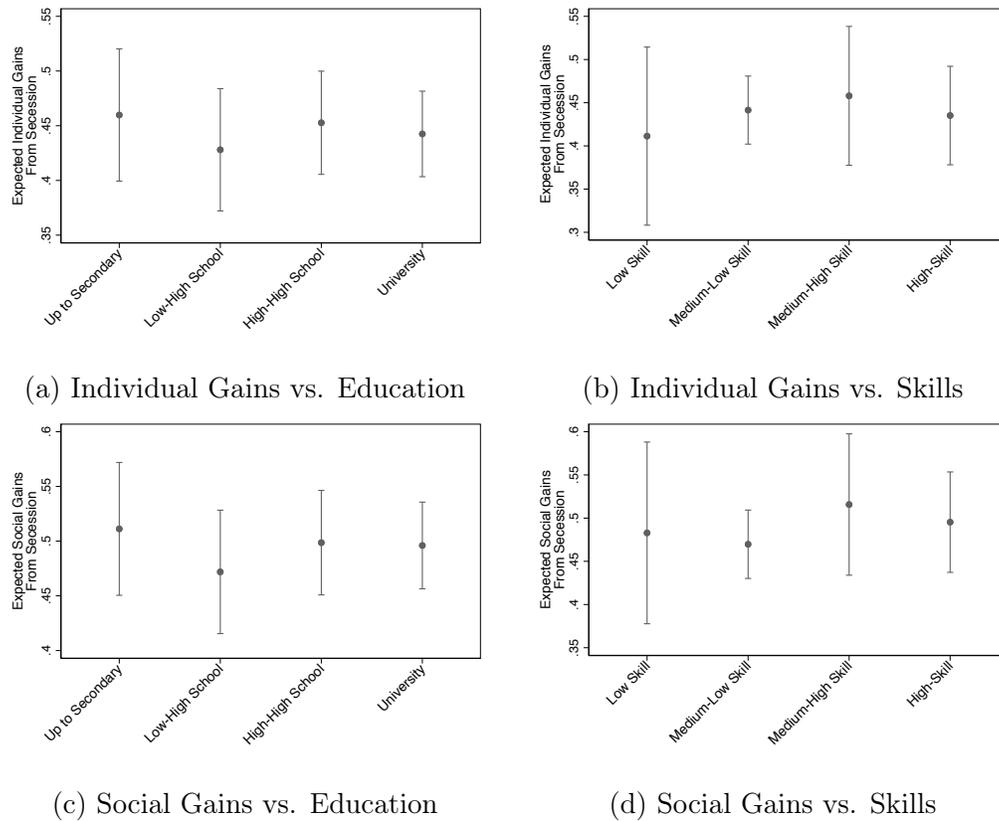


Figure A-2: **Egocentric and Sociotropic Gains from Independence by Education and Skill Levels.**

F Heckman correction model for Behavioral Outcome Variable

In this appendix, we assess whether selection into our behavioral measure drives results in Table 4. To that end, we use a heckman correction model. The ordinal probit heckman routine run on a full model on Stata 15.1 fails to converge. To circumvent this problem, we make two changes to the full model specification: First, we drop Unemployment Spell, which is poorly distributed (few individuals are in the top category) and prevents model convergence. Second, we drop entropy weighting, which also prevents model convergence.

To facilitate comparison, Column 1 in Table A-7 replicates the analysis presented in Column 5 in Table 4 in the main text by running a weighted model excluding the Unemployment Spell variable. Results are virtually identical to those reported in the main text. In Column 2, we drop entropy weighting. Results, again, are virtually identical to those reported in Column 1, which confirms the representativeness of the original sample. In Columns 3 and 4, we report the second and first stage, respectively, of the ordinal probit heckman model. The excluded variable in the selection stage (Column 4) is “Institutional Participation.” This variable is 1 if our respondent intended to vote in the snap election of December 21, regardless of the party choice (evenly split between secessionist and unionist), and 0 otherwise. We assume that those that intend to cast a vote, hence channel their demands by institutional means, are more likely to participate in our behavioral game.

The inverse mills ratio is -0.857 , and statistically significant at 90%. But selection does not affect coefficients in any substantial way, as reflected in Column 3. The role of education is the same: highly educated individuals are more likely to send a prosecession petition. The role of income is similar once we correct for selection, although prosecession attitudes are mostly concentrated in the mid-high income group rather than the highest class. Ancestry, and strong trade ties with the Spanish Economy remain important to explain support and opposition to independence, respectively. Overall, the Heckman framework offers similar results to those reported in Table 4 in the main text..

Table A-7: Heckman Correction Model for Behavioral Outcome Variable

	oProbit Petition (1)	oProbit Petition (2)	Ordinal Probit Heckman	
			2nd Stage Petition (3)	1st Stage Selection (4)
Low-High School	0.133 (0.126)	0.085 (0.111)	0.015 (0.122)	0.062 (0.101)
High-High School	0.099 (0.124)	0.175 (0.108)	0.159 (0.119)	-0.103 (0.096)
University	0.240* (0.125)	0.285** (0.112)	0.305** (0.122)	-0.215** (0.096)
Cohort: 30-39	-0.064 (0.150)	0.047 (0.112)	0.032 (0.115)	-0.043 (0.092)
Cohort: 40-49	0.006 (0.143)	0.149 (0.114)	0.166 (0.110)	-0.150 (0.092)
Cohort: 50-59	0.074 (0.151)	0.169 (0.120)	0.145 (0.112)	-0.084 (0.097)
Cohort: ≥60	0.355** (0.149)	0.415*** (0.122)	0.227 (0.144)	0.157 (0.109)
Income Category: Low	0.128 (0.138)	0.083 (0.107)	0.046 (0.139)	-0.052 (0.099)
Income Category: Middle	0.195 (0.143)	0.216* (0.112)	0.185 (0.140)	-0.140 (0.099)
Income Category: High	0.541*** (0.129)	0.437*** (0.111)	0.326** (0.141)	-0.108 (0.098)
Income Category: Very high	0.294* (0.155)	0.341*** (0.128)	0.196 (0.136)	0.036 (0.109)
2nd Gen.	0.212* (0.120)	0.270** (0.108)	0.163 (0.131)	0.078 (0.097)
3rd Gen: One Catalan Parent	0.607*** (0.127)	0.654*** (0.108)	0.432*** (0.101)	0.177** (0.089)
3rd Gen: Two Catalan Parent	1.101*** (0.129)	1.155*** (0.106)	0.814*** (0.112)	0.199** (0.085)
Trade ties with Spain: Weak	0.187 (0.124)	0.067 (0.100)	0.025 (0.089)	0.038 (0.079)
Trade ties with Spain: Strong	-0.245* (0.130)	-0.212** (0.108)	-0.185* (0.097)	0.012 (0.089)
Ideology (L-R)	-0.221*** (0.021)	-0.224*** (0.016)	-0.148*** (0.014)	-0.033*** (0.013)
Female	-0.007 (0.092)	-0.013 (0.074)	0.136* (0.072)	-0.288*** (0.062)
Benefit	-0.109 (0.111)	-0.125 (0.090)	-0.142* (0.085)	0.055 (0.078)
Public Employee: Central	-0.849* (0.464)	-0.850** (0.398)	-0.499 (0.372)	-0.372 (0.310)
Public Employee: Local/Regional	-0.079 (0.218)	-0.187 (0.185)	-0.191 (0.173)	0.071 (0.159)
Intention to vote				0.389*** (0.059)
Constant				0.201 (0.188)
Province FE	Yes	Yes	Yes	Yes
Observations	1,212	1,212	2,100	2,100

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, (**) $p < 0.05$, (*) $p < 0.1$. The reference categories are as follows: Up to Secondary Education; Male; Cohort: 18-29; and Income Category: Very Low.

G Information Mechanism

In this Appendix we assess to what extent results in the Information section speak to general political knowledge or knowledge specific to the territorial transfer system. In our survey, we assessed general political knowledge twofold. First, we asked respondents to state the name of the Minister of Finance. Respondents were to identify him out of a list of four names. Second, we asked a question about the coalition partner of Angela Merkel's government: the Social Democrats.

Column 2 and 3 in table below show that the results for general political knowledge are not statistically significant, neither they attenuate the influence of education on preference for secession, unlike fiscal awareness (column 4). These results reinforce the idea that fiscal knowledge, rather than general political knowledge, mediates the relationship between education and preferences for independence.

Table A-8: **Assessing the Effect of other forms of Political Information**

	(1)	(2)	(3)	(4)
Low-High School	0.099 (0.119)	0.097 (0.119)	0.103 (0.119)	0.095 (0.117)
High-High School	0.239** (0.113)	0.233** (0.113)	0.243** (0.113)	0.182 (0.113)
University	0.350*** (0.115)	0.339*** (0.116)	0.359*** (0.116)	0.258** (0.117)
Awareness: Spanish Minister		0.085 (0.102)		
Awareness: German Government Coalition			-0.058 (0.088)	
Awareness: Fiscal Transfers, Middle				0.203** (0.100)
Awareness: Fiscal Transfers, High				0.403*** (0.093)
Constant	2.933*** (0.201)	2.883*** (0.212)	2.944*** (0.200)	2.849*** (0.198)
Controls	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Observations	2,100	2,100	2,100	2,100
R-squared	0.365	0.365	0.365	0.373

OLS coefficients shown with standard errors in parentheses (***) $p < 0.01$, (**) $p < 0.05$, (*) $p < 0.1$). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Awareness of Fiscal Transfers: Low. Controls include: Income, Age, Gender, Ancestry, Ideology, Unemployment Length, Benefit, and. Trade Ties with Spain. Constant not reported.

H Internal Migration and Catalan Schooling

Table A-9 reports subset analysis for first and second generations, and for individuals that went to school in other parts of Spain. In Table A-10 we test for the effect of Catalan schooling use the same controls than Clots-Figueras and Masella (2013): gender, age cohort, and municipality size, which might change effective levels of exposure (Hierro, 2015).

Table A-9: **Effect of Education on Secession Preference for First and Second Generations, and for individuals who went to school in other Spanish regions.**

	Sub-Sample		
	First Gen. Catalan	First and Second Gen. Catalan	Migrant with No Catalan Schooling
	(1)	(2)	(3)
Low-High School	0.252 (0.255)	0.194 (0.175)	0.893 (0.729)
High-High School	0.441* (0.234)	0.447*** (0.168)	0.634 (0.528)
University	0.438* (0.228)	0.290* (0.167)	1.019** (0.478)
Controls	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes
Observations	357	869	121
R-squared	0.257	0.236	0.265

Coefficients shown with standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). Entropy weighting applied to match the voter population. The reference categories are as follows: Up to Secondary Education; Male; Awareness of Fiscal Transfers: Low. Controls include: Income, Age, Gender, Ancestry, Ideology, Unemployment Length, Benefit, and Trade Ties with Spain. Constant not reported.

Table A-10: The Effect of Education Before and After the 1983 Reform

	Before Reform			After Reform		
	(1) Nonbehavioral OLS	(2) Behavioral OLS	(3) Behavioral oProbit	(4) Nonbehavioral OLS	(5) Behavioral OLS	(6) Behavioral oProbit
Low-High School	0.042 (0.186)	0.166 (0.123)	0.223 (0.166)	0.168 (0.200)	0.256 (0.161)	0.288 (0.195)
High-High School	0.056 (0.186)	0.119 (0.121)	0.089 (0.169)	0.634*** (0.186)	0.459*** (0.154)	0.557*** (0.191)
University	0.026 (0.164)	0.219*** (0.108)	0.339*** (0.164)	0.796*** (0.179)	0.534*** (0.150)	0.698*** (0.187)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipality Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	737	461	461	1,105	612	612
R-squared	0.270	0.179		0.184	0.142	

Coefficients shown with standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). Entropy weighting applied to match the voter population. The reference category is Up to Secondary Education. Controls include: Age, Gender, Municipality Size, and Ancestry. Constant not reported.