

# The Occupational Roots of the Cultural Anti-immigration Backlash:

## The role of specific skills and labor market context

Josep Serrano-Serrat\*

### Abstract

This paper aims to fill the gap in the understanding of the cultural anti-immigration backlash of highly skilled individuals. To address this gap, this study focuses on occupation-specific skills (OSS), which are assets whose returns depend on the occupational labor market context. In tight labor markets, OSS provide protection from labor market competition, but their effectiveness decreases in loose labor markets. As a result, occupations with high OSS, such as professionals and managers, are particularly affected when the occupational labor market deteriorates. This deterioration in the labor market leads to a decline in perceptions of social status, which in turn leads to a cultural reaction against immigration among these workers. The results of several attitudinal surveys, including longitudinal data, support this argument.

KEYWORDS: ANTI-IMMIGRATION ATTITUDES, OCCUPATIONAL CONTEXT, SPECIFIC SKILLS, CULTURAL BACKLASH

---

\* PhD Candidate in Social Sciences, Universidad Carlos III de Madrid.

This aims to be part of my dissertation at Universidad Carlos III de Madrid; I thank Ignacio Jurado for his thoughtful advice. Cesc Amat has provided valuable feedback which has improved the version of the current manuscript. For comments and suggestions, I thank participants at Doctoral Students' Workshop at UC3M and the Early Career SASE/Digit Workshop. Previous versions of this work have been presented at the 2022 Annual Meetings of ECSR and SASE. This version has been prepared for the 2023 APSA Annual Meeting.

# Introduction

One of the most controversial issues in political economy is why people oppose immigration. Broadly speaking, there are two non-exclusive explanations: one that emphasizes the role of culture and values, and another that emphasizes material self-interest and competition for scarce resources. Authors who emphasize the role of cultural factors believe that immigration rejection is due to tensions between different cultures and that individuals' values are an important driver of these preferences. On the other hand, scholars who emphasize the role of economic factors argue that competition with immigrants, for example in the labor market, leads to greater rejection of immigration.

Until recently, the consensus was to discount the economic determinants of attitudes toward immigration, to the point that scholars even referred to them as “zombie” theories (Hainmueller and Hopkins, 2014:241). Measures that have been used to capture labor market competition with immigrants, such as educational attainment, have been shown to be flawed. For example, there is evidence that education tends to be related to social trust, a key determinant of attitudes toward immigration, but less so to perceptions of labor market risk (Cavaillé and Marshall, 2019; Margaryan, Paul, and Siedler, 2021). In this context, finer measures have been used to capture workers' labor market vulnerability (Pardos-Prado and Xena, 2019; Ersanilli and Präg, 2019). In essence, these new accounts can be divided into those that focus on workers' labor market status (e.g., permanent vs fixed-term contracts) and those that focus on occupational risks (Rovny and Rovny, 2017). Rovny and Rovny expose the “importance of distinguishing between status- and risk-based” explanations, stressing that “[f]uture research should further unpack these as to their distinguishing features” (Rovny and Rovny, 2017:182). On these lines, this article takes seriously the occupational dimension of the argument.

Following recent social psychology and political economy developments, I analyze how an increase in occupational risks prompts a cultural reaction against immigration (Ballard-Rosa, Jensen, and Scheve, 2022; Henrich and Gil-White, 2001; Kurer, 2020). I argue that one of the most important investments individuals make in the labor market is the acquisition of OSS, which provide not only income but also job stability. I claim that holding more OSS shelter workers from job loss but that this effect dissipates when the occupational labor markets deteriorate (e.g., occupational unemployment rates increase). This is so because worker with high OSS become more easily replaceable by firms. Moreover, when the occupational labor market deteriorates the probability of changing occupations increases, having an important effect for those individuals

with greater OSS. Therefore, OSS can be understood as an asset whose returns depend on the occupational context.

When the returns to this asset decline due to occupational deterioration, a sense of status loss emerges with implications that go beyond first-dimension politics (Ansell et al., 2022; Gidron and Hall, 2017; Kurer, 2020). Findings suggest that the perception of declining social standing is an important catalyst for the backlash against immigration that is prevalent in Western nations (Baccini and Weymouth, 2021; Ballard-Rosa, Jensen, and Scheve, 2022; Gidron and Hall, 2017; Kurer, 2020). Through the aforementioned mechanism, I expect a cultural response to changes in the occupational labor market context, with the effect being stronger for individuals with high levels of OSS.

Typically, the literature focuses on how low skilled and low educated individuals tend to respond politically in cultural terms against immigration, even if they sacrifice their own material well-being in the process (Frank, 2007; Shayo, 2009). Yet there is a lack of understanding about whether and why highly skilled individuals respond also culturally to economic threats.<sup>1</sup> The current paper aims to fill this gap.

I argue that it is crucial to improve our understanding of how highly skilled workers respond to economic adversity. Iversen and Soskice (2020) contend that the interests of skilled workers and advanced capitalism are aligned, thereby facilitating the functioning of democracy as a market-enhancing institution. In contrast, I argue that highly skilled – concretely, individuals with high OSS – may respond politically in ways that undermine the stability of liberal democracies. Following Häusermann, Kurer, and Zollinger (2023), I argue that skilled workers may perceive a lack of long-term opportunity despite favorable economic conditions in the present. This segment of the electorate, referred to as “apprehensive voters”, should be examined more closely to understand their political responses. By examining high OSS workers’ political responses to economic adversity, this study aims to contribute to the existing literature and provide a comprehensive understanding of their attitudes toward immigration, a key driver of recent political turmoil.

This article is also related to other streams of research. It is linked to the literature examining labor market competition and immigration preferences and seeks to explore why occupational measures of labor market risk are associated with anti-immigrant attitudes (Hainmueller and Hopkins, 2014; Pardos-Prado and Xena, 2019; Kurer, 2020). Also, it dialogues with the literature

---

<sup>1</sup>On how high skilled respond economically to economic threats, see Malhotra, Margalit, and Mo (2013).

that aims to shed light on the contexts in which different occupational groups are more likely to be against immigration (Bornschieer and Kriesi, 2012; Oesch and Rennwald, 2018). While this literature typically analyzes blue-collar and skilled production workers, I propose a general framework that links OSS and occupational labor market context. Further, it refers to the extensive literature in political economy that addresses the relationship between occupational risks and political preferences (Iversen and Soskice, 2001; Rehm, 2009). This literature tends to be focused on preferences for redistributive policies, which mitigate risks. Differently, building on the political economy literature that examines how a sense of economic hardship affects social status (Ballard-Rosa, Jensen, and Scheve, 2022), I argue that occupational risks can affect second-dimension politics (Kurer, 2020).

A critical reader might object that highly skilled individuals are especially sheltered from labor market risks. Recent developments in labor markets are closely related to robotization, which mainly affects routinizable occupations, and of the five least routinizable occupations, four of them are Managers and Professionals (Acemoglu and Restrepo, 2020; Goos, Manning, and Salomons, 2014; Thewissen and Rueda, 2019). Therefore, one could argue that the implications of the proposed relationship are not far-reaching. However, this argument neglects two crucial facts. First, since different regions have different robotization paths, there are highly skilled workers exposed to robotization (Anelli, Colantone, and Stanig, 2021). Second, other factors, such as artificial intelligence (AI) and international trade, have disproportionate impacts on previously protected occupations (Häusermann, Kurer, and Schwander, 2015; Webb, 2019; Wren and Rehm, 2014). Analyzing AI patents and job descriptions, Webb (2019) finds that among the five occupations most affected by AI, four are Managers and (Associate) Professionals. Wren and Rehm (2014), on the other hand, show that current developments in international trade have exposed high-skilled workers to labor market risks and that their political response is different from that of low-skilled workers. Therefore, it is crucial to understand better the political responses of these occupational groups.

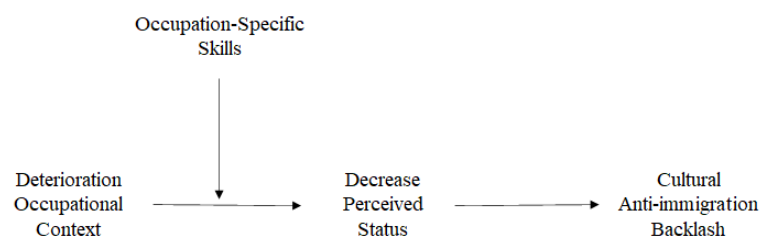
The expectations of the model are empirically tested using various databases. In particular, the first nine rounds of the European Social Survey (ESS) are used to test whether there is evidence of a cultural backlash against immigration when occupational labor markets deteriorate and whether this relationship is stronger for individuals with higher levels of OSS. The validity of the results is improved by using the German Socio-Economic Panel (GSOEP). The GSOEP is a high-quality longitudinal survey that includes a question on immigration concerns and occupational identifiers from 1999 to 2019. Finally, to test the plausibility of the mechanism, the

International Social Survey Programme (ISSP) is employed. The ISSP is one of the few surveys that consistently asks respondents about their own perceived position in the social hierarchy. Consistent with the argument, the empirical analysis reveals that occupational labor market deterioration is associated with lower perceived social status and greater cultural concerns about immigration and that these associations are stronger the higher the amount of OSS.

## Occupational Roots of the Cultural Anti-immigration Backlash: The Argument

This section contains a detailed account of the central argument presented in this paper. The core claim is that the decline in the occupational labor market context has a negative impact on workers' labor market prospects, especially for those with high levels of OSS. This phenomenon in turn contributes to a decline in subjective social status, leading to a cultural reaction against immigration. To visually depict the proposed relationship, Figure 1 provides a schematic representation of the proposed argument.

Figure 1: Overview Model



In order to substantiate the argument, this section examines how changes in the occupational labor market affect individuals' subjective social status, taking into account the moderating role of OSS. It then examines how this decline in subjective social status is expected to affect immigration preferences. Furthermore, this model will be contextualized within the existing body of literature that has previously linked labor market prospects, skills, and immigration preferences.

## Specific skills, labor market context, and subjective social status

The proposed argument aligns with theories that postulate that the sense of status loss is closely related to economic conditions (Ballard-Rosa, Jensen, and Scheve, 2022; Kurer, 2020).<sup>2</sup> Specifically, this paper argues that occupations play a pivotal role in shaping individuals' subjective status, with OSS being at the center of the argument. I claim that when the occupational labor market deteriorates, individuals perceive a decline in their social status, and this effect is more pronounced when occupations require higher amounts of OSS. The rationale behind this is that OSS tends to mitigate labor market risks when the occupational labor market is tight, but not when it is loose.

Building on recent research in labor economics, I contend that investing in OSS is an important decision in the labor market. This stream of investigation suggests that occupations stand as a crucial determinant of labor market prospects (Kambourov and Manovskii, 2009; Jäger and Heining, 2022; Shaw, 1984). For instance, Kambourov and Manovskii (2009) show that the effect of switching occupations on wages is three times larger than the corresponding effect of changing firms, and Jäger and Heining (2022) find that when a worker dies unexpectedly, working conditions improve for co-workers in the same occupation because it is difficult for firms to replace the deceased worker.

I argue that OSS yields returns to workers in terms of income and income stability, but these returns are contingent on the occupational labor market (Jäger and Heining, 2022). In a tight occupational context, characterized by low unemployment rates relative to vacancy rates, OSS serves as a safeguard against job loss because firms would find it difficult to hire new workers with the required skills, and they would otherwise have to incur training costs (Lazear, 1995; Goldthorpe, 2000; Jäger and Heining, 2022). However, in a loose occupational context, firms can more readily replace workers without incurring training costs, reducing the protective effect of OSS against job loss. In addition, workers are aware that if they are laid off, it will be difficult for them to find a new job in the same occupation due to competition from other workers possessing similar skills (Pardos-Prado and Xena, 2019). This possibility to change occupations has more detrimental effects when a significant amount of OSS are involved (Zangelidis, 2008).

Given the economic and political transformations over the last four decades, coupled with the widespread adoption of competitive markets, individuals increasingly gain self-respect and esteem by acquiring skills that are validated by the market (Gidron and Hall, 2020; Hall and

---

<sup>2</sup>Appendix A exposes a simple formal model.

Lamont, 2013; Jackson and Grusky, 2018; Sørensen, 2000). In particular, OSS stand as one of the valuable assets that contribute to social recognition; however, this recognition hinges on the returns that workers reap from them. As Sorensen notes, “assets will be relevant for the respect and prestige received from the community when knowledge of these assets permits a collective evaluation of the standing of actors” (Sørensen, 2000:1534). This process of “collective evaluation”, coupled with individuals’ self-assessment of their social standing, is closely linked to the returns they derive from possessing OSS. When labor markets deteriorate, the returns to OSS decline, leading to a decline in prestige.

This process can be attributed to two primary motives: *egotropic* and *sociotropic* (Ansell et al., 2022). Egotropic motives arise when individuals perceive that the loosening of the occupational labor markets increases the risk of job loss and limits outside opportunities. As a result, heightened job insecurity diminishes their perceived social prestige. Conversely, sociotropic motives occur when individuals observe the challenges that workers face in their occupations, such as the difficulty of finding a suitable job or the severe consequences in the event of job loss. The aforementioned circumstances may exacerbate perceived risks and lead to a decline in subjective social status. Furthermore, regardless of one’s personal economic situation, witnessing other people in the same occupation struggling with problems in the labor market can have an impact on one’s sense of social recognition (Sørensen, 2000; Ridgeway, 2014).

H1: Occupational labor market deterioration decreases perceived social status, the effect being stronger the higher the amount of OSS.

## **From perceived social status to cultural anti-immigration backlash**

Recent developments in political economy have increasingly highlighted the importance of perceived social status and status threat as a key determinant of political attitudes (Baccini and Weymouth, 2021; Ballard-Rosa et al., 2021; Gidron and Hall, 2017; Gidron and Hall, 2020). In this section, I address how feelings of status loss due to a deterioration in the occupational labor market can lead to a cultural backlash against immigration.

As has been recognized in the sociological literature, status is an important element of modern stratification patterns (Ridgeway, 2014) and may also influence people’s political leanings (Gidron and Hall, 2017). However, the current discussion has so far focused only on one aspect of social status—namely, prestige—which, without further investigation, appears to have no relationship to political preferences. To illustrate how a decline in prestige might trigger a

reaction against immigration, the argument incorporates insights from the dominance-prestige model of social psychology. This model draws on evolutionary theory, which recognizes that status is not only gained through success or knowledge (prestige), but that we, like other animals, can take coercive actions to achieve higher social rank (dominance) (Cheng et al., 2013; Henrich and Gil-White, 2001; Petersen, Osmundsen, and Arceneaux, 2023). By integrating the dominance-prestige model, the argument unveils the multifaceted nature of status and its potential implications for policy preferences, particularly with respect to immigration concerns.

Empirical evidence shows that there is indeed a link between economic hardship, insecurity, and dominance attitudes (Ballard-Rosa, Jensen, and Scheve, 2022; Feldman and Stenner, 1997; Inglehart, 2018). In assessing the recent cultural backlash in Western countries, Inglehart (2018) emphasizes the importance of perceived economic insecurity. According to so-called Evolutionary Modernization theory, “economic and physical insecurity are conducive to xenophobia, strong in-group solidarity, authoritarian politics, and rigid adherence to their group’s traditional cultural norms” (Inglehart, 2018:8). Similarly, in analyzing the China shock, Ballard-Rosa, Jensen, and Scheve (2022) find that economic hardship leads to higher authoritarian values, especially on dimensions related to the use of force and ensuring punishment for norm deviance, which are examples of dominance strategies.

The use of dominance strategies serves the purpose of strengthening the social boundaries between different social groups (Gidron and Hall, 2017; Ridgeway, 2014). More specifically, individuals who experience a prestige decline often use the establishment of cultural boundaries as a means to differentiate themselves from outgroups. These boundaries generate self-justifying implications regarding their own superiority, which in turn increases their perceived status (Ridgeway, 2014). The interplay of dominance strategies and the establishment of cultural boundaries thus forms a dynamic mechanism by which individuals seek to increase their social status.

Consistent with the dominance-prestige model, Ridgeway (2014) asserts that there are reactions from high-status groups when low-status individuals threaten the status quo. Since social status is a positional concept, the improvement of other social groups can lead to a status threat that elicits a political response (Ansell et al., 2022; Gest, Reny, and Mayer, 2018; Gidron and Hall, 2017; Kurer, 2020). Kurer (2020) shows that workers in routinizable occupations have turned to the radical right because these occupations are stagnant in a context where other occupations are improving their status. He contends that this relationship between routinization and radical right voting is due to status anxiety caused by occupational stagnation and fear of economic decline.

An investment in OSS is a long-term investment in a particular occupation. Since these skills cannot be used outside the occupation and cannot be divested, acquiring OSS creates ties between workers and their occupations.<sup>3</sup> When the occupational labor market deteriorates, dissatisfaction increases as the returns to OSS diminish. The anxious situation of formerly protected groups triggers concerns about their status in the social hierarchy (Baccini and Weymouth, 2021; Kurer, 2020; Petersen, Osmundsen, and Arceneaux, 2023). This, in turn, prompts political reactions in the second dimension of cultural and group identity preferences (Ansell et al., 2022).

When the prestige of an occupation declines, people compare their current unsatisfactory situation to an idealized version of the past, which increases nostalgia and willingness to regain status through identity-related issues (Anelli, Colantone, and Stanig, 2021; Baccini and Weymouth, 2021; Gest, Reny, and Mayer, 2018; Gidron and Hall, 2017). Research has shown that people have an aversion to a decline in their social status and that individuals who suffer a loss of prestige attempt to compensate by adopting a strategy of dominance over outgroups, with immigrants being the main scapegoat (Ballard-Rosa et al., 2021; Inglehart, 2018). As Ballard-Rosa et al. (2021) point out, natives try to force minority groups to conform to social norms to compensate for a given loss of status.<sup>4</sup> These dominant strategies over immigrants create social boundaries, which in turn, restore a sense of identity and status.

In summary, investment in OSS ties workers to their occupations and they derive social status from these skills. When the occupational labor market is tight, higher OSS are associated with a lower probability of job loss and the transferability of these skills is high. In this context, OSS are socially recognized because they are validated by the market. As returns to OSS decline when the occupational labor market deteriorates, perceived social status declines, prompting a cultural reaction against immigration. This cultural reaction can be understood as a dominance reaction that creates social boundaries to raise the status of natives.

H2: Occupational labor market deterioration increases cultural concerns about immigration, the effect being stronger the higher the amount of OSS.

---

<sup>3</sup>For a similar argument, see Ansell et al. (2022). In their case, however, there is a long-term commitment between individuals and their location due to housing investment.

<sup>4</sup>Indeed, there is evidence that these dominance strategies can lead to greater assimilation of these minorities (Fouka, 2019).

## Relation with the literature

Recent studies have examined the impact of specific skills and labor market context on immigration preferences, but they exhibit significant differences from the proposed argument (Bisbee and Rosendorff, 2020; Pardos-Prado and Xena, 2019; Polavieja, 2016). In particular, Bisbee and Rosendorff (2020) analyze the effects of the “China shock” and show that it fosters negative attitudes toward immigration among individuals who face significant occupational risks. In their study, occupational risks arise when individuals work in occupations whose skills are specific, in the sense that there are few job vacancies for those skills. Although there are some similarities between their findings and the argument presented here, there are two key differences. First, occupational risks in their argument act only as predispositions that require an external shock to be activated, whereas my argument does not depend on any external shock. Second, while they define skill specificity in terms of job availability, I define OSS as the amount of skills required for a given occupation (Streeck, 2012).

Analyzing the amount of specific skills, Polavieja (2016) argues that specific skills protect workers from labor market competition, leading to fewer immigration concerns. However, his argument lacks clarity regarding whether specific skills refer to firms or to occupations. Moreover, his analysis overlooks the influence of occupational labor market tightness and focuses exclusively on labor market competition without considering the potential cultural response that results from a perceived loss of social status. Also analyzing economic concerns, Pardos-Prado and Xena (2019) examine whether low job availability in a given occupation and possession of hard-to-transfer skills can lead to economic concerns about immigration. The authors hypothesize that people who find themselves in these situations will become increasingly concerned about competing with immigrants in the future. In contrast, I propose that OSS can mitigate labor market risks in certain contexts; however, their effectiveness declines as the labor market deteriorates, making workers less immune to competitive pressures. The argument is that this does not increase concerns about competing with immigrants in the future, but rather triggers a cultural reaction against immigration based on a sense of diminished status.

The argument presented has similarities with that of Kurer (2020). He emphasizes that status anxiety of previously sheltered groups can trigger a second-dimension political reaction. A key difference is that he examines structural labor market changes, whereas I focus on short-term shifts in occupational labor markets as drivers of a cultural reaction against immigration.<sup>5</sup>

---

<sup>5</sup>See Carreras, Irepoglu Carreras, and Bowler (2019) for a discussion of the importance of distinguishing between short-term and long-term economic distress

I argue that even temporary changes in occupational labor markets can lead to a decline in subjective social status. Moreover, he focuses on radical-right voting, while I focus specifically on cultural concerns about immigration.

Further, the proposed model differs from other approaches that link labor market risks, skills, and immigration preferences. It contrasts with much of the existing literature, which focuses predominantly on low-skilled workers as key drivers of radical parties that support anti-immigration policies (Dehdari, 2021; Gidron and Hall, 2017). Dehdari (2021) shows that layoff notices at the precinct level increase votes for the Sweden Democrats (a radical right-wing party) among low-educated workers, but that this effect is reversed among those with higher levels of education. Of greater importance to the comparison of the arguments is that the study posits that heightened subjective unemployment risk leads to concerns about immigration only among the less educated, while the opposite is observed among the highly educated.<sup>6</sup> In contrast to this account, my argument does not address the heterogeneity effect of subjective risk on immigration preferences based on skills. Rather, it posits that a deterioration in the occupational labor market has a stronger impact on the perceived social status of individuals with higher OSS, which prompts a cultural reaction against immigration.

Finally, given the emphasis on occupational risks, the argument is related to the literature on redistributive preferences and social policy institutions (Rehm, 2009; Gingrich and Ansell, 2012). As previous studies have outlined, greater occupational risks tend to lead to stronger redistributive preferences (Iversen and Soskice, 2001; Rehm, 2009). The underlying logic of the argument accounts for the possibility of a dual response from individuals – a propensity to support redistributive policies, alongside a cultural backlash against immigration. The reason is that increasing redistributive preferences does not directly address the occupational risks that individuals face. The actual mitigation of these risks is contingent on the presence of social policy institutions that do not translate occupational risks into actual individual risks (Gingrich and Ansell, 2012; Vlandas and Halikiopoulou, 2022). Although the focus of this paper does not center on a comparative approach, the proposed relationship is expected to be weaker when institutions homogenize risks. I show evidence consistent with this literature.

---

<sup>6</sup>Nevertheless, note that Pecoraro and Ruedin (2016) show, using data from Switzerland, that perceived unemployment risk has the strongest impact on individuals with higher levels of education.

## Data

This section describes the main data used in the empirical section. It begins with the analysis of the independent variables, which aim to capture the occupational context and the amount of occupation-specific skills. It then describes the variables that capture cultural concerns about immigration and perceived social status. The controls included in the main specifications are described in Appendix B.1.

### Independent variables: Occupational context and occupation-specific skills

The main two independent variables are the occupational context and the amount of skills specific to the occupation. I proxy *occupational context* with occupational unemployment rates (OUR) (Rehm, 2009). This variable has been widely used in the literature and has been validated as a good measure to capture occupational labor market context (Rehm, 2009; Rovny and Rovny, 2017; Pardos-Prado and Xena, 2019). Moreover, in this specific case, it is conceptually related to occupational labor market tightness. I use Labor Force Surveys (LFS) provided by Eurostat for each country and calculate unemployment rates for each occupation-year at the two-digit ISCO level stratifying by gender. To reduce measurement error, I smooth the data (see Appendix B.3). For years prior to 2011, I use ISCO88 and for years 2011 and later, I use ISCO08. This is done because the LFS does not contain enough information to homogenize all groups, as occupational indicators are not sufficiently detailed.<sup>7</sup>

To capture *occupation-specific skills*, I use the Survey of Adult Skills questionnaire of the PIAAC. It was conducted by the OECD between 2011 and 2015 in 40 countries and aims to capture cognitive skills that are practical in the workplace. In this survey, respondents are asked: "supposing that someone with this level of qualification was applying today, how much related work experience would they need to *get* this job?" where "this level of qualification" refers to the formal qualifications needed to get the job, including internships and work placements. Importantly, this asks about the experience required to get a job, so it does not capture firm-specific skills. I code answers into months and aggregate them at the occupational level.<sup>8</sup> Specifically, I use all European Union (EU) countries in the sample and aggregate the responses for each occupation, thus, the variable varies only at the occupational level. The coding of the responses and the descriptive statistics can be found in the appendices B.4 and B.5.

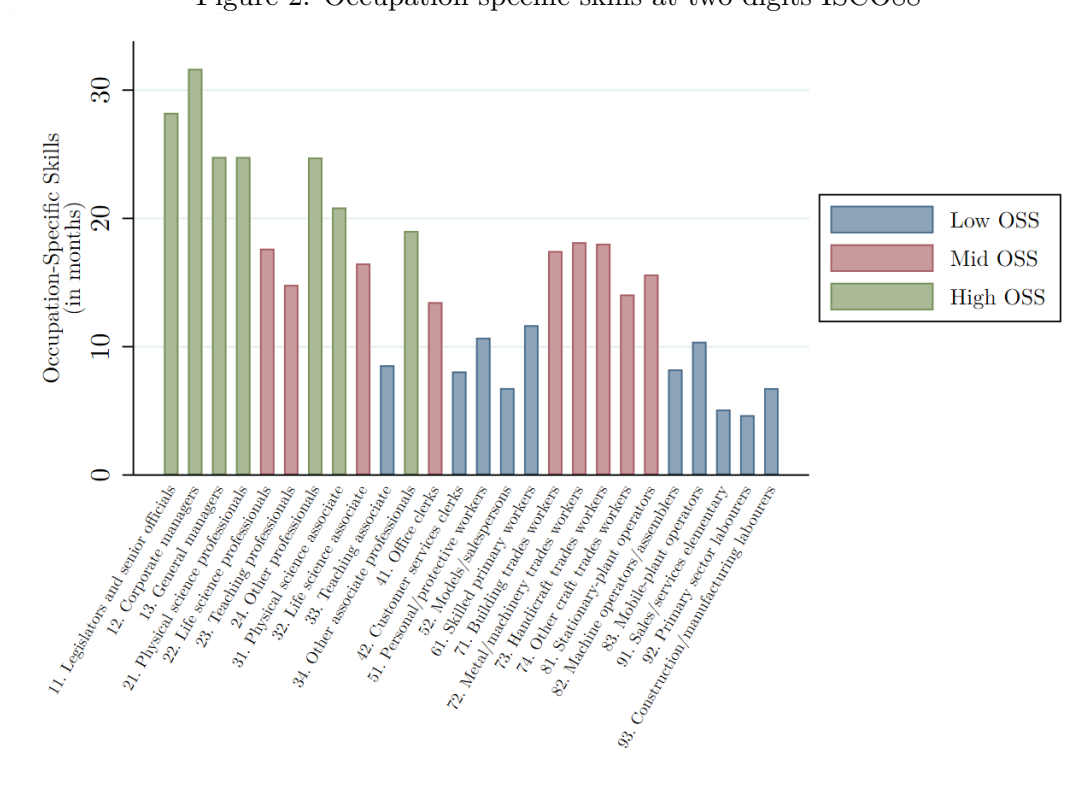
---

<sup>7</sup>All analyses take into account the change in ISCO classification in these years.

<sup>8</sup>To match the OSS variable with the occupational context variable, I aggregate responses at the two-digit ISCO88 and two-digit ISCO08 levels.

The OSS level for each two-digit ISCO88 occupation is shown in Figure 2. Occupations belonging to the highest tercile of OSS in the main sample are shown in green, those in the middle tercile in red, and those in the lowest tercile in blue. Occupations in the highest tercile include Managers as well as certain (Associate) Professionals. The middle tercile comprises a diversified group including some Professionals, Craft Workers, and Stationary Equipment Operators. Conversely, occupations with the lowest OSS levels consist of Service Occupations, Elementary Occupations, and some Plant Operators. Consistent with the theoretical argument, I expect that changes in occupational context would affect Professionals to a greater extent than Plant Operators. In the empirical section, I examine whether these results remain consistent when considering alternative groupings of occupations.

Figure 2: Occupation-specific skills at two-digits ISCO88



## Dependent variables: Immigration concerns and perceived social status

The main dependent variable is *cultural immigration concerns*. I measure it using data from all EU countries in the first nine rounds of the European Social Survey (ESS), covering 2002 to 2018. Specifically, respondents are asked the following question: “using this card, would you say that [country]’s cultural life is generally undermined or enriched by people coming to live here from other countries?” with a scale ranging from “Cultural life undermined” (0) to

“Cultural live enriched” (10). Responses are standardized and recoded so that positive values mean that cultural life is undermined by immigration. This variable, albeit related to other dimensions of immigration concerns, specifically captures the cultural dimension studied in this paper. For instance, Finseraas, Pedersen, and Bay (2016) show that economic distress should increase economic concerns about immigration, but not cultural concerns, and Card, Dustmann, and Preston (2012) show that cultural and economic concerns have an independent effect on immigration policy preferences.

The main drawback of these data is that they are cross-sectional, so it is not possible to track individuals over time. To get around this problem, I use the GSOEP, a longitudinal survey from Germany in which a question on immigration concerns is asked annually from 1999 to 2019. These data allow obtaining more internally valid estimates at the expense of lower external validity. Specifically, respondents are asked, “How concerned are you about immigration to Germany?”, with three possible answers: “very concerned”, “somewhat concerned”, and “not concerned at all” (Pardos-Prado and Xena, 2019; Ersanilli and Präg, 2019; Margaryan, Paul, and Siedler, 2021).<sup>9</sup> The analyses assume that the effect studied is constant for each answer category, but I show the robustness using different operationalization of the dependent variable.

*Perceived social status* is the proposed mechanism linking occupational labor markets, OSS, and immigration concerns. It is obtained from the International Social Survey Programme (ISSP), one of the only surveys that repeatedly asks a question about subjective social status (Gidron and Hall, 2017; Kurer, 2020; Oesch and Vigna, 2021). Specifically, I use EU countries in 2003, 2004, 2009, 2013, 2014, and 2019 survey rounds.<sup>10</sup> Respondents are asked: “In our society, there are groups which tend to be towards the top and groups which tend to be towards the bottom. Below is a scale that runs from the top to the bottom. Where would you put yourself on this scale?”, with the scale ranging from “Lowest” (1) to “Highest” (10).

When estimating interactive effects, one concern would be the presence of floor effects. For example, if the vast majority of low OSS individuals perceive that they are at the bottom of the social hierarchy, increases in OUR would not further reduce perceived status. If this were the case, I could find an interactive effect, but it would not be due to the proposed mechanism. Figure 3 shows the histogram of the two dependent variables for individuals in the highest

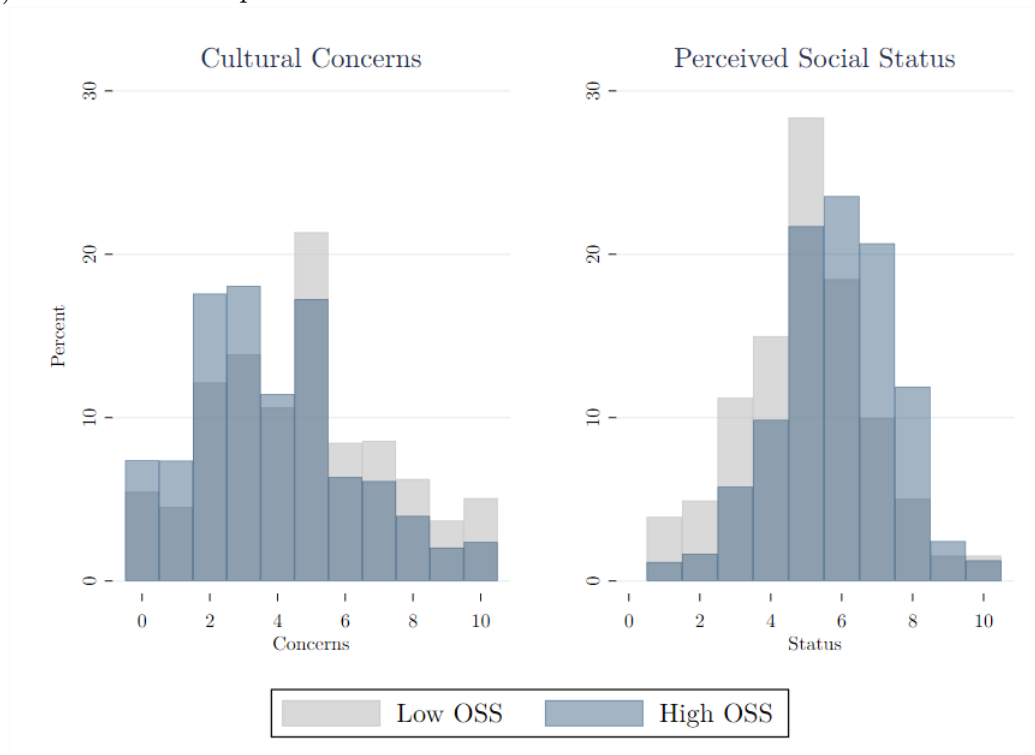
---

<sup>9</sup>It might be that the preferences are so stable that there are no significant changes in preferences for individuals studied (Kustov, Laaker, and Reller, 2021). Appendix B.2 shows that, for the period studied, forty percent of individuals have changed their preferences between one and three times and around ten percent more than three times.

<sup>10</sup>The last round includes observations from 2020. I restrict the sample to pre-Covid responses and define the threshold as early March.

and lowest terciles of OSS. On the left panel, there is the distribution of responses for cultural concerns about immigration, and on the right panel for perceived social status, broken down by OSS levels. In gray there are the distributions for individuals with low OSS, and in blue for individuals with high OSS. It appears that individuals with high OSS tend to have fewer cultural concerns about immigration and higher perceived social status compared to individuals with low OSS, but it does not seem to be a floor effect.

Figure 3: Histogram Cultural Concerns about Immigration (left) and Perceived Social Status (right) for different occupational context



## Method

The theoretical claim of this article is that an increase in OUR leads to cultural backlash against immigration and that the larger the amount of OSS, the stronger this effect. When studying interactions, usually researchers introduce an interactive term between the key independent variable and the hypothesized moderator. The regression to be estimated would take the following form,

$$\text{IMM}_i = \alpha \text{OUR}_{o,c,t} + \eta \text{OSS}_o + \beta \text{OUR}_{o,c,t} \times \text{OSS}_o + \delta' z_i + \theta_{c,t} + e_i \quad (1)$$

where  $\text{IMM}_i$  are the immigration concerns of individual  $i$ . OUR and OSS are occupational

unemployment rates and occupation-specific skills, respectively. The subindex  $o$  is a function that yields the occupation held by individual  $i$ ,  $c$  is the country where the individual lives, and  $t$  is the time period of the survey. Thus,  $OUR_{o,c,t}$  is the occupational unemployment rate faced by individual  $i$ , which is employed in occupation  $o$ , in country  $c$ , in period  $t$ . This is similar for  $OSS_o$ . However, must be noted that the variation of these two variables is different. While an individual in a given occupation might face different values of  $OUR$  in different country-years, it will always face the same levels of  $OSS$ . Finally,  $\theta_{c,t}$  are country-year fixed effects, and  $z_i$  are controls.

Even common, there are (at least) two shortcomings of this specification related to how interactive effects are estimated. First, Equation 1 assumes that the marginal effect of  $OUR$  can only change linearly with  $OSS$  at a constant rate  $\beta$  (Hainmueller, Mummolo, and Xu, 2019). Nevertheless, there are no theoretical groundings for this being the case. Second, it assumes that the effects of the controls do not depend on the moderator, which can lead to omitted variable bias (Blackwell and Olson, 2021).

To solve these issues, I use a more general specification that allows for non-linear interactive effects and that includes the interaction of controls with  $OSS$ . Instead of assuming linear interactive effects, I allow the effect of  $OUR$  to vary by different terciles of  $OSS$ . Concretely, the specification used introduces a linear interactive effect for each tercile of the  $OSS$  (low ( $L$ ), medium ( $M$ ), and high ( $H$ )), which is a generalization of classical linear interactive model (Hainmueller, Mummolo, and Xu, 2019:171). Moreover, all controls are allowed to have this flexible moderating effect with  $OSS$ . Taking all this together, the regression to be estimated is the following:

$$IMM_i = \sum_{j \in \{L, M, H\}} \left\{ \alpha_j OUR_{o,c,t} + \eta_j \widetilde{OSS}_o + \beta_j OUR_{o,c,t} \times \widetilde{OSS}_o \right\} G_j + \delta' Z_i + \theta_{c,t} + e_i \quad (2)$$

where  $G_j$  is a dummy that takes the value of one if the occupation of the individual  $i$  in period  $t$  is in the  $j$ -th tercile of  $OSS$  and zero otherwise, and  $\widetilde{OSS}$  is the deviation of  $OSS$  from the median of its tercile. Because of this last transformation,  $\alpha_j$  gives the marginal effect of  $OUR$  at the median value of  $OSS$  in the  $j$ -th tercile. Thus,  $\alpha_L$  can be understood as the marginal effect of  $OUR$  on immigration concerns for a typical individual with low  $OSS$  levels. Different from Equation 1,  $Z_i$  includes controls and their (flexible) interactions with  $OSS$ . Since the theory states that greater  $OUR$  should be associated with greater cultural concerns about immigration, with stronger effects the higher the amount of  $OSS$ , I expect  $\alpha_L < \alpha_M < \alpha_H$ .

## Results

This section presents the main results of the proposed model. I start analyzing whether higher OUR are associated with lower subjective social status, with this association being stronger the greater the amount of OSS. This is done with ISSP data. Then I move to analyze the relationship between occupational labor markets, OSS, and immigration preferences. Using data from the ESS, I analyze the proposed association using cultural concerns about immigration as the dependent variable. Finally, to obtain more internally valid estimates, longitudinal data from the GSOEP are used.

### Exploring the Mechanism: Perceived Social Status

This section starts showing, using the linear and binning regressions, that larger OUR are associated with lower perceived social status and that the more OSS a person has, the more negative this association is. The analyses use data from the ISSP and exploit cross-sectional variation of OUR at different levels of OSS. Figure 4 graphically shows the marginal effects of a standard deviation increase in OUR on perceived social status for different levels of OSS, with controls also interacted with OSS.<sup>11</sup> Concretely, the dependent variable is the standardization of the perceived social status answers. In black are the effects assuming a linear interactive effect (showing in gray are the associated 95% confidence intervals), and in blue there are the binning estimates (and the associated 95% confidence intervals).

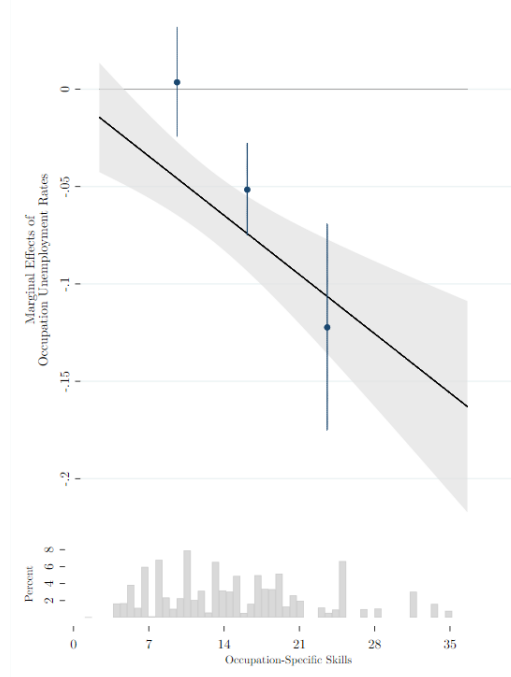
Looking at linear interactive effects, it can be seen that for the lowest OSS levels, higher OUR are not associated with lower subjective status, whereas the association becomes larger with increasing OSS. For the highest OSS levels, when OUR go up by one standard deviation, their perceived social status goes down by 0.15 standard deviations. The interactive effects are substantially big: an effect of 0.15 standard deviations is the 30% of the status difference between low and high OSS individuals (defined as the lowest and the highest terciles of OSS, respectively). More concretely, this is the difference between the mean perceived social status of “Clerical Support Workers” and “Technicians and Associate Professionals”.

As with the linear interactive estimates, the binning results suggest a heterogeneous effect of OUR. Again, for a typical person with low OSS, the effect is close to zero and not statistically

---

<sup>11</sup>Controls are selected based on specifications linking status and immigration preferences (Gidron and Hall, 2017). In particular, these are: Years of education, age, union membership, gender, and (log) income, as well as whether the individual lives in an urban or rural area. The regressions include country-year fixed effects. Standard errors are clustered at the country-year-occupation level, and ISSP weights are used.

Figure 4: Effects on Perceived Social Status



Note: Black line shows the marginal effect of increasing OUR by one standard deviation at different values of OSS, assuming a linear interactive effect. The gray area shows the 95% confidence intervals, computed from standard errors clustered at country-year-occupation. In blue there are the binning estimates and the associated 95% confidence intervals. Bars are the histogram of OSS in the sample. N=56,580.

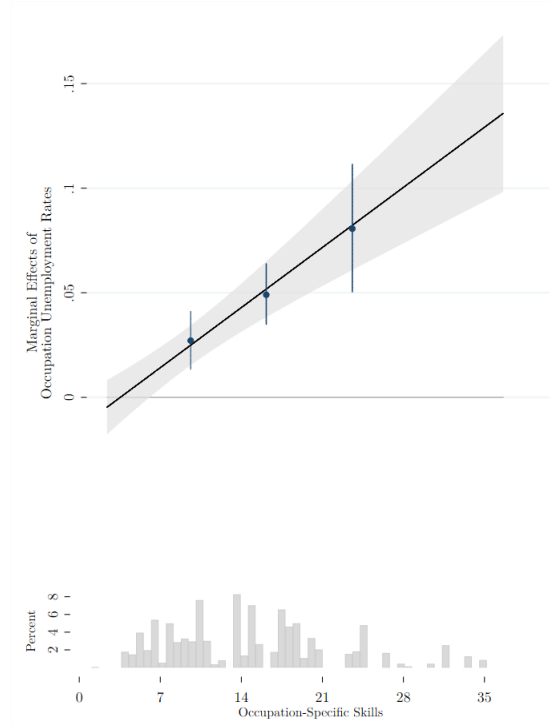
significant. For an individual with medium OSS, the effect is approximately minus 0.04 standard deviations, with the difference from individuals with low OSS being statistically significant ( $p$ -value < 0.01). For a typical person with high OSS, the effect is more than twice as strong as for a typical person with medium OSS, with the difference also being statistically significant ( $p$ -value < 0.01). In summary, consistent with Hypothesis 1, I find that individuals who experience higher OUR have lower subjective social status, especially if they possess OSS. These findings are not only consistent with the proposed argument, but also with research showing that social recognition and self-esteem decline when skills are not validated by the market (Gidron and Hall, 2020; Hall and Lamont, 2013).

### Cultural Immigration Concerns: Cross-sectional analyses

To examine cultural concerns about immigration I use data from EU countries available at ESS. To do this, I use the question that asks whether individuals believe that the cultural life of their country is being undermined by immigration. Figure 5 shows the main results using all controls

described in Appendix B.1, their interaction with OSS, and country-year fixed effects.<sup>12</sup> The estimation of the linear interaction specification shows that for the lowest OSS levels, larger OUR are not associated with greater cultural concerns about immigration, while the effect for the highest OSS levels is 0.13 standard deviations. Note that the maximum OSS values could be considered outliers, which would make the results model-dependent. Hainmueller, Mummolo, and Xu (2019) suggest checking if the L-Kurtosis is larger than 0.16 to test if there are problems with severe extrapolation. In this case, the L-Kurtosis is 0.10, so the linear model does not suffer from this type of problem.

Figure 5: Effects on Cultural Concerns (ESS): Natives and foreign born



Note: Black line shows the marginal effect of increasing OUR by one standard deviation at different values of OSS, assuming a linear interactive effect. In gray appears the 95% confidence interval. In blue are the binning estimates and the 95% confidence intervals. Bars are the histogram of OSS in the sample.  $N = 134,377$ .

Turning to the binning estimates, it can be seen that they closely resemble a linear interactive regression model, indicating an interactive effect between OUR moderated by OSS. More specifically, when OUR increase by one standard deviation, the cultural immigration concerns go up by 0.27 standard deviations for a typical low OSS individual and by 0.081 standard deviation for a typical high OSS one. These differences are statistically significant ( $p\text{-value} < 0.01$ ).<sup>13</sup> This

<sup>12</sup>Concretely, the controls used are age, gender, religious affiliation, percentage of immigrants at the occupational level, (log) household income, union membership, and whether the individual is unemployed. Design and population weights are applied and the standard errors are clustered at the country-year-occupation.

<sup>13</sup>The only difference that is not significant at the usual significance levels is that between a typical individ-

is indicative of an interactive effect (Hainmueller, Mummolo, and Xu, 2019), which is in line with Hypothesis 2.

To make a sense of the magnitude of the effects I analyze how an equal change in OUR reduces the average difference in cultural immigration concerns between low and high OSS individuals. Concretely, when there is a change in OUR from the 90th percentile (12.5%) to the 10th percentile (1.5%), their differences in cultural concerns decrease by 29%.<sup>14</sup> In the case that only the high OSS individual experience this increase, it would account for 50% of the difference between low and high OSS, and 90% of the difference between intermediate and high OSS.

A stricter test of the argument proposed is provided by Figure 6. Concretely, it shows the predicted immigration concern as a (linear) function of occupational labor market for different OSS levels. Concretely, it performs a counterfactual exercise, computing the Average Predicted (AP) level of cultural concerns about immigration at different levels of OUR, for a typical low and a typical high OSS individual, assuming that all controls are at their observed values. Thus, in this analysis, the only factors that change are OUR and OSS. The black line shows the linear relationship between the AP concern about immigration and OUR for a typical low-OSS individual, and in blue there is the same relationship for a typical high-OSS individual. Gray areas are the 95% confidence intervals. Bars are the histogram of OUR for low and high OSS individuals, in gray and blue respectively.<sup>15</sup>

In addition, Figure 6 displays the least squares binscatter for low and high OSS respondents (Cattaneo et al., 2019). This is a non-parametric approach that computes the AP value of the dependent variable at different bins of the explanatory variable, which allows getting the shape of the relationship studied. As can be seen in the histogram, there is a lack of common support for high values of OUR. For this reason, I show evenly-spaced binnings, covering all OUR range.

As expected from Pardos-Prado and Xena (2019) and Kunovich (2013), higher OUR are associated with greater immigration concerns. This is reflected in the positive slope of OUR for both occupational groups resulting from the estimation of AP values. Moreover, it can be seen that for most OUR values, those with high OSS tend to be less concerned about immigration than those with low OSS. This result aligns with the findings of Polavieja (2016). Note, however, that I specifically focus on cultural concerns about immigration while they focus on economic concerns.

---

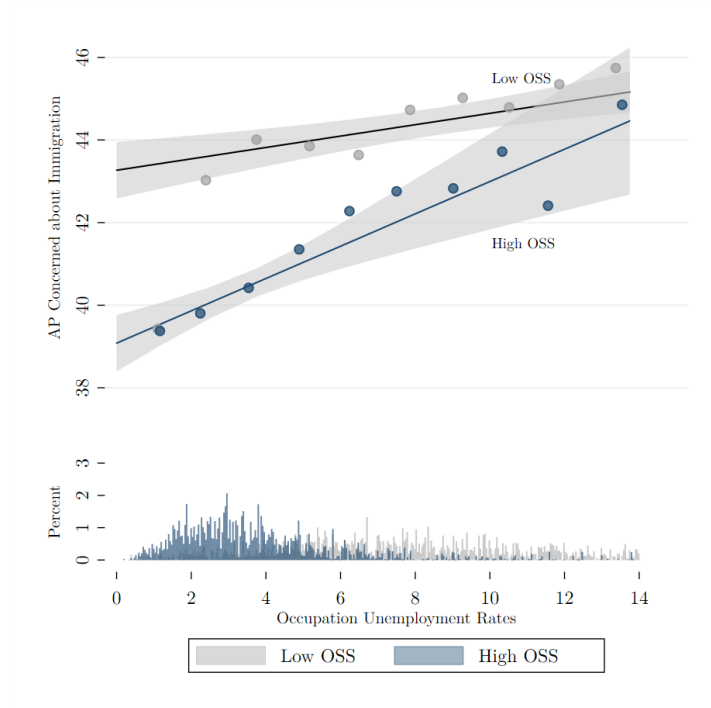
ual with medium and high OSS, with a p-value= 0.051.

<sup>14</sup>This change is about 2 standard deviations increase in OUR.

<sup>15</sup>Concretely, the AP concerns are calculated for OUR values up to the 99th percentile (i.e., 14%).

Moreover, the more interesting takeaway from Figure 6 is that the results shown are similar to the theoretical expectations: there are significant differences between occupation types when OUR are low and they fade away when OUR increase. This is true for both, the linear and the binning estimates. From the linear AP, when OUR are low, the predicted differences between low and high OSS are equivalent to the average difference in cultural concerns about immigration between “Clerical Support Workers” and “Technicians and Associate Professionals”. As OUR increase, these differences fade away. What cannot be said, however, is whether individuals with high OSS will at some point express greater concerns about immigration than individuals with low OSS.

Figure 6: Average Predicted Cultural Concerns about Immigration



Note: Black line shows the linear relationship between the AP concern about immigration and OUR for a typical low-OSS individual, and in blue there is the same relationship for a typical high-OSS individual. Gray areas are the 95% confidence intervals. Bars are the histogram of OUR for low and high OSS individuals, in gray and blue respectively. Dots are the evenly-spaced binnings from least squares binscatter (Cattaneo et al., 2019). In gray for low OSS individuals, and in blue for high OSS individuals.  $N_{low} = 46,614$ ;  $N_{high} = 41,727$ .

As has been mentioned, one concern with these analyses is that there are few observations of high OSS individuals with high levels of OUR. This can be seen in both histograms, where most of the observations of high OSS individuals face relatively low levels of OSS. The Robustness Checks section explores how sensible are the results to this lack of common support.

## General Immigration Concerns: Longitudinal analyses

Having shown the association between OUR and cultural concerns about immigration for different levels of OSS, I turn to an analysis using longitudinal data from GSOEP. The question used captures general immigration concerns, not cultural concerns and the analyses are less externally valid because only one country is used. However, this data set allows tracking individuals over time and using OUR variations independent of individuals' actions, leading to more internally valid estimates.

Concretely, to exploit variations in OUR that are independent of individuals' actions, the regression introduces individual-occupation fixed effects.<sup>16</sup> The concrete specification is discussed in Appendix C, however, at this stage, it must be noted that the model is regressed via OLS. This is done because in non-linear models the sign of the interactive effect depends on covariates (Ai and Norton, 2003), and with large N and small T, individual-occupation fixed effects coefficients cannot be consistently estimated due to the incidental parameters problem (Wooldridge, 2010). The left panel of Figure 7 summarizes the main results of the linear and binning estimates, and the right panel shows the AP concerns about immigration at different OUR levels, for low and high OSS individuals.

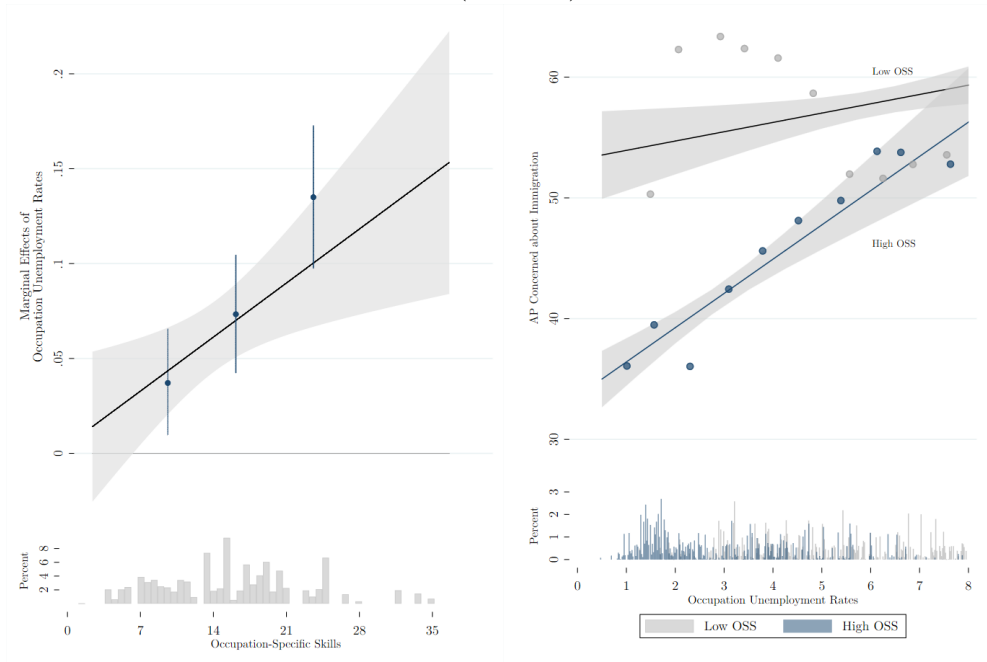
Starting with the linear and binning estimates, the results of both regressions suggest that OSS moderate the effect of OUR: the greater the amount of OSS, the greater the effect of OUR on immigration concerns. The linear interactive model suggests that the effect of OUR is close to zero and not statistically significant at the lowest OSS values, while the marginal effect of one standard deviation increase in OUR increases concerns about immigration by 0.15 standard deviations at the maximum levels of OSS. Analyzing the binning estimates, I find that a one standard deviation increase in OUR for a typical low value of the OSS increases concerns about immigration by 0.03 standard deviations, while for a typical high OSS individual, it increases by 0.13 standard deviations. Moreover, the differences between low and high OSS individuals are statistically significant at usual levels of confidence.

Similar to Figure 6, the right panel conducts a counterfactual analysis to examine the AP level of concern about immigration among low and high OSS individuals, considering changes in occupational context while assuming a constant composition of these groups. AP values are computed by varying OUR values while keeping the control variables and fixed effects at their observed values. This is done separately for individuals with low and high OSS. The right panel

---

<sup>16</sup>Only introducing individual fixed effects, variations in OUR would be driven in part by individuals changing occupations. These occupational changes may affect immigration concerns independently of OUR.

Figure 7: Immigration Concerns (GSOEP): Linear and Binning Estimates



Note: Left panel: The black line shows the marginal effect of increasing OUR by one percentage point at different values of OSS, assuming a linear interactive effect. The gray area shows the 95% confidence intervals. In blue there are the binning estimates and the associated 95% confidence intervals, with standard errors clustered at the year-occupation. Bars are the histogram of OSS in the sample.  $N = 181,055$ . Right panel: the black line shows the linear relationship between the AP concern about immigration and OUR for a typical low-OSS individual, and in blue there is the same relationship for a typical high-OSS individual. Gray areas are the 95% confidence intervals. Bars are the histogram of OUR for low and high OSS individuals, in gray and blue respectively. Dots are the evenly-spaced binnings from least squares binscatter (Cattaneo et al., 2019). In gray for low OSS individuals, and in blue for high OSS individuals.  $N_{low} = 50,480$  and  $N_{high} = 67,026$ .

of Figure 7 shows the average of these predictions assuming linear effects of OUR, their 95% confidence intervals, and the binnings from the least squares binscatter.

The results of the linear model indicates substantial effects. At an OUR of 2%, the AP value of immigration concerns is 39 (over 100) for individuals with low OSS, while is about 54 for those respondents with high OSS. However, when OUR increase to 6%, the difference between the two groups narrows. For low OSS individuals, the average value is 57, while for high OSS is 51. Thus, the differences halves with an increase of OUR of 4 percentage points. The results from the least squares binscatter are more cumbersome to analyze. For low OSS individuals, the relation between OSS and AP concerns is clearly non-linear. While there is an increase in AP concerns from very low to medium levels of OUR, it decreases when OUR are relatively high. However, consistent with the argument, for high OSS individuals increases in OUR lead to increases in AP. For high OUR levels, there are no differences on AP concerns between low and high OSS individuals.

## Robustness Checks

In this section, I probe the robustness of the findings. For the sake of space, I do not fully elaborate on the results and I only discuss the robustness of the main analysis with ESS data. Appendix D fully describes the results found and the methods. It also discusses the robustness of ISSP and GSOEP data.

I start the analysis by showing the robustness of the results in terms of the methodology used to calculate the standard errors and the selection of the control variables. To bolster the validity of the results, I employ a range of techniques to compute the standard errors. First, cluster standard errors at the country-year level are used (rather than at the country-year-occupation level). In addition, following the approach advocated by Cameron, Gelbach, and Miller (2011), I use multi-way clustering at both the country-year and occupation levels. To further strengthen the analysis, I compute bootstrapped standard errors. Regarding the choice of controls, the results are robust to not including the interaction between OSS and controls, to not including controls, and to use only controls that, arguably, are not affected by occupational labor markets and OSS. Also, I introduce a measure of left-right self-placement as control and use different measures of OSS. Since the argument proposed about using dominance strategies to create cultural boundaries between ingroups and outgroups is specific to native population, I perform these analyses also for foreign-born population. I show that, indeed, the effect is found only for natives while is non-existent for foreign-born. This holds for all specifications.

I also show the effects using different dependent variables capturing immigration concerns. Moreover, I test how sensible are the results to leaving one occupation out at a time and analyze which countries are driving the results. Consistent with institutional feedback literature, I find that the effects are the strongest for Liberal countries (the UK and Ireland), while they are the lowest (close to zero and non-significant) for Scandinavian countries (e.g., Denmark or Sweden).

While OUR certainly captures the tightness of the labor market, it is a general labor market outcome caused by many factors, such as robotization, international trade, AI... To be more precise, I use exposure to robotization elaborated by Anelli, Colantone, and Stanig (2021) to capture the occupational context.<sup>17</sup> This measure exploits the heterogeneous paths of robotization in different countries and how this affects occupational exposure. I find significant overlap

---

<sup>17</sup>The analysis is performed for exposure to robotization because its negative effects on labor market outcomes have already been studied (e.g., Acemoglu and Restrepo, 2020). This is not the case for other elements. For example, Acemoglu et al. (2022) show that the aggregate impact of AI is still too small to be detectable, and Walter (2017) shows that offshoring has a positive labor market effect on high-skilled individuals.

in robotization exposure between individuals with low and high levels of OSS and the results obtained are similar to those shown in the main analysis. Further, related to the problem of common support, I further try to mitigate this problem in several ways. First, I truncate the data to include only observations with OUR that are equal to or lower than the 99th percentile of individuals with high OSS (with OUR equal to 7,75%). I also use the inverse hyperbolic sine transformation of OUR, which limits the presence of outliers that do not have common support.<sup>18</sup>

Because one of the major challenges associated with observational data is the assumption that there are no unobserved confounders, I perform a sensitivity analysis. Despite the inclusion of various pre-treatment controls, individuals with different levels of OUR may still exhibit differences in unobserved characteristics. I evaluate how large these unobserved characteristics should be for the observed association to disappear. This sensitivity analysis uses a novel statistical approach introduced by Cinelli and Hazlett (2020) to examine how multiple confounding factors can potentially affect the obtained results. By including self-placement on the left-right scale and gender (both interacted with OSS), the study demonstrates the robustness of the results to unobserved factors.

Finally, I explore the plausibility of alternative mechanisms. One possibility would simply be that labor market risks make people lean towards authoritarian values, but this might not be linked to how they feel about their own social position. Although I cannot rule out the possibility of this channel, I provide suggestive evidence that higher OUR are associated with lower subjective status, with the association being stronger the greater the amount of OSS. A second alternative mechanism would be that the effect is driven by realized risk (becoming unemployed) not about the perceived risk. Analyzing the interaction between employment status and OSS, similar to Kurer (2020), I show that the proposed relationship does not hold for realized risk. Further, it could be argued that is not about OSS, but more generally about skill levels. I show that the results are robust to including the interaction between OUR and education years.

Another plausible mechanism might be the one proposed by social identity theory (Baccini and Weymouth, 2021; Shayo, 2009). According to Shayo (2009), individuals choose to identify with different available social groups. Applying this theory to the case at hand, it would imply

---

<sup>18</sup>Since there are many values that are close to zero, the logarithm of OUR is left-skewed. This problem is mitigated using the inverse hyperbolic sine transformation, which is very similar to logarithmic transformation but is well-defined at zero. Concetely, the transformation takes the following form:  $IHS(z) = \log(z + \sqrt{z^2 + 1})$ . The main problem with using this transformation is that the effect of a one percentage point increase in OUR is stronger for low values of OUR than for high values of OUR.

that individuals identify with either their occupation or their country. Individuals choose the group with which they identify based on their similarity and the status they receive. Individuals with high OSS become more similar to other workers in terms of risk as the labor market deteriorates, and the status they receive from their occupation decreases. This makes them more likely to identify with their country, which could lead them to perceive immigration as a cultural threat. Even if this is plausible, I disregard this possibility using data from the ISSP.

## Conclusion & Discussion

This paper hypothesizes that a deterioration in the occupational context, such as an increase in occupational unemployment rates, leads to greater cultural concerns about immigration, with a stronger effect observed among individuals with higher OSS. The argument put forward suggests that OSS can be viewed as an asset whose returns are contingent on the occupational environment, and that consequently changes in occupational labor markets have effects that go beyond first-dimension politics (Adler and Ansell, 2020). In particular, the theoretical framework posits that a decline in subjective social status leads to heightened cultural concerns about immigration (Gidron and Hall, 2017; Ballard-Rosa, Jensen, and Scheve, 2022).

The results of this study have implications not only for understanding immigration preferences but also for recent political developments. As Häusermann, Kurer, and Zollinger (2023) point out, voters who are financially well-off but concerned about social developments can potentially pose a threat to liberal democracies. In this paper, I provide a mechanism by which affluent individuals can respond in these ways. In this sense, this study fills the existing gap in the literature regarding the cultural reaction of highly skilled workers toward outgroups.

The argument proposed differs from previous accounts that highlight the role of low and middle-skilled workers in times of crisis as the main driver of support for radical right-wing parties (Gidron and Hall, 2017; Kurer, 2020). It has been shown that for similar occupational context changes, those with higher OSS are the ones who react more forcefully against immigration. The reason that low OSS workers are more likely to support anti-immigration policies may be that they face greater occupational unemployment rates. However, the effect does not seem to be due to the fact that low-skilled individuals react more strongly to economic shocks.

The relevance of these results deserves further consideration. If economic shocks, such as automation, repeatedly affect occupations that require low to moderate levels of OSS, we would

expect a corresponding increase in anti-immigration sentiment among these groups during economic crises. Nevertheless, although robotization primarily affects occupations with low and medium levels of OSS, it is still important to note that there are individuals with high levels of OSS who face greater exposure to robotization (Anelli, Colantone, and Stanig, 2021; Tafti, 2022). In the robustness section, I showed that exposure to robotization is similar for individuals with low and high OSS, and the interactive effect found is also similar. Moreover, recent developments in AI are impacting high-skill occupations that have so far been spared from robotization (Webb, 2019). This work should be seen as a first step in understanding how these occupations will respond to heightened occupational risks.

In addition, further research should seek to uncover differences in political responses when comparing short-term fluctuations with structural changes in the economy. Kurer (2020) analyzes how a structural decline in the perceived status of individuals in automatable occupations leads to a political response. However, these analyses confound differences in labor market context and in the amount and type of skills employed. For example, Tafti (2022) analyzes the performance of surgeons and shows that with the introduction of robots, the difference between high-skilled and low-skilled surgeons decreases. This is because the skills required to perform surgical procedures are changing. Further analyses examining these structural changes should attempt to disentangle each of these effects.

## References

- ACEMOGLU, D., AUTOR, D., HAZELL, J., and RESTREPO, P. (2022). “Artificial intelligence and jobs: evidence from online vacancies”. *Journal of Labor Economics* 40.S1, S293–S340.
- ACEMOGLU, D. and RESTREPO, P. (2020). “Robots and jobs: Evidence from US labor markets”. *Journal of Political Economy* 128.6, pp. 2188–2244.
- ADLER, D. and ANSELL, B. (2020). “Housing and populism”. *West European Politics* 43.2, pp. 344–365.
- AI, C. and NORTON, E. C. (2003). “Interaction terms in logit and probit models”. *Economics letters* 80.1, pp. 123–129.
- ANELLI, M., COLANTONE, I., and STANIG, P. (2021). “Individual vulnerability to industrial robot adoption increases support for the radical right”. *Proceedings of the National Academy of Sciences* 118.47, e2111611118.
- ANSELL, B., HJORTH, F., NYRUP, J., and LARSEN, M. V. (2022). “Sheltering Populists? House Prices and the Support for Populist Parties”. *The Journal of Politics* <https://doi.org/10.1086/718354>.
- BACCINI, L. and WEYMOUTH, S. (2021). “Gone for good: Deindustrialization, white voter backlash, and US presidential voting”. *American Political Science Review* 115.2, pp. 550–567.
- BALLARD-ROSA, C., JENSEN, A., and SCHEVE, K. (2022). “Economic decline, social identity, and authoritarian values in the United States”. *International Studies Quarterly* 66.1, sqab027.
- BALLARD-ROSA, C., MALIK, M. A., RICKARD, S. J., and SCHEVE, K. (2021). “The economic origins of authoritarian values: evidence from local trade shocks in the United Kingdom”. *Comparative political studies* 54.13, pp. 2321–2353.
- BISBEE, J. and ROSENDORFF, B. P. (2020). “Shocking the Vulnerable: Job Insecurity, Local Sociotropism and Anti-Globalization Sentiment”. *International Political Economy Society Working Paper*, URL.
- BLACKWELL, M. and OLSON, M. P. (2021). “Reducing model misspecification and bias in the estimation of interactions”. *Political Analysis*, pp. 1–20.
- BORNSCHIER, S. and KRIESI, H. (2012). “The populist right, the working class, and the changing face of class politics”. In: *Class politics and the radical right*. Routledge, pp. 28–48.
- CAMERON, A. C., GELBACH, J. B., and MILLER, D. L. (2011). “Robust inference with multiway clustering”. *Journal of Business & Economic Statistics* 29.2, pp. 238–249.
- CARD, D., DUSTMANN, C., and PRESTON, I. (2012). “Immigration, wages, and compositional amenities”. *Journal of the European Economic Association* 10.1, pp. 78–119.

- CARRERAS, M., IREPOGLU CARRERAS, Y., and BOWLER, S. (2019). “Long-term economic distress, cultural backlash, and support for Brexit”. *Comparative Political Studies* 52.9, pp. 1396–1424.
- CATTANEO, M. D., CRUMP, R. K., FARRELL, M. H., and FENG, Y. (2019). “On binscatter”. *arXiv preprint arXiv:1902.09608*.
- CAVAILLÉ, C. and MARSHALL, J. (2019). “Education and anti-immigration attitudes: Evidence from compulsory schooling reforms across Western Europe”. *American Political Science Review* 113.1, pp. 254–263.
- CHENG, J. T., TRACY, J. L., FOULSHAM, T., KINGSTONE, A., and HENRICH, J. (2013). “Two ways to the top: evidence that dominance and prestige are distinct yet viable avenues to social rank and influence.” *Journal of personality and social psychology* 104.1, p. 103.
- CINELLI, C. and HAZLETT, C. (2020). “Making sense of sensitivity: Extending omitted variable bias”. *Journal of the Royal Statistical Society Series B-Statistical Methodology* 82.1, pp. 39–67.
- DEHDARI, S. H. (2021). “Economic distress and support for radical right parties—evidence from Sweden”. *Comparative Political Studies*, p. 00104140211024301.
- ERSANILLI, E. and PRÄG, P. (2019). “Fixed-term work contracts and anti-immigration attitudes. A novel test of ethnic competition theory”. *SocArXiv*. December 8.
- FELDMAN, S. and STENNER, K. (1997). “Perceived threat and authoritarianism”. *Political psychology* 18.4, pp. 741–770.
- FINSEERAS, H., PEDERSEN, A. W., and BAY, A.-H. (2016). “When the going gets tough: The differential impact of national unemployment on the perceived threats of immigration”. *Political Studies* 64.1, pp. 60–73.
- FOUKA, V. (2019). “How do immigrants respond to discrimination? The case of Germans in the US during World War I”. *American Political Science Review* 113.2, pp. 405–422.
- FRANK, T. (2007). *What’s the matter with Kansas?: How conservatives won the heart of America*. Picador.
- GEST, J., RENY, T., and MAYER, J. (2018). “Roots of the radical right: Nostalgic deprivation in the United States and Britain”. *Comparative Political Studies* 51.13, pp. 1694–1719.
- GIDRON, N. and HALL, P. A. (2017). “The politics of social status: Economic and cultural roots of the populist right”. *The British journal of sociology* 68, S57–S84.
- (2020). “Populism as a problem of social integration”. *Comparative Political Studies* 53.7, pp. 1027–1059.

- GINGRICH, J. and ANSELL, B. (2012). “Preferences in context: Micro preferences, macro contexts, and the demand for social policy”. *Comparative Political Studies* 45.12, pp. 1624–1654.
- GOLDTHORPE, J. H. (2000). *On sociology: Numbers, narratives, and the integration of research and theory*. Oxford University Press on Demand.
- GOOS, M., MANNING, A., and SALOMONS, A. (2014). “Explaining job polarization: Routine-biased technological change and offshoring”. *American economic review* 104.8, pp. 2509–26.
- HAINMUELLER, J. and HOPKINS, D. J. (2014). “Public attitudes toward immigration”. *Annual review of political science* 17, pp. 225–249.
- HAINMUELLER, J., MUMMOLO, J., and XU, Y. (2019). “How much should we trust estimates from multiplicative interaction models? Simple tools to improve empirical practice”. *Political Analysis* 27.2, pp. 163–192.
- HALL, P. A. and LAMONT, M. (2013). *Social resilience in the neoliberal era*. Cambridge University Press.
- HÄUSERMANN, S., KURER, T., and SCHWANDER, H. (2015). “High-skilled outsiders? Labor market vulnerability, education and welfare state preferences”. *Socio-Economic Review* 13.2, pp. 235–258.
- HÄUSERMANN, S., KURER, T., and ZOLLINGER, D. (2023). “Aspiration versus Apprehension: Economic Opportunities and Electoral Preferences”. *British Journal of Political Science*, pp. 1–22.
- HENRICH, J. and GIL-WHITE, F. J. (2001). “The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission”. *Evolution and human behavior* 22.3, pp. 165–196.
- INGLEHART, R. F. (2018). *Cultural evolution: People’s motivations are changing, and reshaping the world*.
- IVERSEN, T. and SOSKICE, D. (2001). “An asset theory of social policy preferences”. *American political science review* 95.4, pp. 875–893.
- (2020). *Democracy and prosperity: Reinventing capitalism through a turbulent century*. Princeton University Press.
- JACKSON, M. and GRUSKY, D. B. (2018). “A post-liberal theory of stratification”. *The British journal of sociology* 69.4, pp. 1096–1133.

- JÄGER, S. and HEINING, J. (2022). *How substitutable are workers? Evidence from worker deaths*. Tech. rep. National Bureau of Economic Research.
- KAMBOUROV, G. and MANOVSKII, I. (2009). “Occupational specificity of human capital”. *International Economic Review* 50.1, pp. 63–115.
- KUNOVICH, R. M. (2013). “Labor market competition and anti-immigrant sentiment: Occupations as contexts”. *International Migration Review* 47.3, pp. 643–685.
- KURER, T. (2020). “The declining middle: Occupational change, social status, and the populist right”. *Comparative Political Studies* 53.10-11, pp. 1798–1835.
- KUSTOV, A., LAAKER, D., and RELLER, C. (2021). “The stability of immigration attitudes: Evidence and implications”. *The Journal of Politics* 83.4, pp. 1478–1494.
- LAZEAR, E. P. (1995). *Personnel economics*. Vol. 1993. MIT press.
- MALHOTRA, N., MARGALIT, Y., and MO, C. H. (2013). “Economic explanations for opposition to immigration: Distinguishing between prevalence and conditional impact”. *American Journal of Political Science* 57.2, pp. 391–410.
- MARGARYAN, S., PAUL, A., and SIEDLER, T. (2021). “Does education affect attitudes towards immigration? Evidence from Germany”. *Journal of Human Resources* 56.2, pp. 446–479.
- OESCH, D. and RENNWALD, L. (2018). “Electoral competition in Europe’s new tripolar political space: Class voting for the left, centre-right and radical right”. *European journal of political research* 57.4, pp. 783–807.
- OESCH, D. and VIGNA, N. (2021). “A Decline in the Social Status of the Working Class? Conflicting Evidence for 8 Western Countries, 1987–2017”. *Comparative Political Studies*, p. 00104140211047400.
- PARDOS-PRADO, S. and XENA, C. (2019). “Skill specificity and attitudes toward immigration”. *American Journal of Political Science* 63.2, pp. 286–304.
- PECORARO, M. and RUEDIN, D. (2016). “A foreigner who does not steal my job: The role of unemployment risk and values in attitudes toward equal opportunities”. *International Migration Review* 50.3, pp. 628–666.
- PETERSEN, M. B., OSMUNDSEN, M., and ARCENEUX, K. (2023). “The “Need for Chaos” and Motivations to Share Hostile Political Rumors”. *American Political Science Review*, 1–20.
- POLAVIEJA, J. G. (2016). “Labour-market competition, recession and anti-immigrant sentiments in Europe: occupational and environmental drivers of competitive threat”. *Socio-Economic Review* 14.3, pp. 395–417.

- REHM, P. (2009). "Risks and redistribution: An individual-level analysis". *Comparative political studies* 42.7, pp. 855–881.
- RIDGEWAY, C. L. (2014). "Why status matters for inequality". *American sociological review* 79.1, pp. 1–16.
- ROVNY, A. E. and ROVNY, J. (2017). "Outsiders at the ballot box: operationalizations and political consequences of the insider–outsider dualism". *Socio-Economic Review* 15.1, pp. 161–185.
- SHAW, K. L. (1984). "A formulation of the earnings function using the concept of occupational investment". *Journal of Human Resources*, pp. 319–340.
- SHAYO, M. (2009). "A model of social identity with an application to political economy: Nation, class, and redistribution". *American Political science review* 103.2, pp. 147–174.
- SØRENSEN, A. B. (2000). "Toward a sounder basis for class analysis". *American journal of sociology* 105.6, pp. 1523–1558.
- STREECK, W. (2012). "Skills and politics: General and specific". *The political economy of collective skill formation*, pp. 317–352.
- TAFTI, E. A. (2022). "Technology, Skills, and Performance: The Case of Robots in Surgery".
- THEWISSEN, S. and RUEDA, D. (2019). "Automation and the welfare state: Technological change as a determinant of redistribution preferences". *Comparative Political Studies* 52.2, pp. 171–208.
- VLANDAS, T. and HALIKIOPOULOU, D. (2022). "Welfare state policies and far right party support: moderating 'insecurity effects' among different social groups". *West European Politics* 45.1, pp. 24–49.
- WALTER, S. (2017). "Globalization and the demand-side of politics: How globalization shapes labor market risk perceptions and policy preferences". *Political Science Research and Methods* 5.1, pp. 55–80.
- WEBB, M. (2019). "The impact of artificial intelligence on the labor market". *Available at SSRN 3482150*.
- WOOLDRIDGE, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.
- WREN, A. and REHM, P. (2014). "The end of the consensus? Labour market developments and the politics of retrenchment". *Socio-Economic Review* 12.2, pp. 409–435.
- ZANGELIDIS, A. (2008). "Occupational and industry specificity of human capital in the British labour market". *Scottish Journal of Political Economy* 55.4, pp. 420–443.

## A A simple formal model

The argument displayed in the main text can be summarized by means of a formal model. I assume that individuals derive utility from their labor market income, with a diminishing marginal utility, and also from social status. Concretely, in this quasi-linear utility function I assume that income affects utility in a logarithmic form. Moreover, social status is a linear combination of labor market success (Prestige) and the level of Dominance exerted by the individual at a cost  $c(p_i)$ , which captures attitudes toward outgroups. That is, following the theoretical discussion, I define Dominance and Prestige as substitutes. Finally, I contend that individuals are loss-averse, so the fact of having lower status than in the previous period translates into lower utility levels.

Starting from the simplest setup, the utility function that individuals maximize in a steady state (i.e., without experiencing status loss) is the following:

$$U_i(p_i) = \ln(w_i) + \delta_i(\alpha_i \ln(w_i) + (1 - \alpha_i)p_i) - c(p_i) \quad (3)$$

being  $w_i$  the market income,  $\delta_i$  the importance attached to status relative to labor market income,  $p_i$  the amount of dominance the individual wants to exert,  $\alpha_i$  the status obtained from prestige, and  $(1 - \alpha_i)$  the status obtained from dominance. Exerting this strategy implies a marginal cost equal to  $c'(p_i)$ . For simplicity, I assume  $c(p_i) = p_i^2/2$ . To get the optimal dominance strategy in this setting is obtained by taking the first order condition of Equation 3 with respect to  $p_i$ :

$$p_i^* = \delta_i(1 - \alpha_i) \quad (4)$$

This condition states that the marginal cost of exerting a Dominance strategy (i.e.,  $p_i$ ) should be equal to its marginal benefit (i.e.,  $\delta_i(1 - \alpha_i)$ ). Without loss of generalizability, I assume that  $\delta$  and  $\alpha$  is the same for all individuals. To enrich the model I introduce two elements in Equation 3. First, I endogenize how wages are obtained in the market. Second, I introduce loss aversion.

Specifically, I assume that the wages received by workers are obtained after asymmetric bargaining between unions and firms, and that, as usually assumed in the literature, both of them are risk neutral. Concretely, in this non-cooperative setting, I assume that neither workers nor firms have outside options and that workers have specific skills ( $s_i$ ) which allow firms to produce  $s_i$ . In this setting, the asymmetric Nash solution between two these two agents can be

defined by the following maximization:

$$w_i^* = \arg \max_w w^r [s_i - w]^{1-r} \quad (5)$$

where  $r$  is the bargaining position of workers. Taking the first order condition of Equation 5, it follows that

$$\begin{aligned} r w^{*r-1} [s_i - w^*]^{1-r} &= (1-r) w^{*r} [s_i - w^*]^{-r} \\ w^* &= r s_i \end{aligned} \quad (6)$$

From the theoretical discussion it follows that, defining  $u$  as the inverse of labor market tightness and  $s$  the amount of OSS:  $\frac{\partial r}{\partial u} < 0$  and  $\frac{\partial r/\partial u}{\partial s} < 0$ . That is, the bargaining position of workers decrease when the occupational labor market becomes looser, and this effect is stronger for individuals with greater amounts of OSS.

Substituting Equation 6 into Equation 3, the utility becomes  $\ln(rs_i) + \delta(\alpha \ln(rs_i) + (1-\alpha)p) - \frac{p_i^2}{2}$ . To introduce status loss, it is worth distinguishing between variables in the previous period ( $x$ ), and the variables in the current period ( $x'$ ). Defining  $S_i = \alpha \ln(rs_i) + (1-\alpha)p$  as the status of individuals in the previous period, the maximization problem becomes:

$$\begin{aligned} \max_{p'} \quad & \ln(rs_i) + \delta(\alpha \ln(rs_i) + (1-\alpha)p'_i) - \frac{p_i'^2}{2} \\ & - \frac{\lambda}{2} \mathbb{1}\{S_i > S'_i\} \left( \underbrace{\alpha(\ln(rs_i) - \ln(r's_i)) + (1-\alpha)(p - p')}_{=S_i - S'_i} \right)^2 \end{aligned} \quad (7)$$

with  $\frac{\lambda}{2} > 0$  being the parameter that captures how harmful is for individuals to experience status loss, and  $\mathbb{1}\{S > S'\}$  an indicator function that takes the value of one if status in the previous period was higher than in the current period (i.e.,  $S > S'$ ) and zero otherwise. Note that I assume that in terms of affecting utility, the effect of status loss is convex: small status decreases do not have a big impact, but the effect increases as the status loss becomes larger. Concretely, to simplify, it has been assumed that the effect is quadratic.

In this setting, I first find the optimal dominance strategy. I then turn to analyze whether when the optimal strategy is applied, the status is still lower than before the occupational deterioration. Finally, I analyze if, after the optimal strategy is applied, the status becomes lower the greater the effect of occupational deterioration.

To obtain the optimal dominance strategy, I take the first order condition of Equation 7 with respect to  $p'$ :

$$\underbrace{\delta(1-\alpha)}_{=p} - p' + \lambda(1-\alpha) \left( \alpha \ln(r/r') - (1-\alpha)(p-p') \right) = 0$$

Since  $\frac{\partial r}{\partial u} < 0$  and  $\frac{\partial r/\partial u}{\partial s} < 0$ , in what follows I will explore how different variables of interest vary when  $r/r'$  increases.<sup>19</sup> This captures whether occupational deterioration, moderated by OSS, affects these variables. Rearranging, and setting the optimal change in dominance strategy  $(p' - p)$  as a function of  $r/r'$ :

$$p' - p = \frac{\lambda(1-\alpha)}{1 + \lambda(1-\alpha)^2} \alpha \ln(r/r') \quad (8)$$

Precisely, Equation 8 states that as the difference between the bargaining position of workers in the previous period and this period becomes larger (i.e., there is a further deterioration of labor market conditions), individuals imply a stronger dominance strategy. Concretely, taking the derivative with respect to  $r/r'$ :

$$\frac{\partial(p' - p)}{\partial r/r'} = \frac{\lambda(1-\alpha)}{1 + \lambda(1-\alpha)^2} \alpha r'/r > 0 \quad (9)$$

But, does the reaction in terms of exerting a Dominance strategy allow individuals to maintain status constant? And, are those suffering more losses in the labor market finally have lower status even after exerting a greater dominance strategy?

To answer the first question, define the change in status as  $\alpha \ln(r/r') - (1-\alpha)(p-p')$  and substitute the optimal change in dominance strategy defined in Equation 8 into it:

$$\begin{aligned} S - S' &= \alpha \ln(r/r') - (1-\alpha) \frac{\lambda(1-\alpha)}{1 + \lambda(1-\alpha)^2} \alpha \ln(r/r') \\ S - S' &= \alpha \ln(r/r') \left( 1 - \underbrace{\frac{\lambda(1-\alpha)^2}{1 + \lambda(1-\alpha)^2}}_{\in [0,1]} \right) > 0 \end{aligned} \quad (10)$$

Thus even exerting the optimal dominance strategy, the previous status was larger. To answer whether the status loss is greater or not for those experiencing more losses, I take the derivative of Equation 10 with respect to  $r/r'$ :

---

<sup>19</sup>Recall that  $\frac{\partial r/r'}{\partial u} = -\frac{\frac{\partial r'}{\partial u} r}{r'^2} > 0$ , and  $\frac{\partial r/r'/\partial u}{\partial s} = -\frac{\frac{\partial r'/\partial u}{\partial s} r}{r'^2} > 0$ .

$$\frac{\partial(S - S')}{\partial r/r'} = \alpha \frac{r'}{r} \left( 1 - \underbrace{\frac{\lambda(1 - \alpha)^2}{1 + \lambda(1 - \alpha)^2}}_{\in [0,1)} \right) > 0 \quad (11)$$

Thus, the larger the loss in the labor market, the greater the loss in status, even after exerting dominance. Wrapping up, three conclusions can be drawn from this model:

1. Those experiencing greater losses in the labor market exert greater levels of dominance (Equation 9).
2. After using this level of dominance, the status remains lower than before (Equation 10).
3. Status loss is greater for those experiencing stronger labor market deterioration, even after exerting more levels of dominance (Equation 11).

## B Description Variables

### B.1 Controls

In the ESS specification, I use the following controls:

**Income.** The ESS is particularly good at reporting respondents' income broken down by round and country. I follow Rueda (2018), which uses the midpoints of the income bands from ESS and employs Hout (2004) to impute the values for the highest income bands. I normalize household income by dividing it by the square root of the number of people in the household. To calculate the relative distance to the country mean, I standardize the variable to the country-year (and set the maximum value to the 99th percentile).

**Education years.** The variable that captures general skills is the number of years of formal education that the individual has. Since the range is from 0 to 56, with few (and very uninformative) values at the right end of the distribution, I follow Walter (2017) and set 25 years as the maximum education level.

**Age.** It could be that age is associated with occupation and with traditionalist values.

**Unemployed.** This is a dummy variable that takes the value of one if the individual is unemployed and zero otherwise. This is intended to capture realized risk as an independent channel of risk exposure (Cusack, Iversen, and Rehm, 2006).

**Member of a trade union.** As pointed out by Freeman (1976), unions can have a positive effect on the flow of information between employees and employers. This could be particularly important in long-term contractual relationships, such as those offered to individuals to acquire specific skills. In addition, union membership has been shown to be associated with immigration preferences Donnelly (2016). When asked if the respondent was a member of a union, they had three choices: “Yes, currently”, “Yes, previously” and “No”. I use these responses as controls.

**Gender.** Because women’s participation in the labor market tends to be more fragmented, they may be less represented in occupations that require high investment in specific skills. Indeed, the correlation between specific skills and a dummy for gender is -0.176, while for years of education it is 0.025. Since women tend to have different political attitudes than men, I add this as a control.

**Religiousness.** It is common in the literature to include a dimension of religiosity, as it might be related to the values of the individual. I include a dummy that takes the value of one if the respondent belongs to a particular religion, and zero otherwise.

In the GSOEP specification, I follow closely Pardos-Prado and Xena (2019).

**Education Years.** These are introduced to capture variation in general skills. Must be noted, however, that this does not capture the causal effect of education years. To do so, see Margaryan, Paul, and Siedler, 2021. It will also serve to see if the effect of OUR is different at different levels of education years.

**Tenure.** This is aimed to capture variation in firm-specific skills (Kambourov and Manovskii, 2009). Pardos-Prado and Xena (2019) use it as a measure of skill specificity, but I follow labor literature distinguishing between tenure and OSS (Jäger and Heining, 2022).

**Manual Worker (unskilled/skilled).** Even though I control for occupation FE at the ISCO 2-digits, according to EGP class schema, there are occupations that might be manual within ISCO 2-digits. I introduce dummies capturing whether the individual enters an occupation that is considered manual.

**Age.** I include a measure that captures how old individuals are, which might affect their perceived risks, social status, and immigration concerns.

**Unemployed.** Since being unemployed may increase immigration concerns (Lancee and Pardos-Prado, 2013) and is related to the argument proposed, I introduce a dummy capturing whether the respondent is unemployed or not.

**Income.** The financial situation of individuals may have an effect on immigration preferences that is independent of the risk mechanism proposed. Pardos-Prado and Xena (2019) use income quintiles. Differently, I use the (logarithm) of the current net labor income.

**% Immigrants in the occupation.** Besides occupational unemployment rates, the number of migrants in a given occupation may have an effect on concerns about immigration (Kunovich, 2013; Pecoraro and Ruedin, 2020). I compute this variable from the Labor Force Surveys provided by Eurostat.

## B.2 Discussion General Immigration Concerns from GSOEP

It is worth noting that, although the question in GSOEP is not very specific, it has been validated as a good measure for capturing immigration attitudes (see Lancee and Pardos-Prado (2013) and references therein), and it has also been shown to explain, for example, radical right voting (Avdeenko and Siedler, 2017).

Figure 8 shows the distribution of the variable. The left panel shows the percentage of respondents who gave each of the three possible answers, and the right panel shows the percentage of people who changed their preferences in the sample analyzed. Kustov, Laaker, and Reller (2021) asserts that spurious changes in preferences are more likely the more detailed the answers. By distinguishing between those who are *not at all* concerned and those who show at least some level of concern about immigration, I narrow down this potential problem. On the left panel, it can be seen that nearly 30 percent of respondents are not at all concerned about immigration, and about the same percentage answer they are very concerned. The remaining 43 percent say they are somewhat concerned. The right panel shows that 40% of respondents have changed their preferences between one and three times, while about 5% have changed them more than three times. Although immigration preferences are very stable (Kustov, Laaker, and Reller, 2021), there are still changes that need to be explained.

## B.3 Operationalization Occupational Unemployment Rates

When calculating the individual's occupational unemployment rates, several empirical choices are made. First, it's possible that they are not correctly computed as OUR in some occupations may depend on a limited number of data. I only calculate the OUR for country-occupation-years with at least 30 observations, and I fill in the gaps with linear interpolation. In addition, I smooth the data, taking into account OUR values with a one-year lag, giving to these lags half

Figure 8: Descriptive Statistics Immigration Attitudes



of the weight. Concretely,

$$\overline{OUR}_t = \frac{2}{3} \left( OUR_t + \frac{1}{2} OUR_{t-1} \right) \quad (12)$$

Being  $\overline{OUR}$  the smoothed variable. This is slightly different from the approach in Rehm (2009) where the author not only introduced a lag, but also a lead of OUR.

#### B.4 Coding Occupation-Specific Skills using the PIAAC

Table 1 displays the PIAAC questionnaire’s available responses, how each response was classified into months, and how many observations each response contains for the ISCO88 and the ISCO08. Each answer is coded in months taking the mid-point value of each answer (Polavieja, 2016). That is, the answer “From 1 to 6 months” is coded as  $3.5 = (6-1)/2+1$ . In the extreme case, “Three years or more”, it has been coded as 4 years (48 months).

#### B.5 Descriptive Statistics Occupation-Specific Skills

The next two tables show the descriptive statistics of OSS, distinguishing by observations in ISCO88 and ISCO08.

Table 1: Operationalization and Observations PIAAC answers

Answer	Operationalization (months)	Observations (ISCO88/08)
None	0	10,088/15,611
Less than 1 month	0.5	2,530/3,646
From 1 to 6 months	3.5	6,833/10,117
From 7 to 11 months	9	2,758/4,504
From 1 to 2 years	18	8,070/13,188
Three years or More	48	7,736/13,057

*Note: These data come from the two rounds of the PIAAC. N=38,015 for ISCO88 and N=60,123 for ISCO08.*

Table 2: Descriptive Statistics ISCO88

Occupation	Mean	Median	Std. Deviation
11. Legislators and senior officials	26.256	18	21.357
12. Corporate managers	30.911	48	19.296
13. General managers	19.047	18	18.848
21. Physical science professionals	24.501	18	19.611
22. Life science professionals	19.339	18	19.240
23. Teaching professionals	15.705	9	18.186
24. Other professionals	23.181	18	19.365
31. Physical science associate	19.661	18	19.003
32. Life science associate	13.655	3.5	16.592
33. Teaching associate	23.677	18	19.522
34. Other associate professionals	17.916	18	18.137
41. Office clerks	12.859	3.5	15.917
42. Customer services clerks	7.852	3.5	12.437
51. Personal/protective workers	9.009	3.5	14.013
52. Models/salespersons	6.207	3.5	11.214
61. Skilled primary workers	8.676	0.5	14.555
71. Building trades workers	15.010	9	17.460
72. Metal/machinery trades workers	16.256	9	17.760
73. Handicraft trades workers	13.942	3.5	17.418
74. Other craft trades workers	10.642	3.5	15.043
81. Stationary-plant operators	10.802	3.5	15.485
82. Machine operators/assemblers	7.114	.5	12.616
83. Mobile-plant operators	12.152	3.5	15.599
91. Sales/services elementary	4.560	0	10.361
92. Primary sector labourers	4.815	0.5	9.686
93. Construction/manufacturing labourers	0.58	4,062	10.388

## B.6 Other OSS measures: ESS and O\*Net

In the main text, when exploring how robust the results are, two different measures of OSS are used. The first one uses a question from the ESS (rounds 2 and 5) which also asks individuals about the amount of time needed to learn to do their job. Concretely, respondents are asked: “if someone with the right education and qualifications replaced you in your job, how long would it take from them to learn to do the job reasonable well?” I have coded answers into months and I have averaged them at the ISCO-88 2 digits. The correlation between the variable obtained from ESS and the one retrieved from PIAAC is 0.92 for the case of aggregating at the first

Table 3: Descriptive Statistics ISCO08

Occupation	Mean	Median	Std. Deviation
11.Chief Executives, Senior Officials	31.596	48	19.990
12.Administrative and Commercial Managers	33.807	48	18.267
13.Production and Specialized Services	32.737	48	18.936
14.Hospitality, Retail and Other	23.190	18	19.058
21.Science and Engineering Professionals	24.562	18	19.743
22.Health Professionals	18.406	18	18.965
23.Teaching Professionals	15.517	9	18.062
24.Business and Administration Professionals	26.082	18	19.270
25.Information and Communications Tech.	25.927	18	19.350
26.Legal, Social and Cultural Professionals	21.033	18	19.265
31.Science and Engineering Associate Profs.	21.690	18	19.345
32.Health Associate Professionals	14.327	9	17.035
33.Business and Administration Assoc.	19.043	18	18.389
34.Legal, Social, Cultural Associate Profs.	16.775	9	18.114
35.Information and Communications Tech.	18.808	18	17.595
41.General and Keyboard Clerks	12.733	3.5	15.631
42.Customer Services Clerks	10.063	3.5	14.133
43.Numerical and Material Recording Clerks	14.417	9	16.342
44.Other Clerical Support Workers	12.770	3.5	16.363
51.Personal Services Workers	9.639	3.5	14.415
52.Sales Workers	7.009	3.5	12.083
53.Personal Care Workers	8.351	3.5	12.897
54.Protective Services Workers	10.250	3.5	15.783
61.Market-oriented Skilled Agricultural	9.043	3.5	14.785
62.Market-oriented Skilled Forestry,	14.498	3.5	9.512
63.Subsistence Farmers, Fishers, Hunters	4.055	0.5	9.168
71.Building and Related Trades Workers	15.154	9	17.506
72.Metal, Machinery and Related Trades	16.426	3.5	17.815
73.Handicraft and Printing Workers	13.940	3.5	17.193
74.Electrical and Electronic Trades Workers	17.223	18	17.914
75.Food Processing, Woodworking, ...	10.396	3.5	15.047
81.Stationary Plant and Machine Operators	8.053	3.5	13.588
82.Assemblers	6.199	0.5	11.479
83.Drivers and Mobile Plant Operators	11.746	3.5	15.318
91.Cleaners and Helpers	3.596	0	8.645
92.Agricultural, Forestry and Fishery	3.868	0	9.772
93.Mining, Construction, Manufacturing	4.933	0.5	10.613
94.Food Preparation Assistants	3.977	0.5	8.708
95.Street and Related Sales and Services	2.610	0	8.200

digit and 0.88 when aggregating at the second one. This is surprisingly high given that the occupation classification in the ESS is ISCO-88, while in the PIAAC is ISCO-08, leading to inevitable errors-in-measurement that attenuate the correlation.

Secondly, I use the variable of skill specificity proposed by Christenko, Martinaitis, and Gaušas (2020). They do differentiate between the number of skills and the depth of knowledge required of these skills. Multiplying the number and the depth I create the measure of OSS. In the main text I display the results using the variable from PIAAC but the results are robust to using the variable proposed by Christenko, Martinaitis, and Gaušas (2020) and the one obtained from the ESS.

## C Empirical Specification Longitudinal Analyses

Analyzing longitudinal data such as the GSOEP, it is common to run models with individual FE to remove all time-invariant characteristics of respondents (Ersanilli and Präg, 2019; Pardos-Prado and Xena, 2019). However, by introducing individual FE, the variation in OUR will be in part driven by changes in occupations that could affect immigration preferences independently of the effect of OUR. There can be four type of problems.

First, an individual with high OSS and experiencing increases in OUR may, for instance, change from occupation to another one that requires less specific skills and that has less unemployment rates. This would imply a within-individual reduction in OUR and of its interaction with OSS, but this is an example of a deterioration of workers' condition that may lead to an increase in anti-immigration attitudes. Second, changes in occupation may prompt changes in preferences, the effect not being driven by occupational context but by the tasks performed (Kitschelt and Rehm, 2014). Related to this point, changes in immigration preferences could drive occupational changes. Finally, there could be omitted variable bias if, for instance, individuals changing their degree of risk aversion change both their immigration attitudes and their occupation. To solve these issues I introduce individual-occupation FE.

Thus, the regression to be estimated that allows for flexible OUR effects at different levels of OSS is:

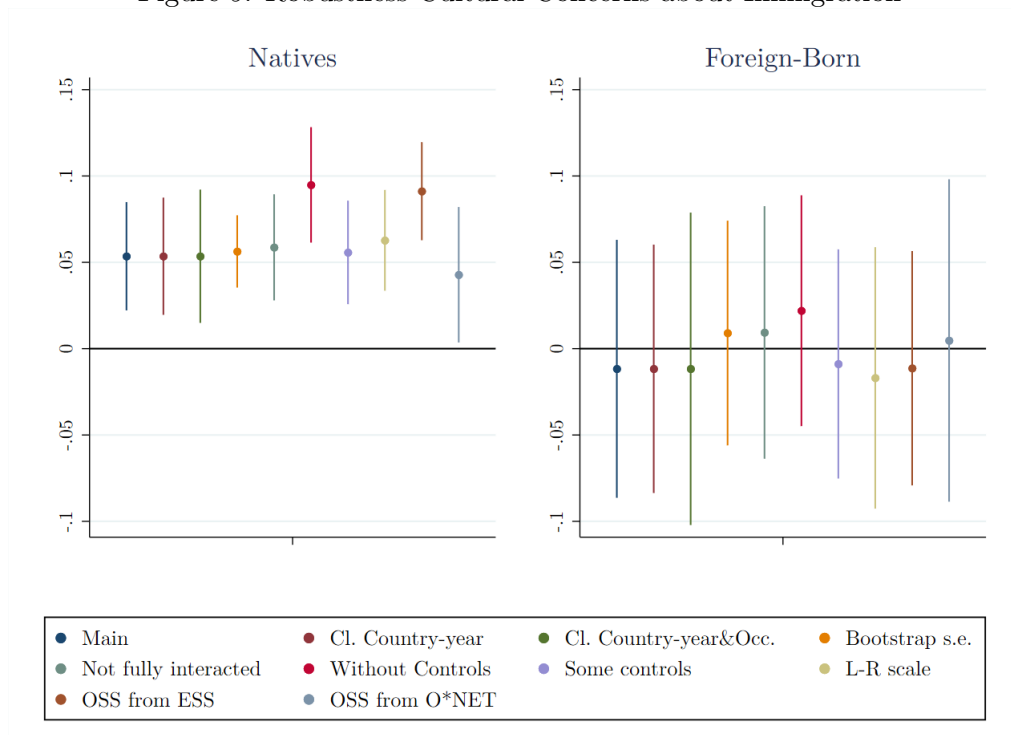
$$\text{IMM}_{i,t} = \sum_{j \in \{L, M, H\}} \left\{ \alpha_j \text{OUR}_{o(i,t),t} + \beta_j \text{OUR}_{o(i,t),t} \times \widetilde{\text{OSS}}_{o(i,t)} \right\} G_j + \delta Z_{i,t} + \theta_{o(i,t)} + e_i \quad (13)$$

## D Robustness checks

### D.1 Cultural Concerns about Immigration: ESS

**Different specifications for natives and foreign-born:** Figure 9 shows the differential association of OUR to cultural concerns about immigration for a typical low and a typical high OSS, for natives (left) and for foreign-born (right). It shows the results using different specifications. It can be seen that the interactive effect is significant for natives regardless of the specification used, but not for the foreign-born subsample. For foreign born, the interactive effects are close to zero, as expected. The non-significance is not (solely) due to the difference in the number of observations. In fact, in the main analysis, the effect of OUR on cultural concerns for a typical individual with high OSS is statistically different for natives than for migrants ( $p\text{-value} < 0.05$ ).

Figure 9: Robustness Cultural Concerns about Immigration



**Using different dependent variables.** One potential concern with the main analysis is that I only use one question capturing immigration concerns. To mitigate this concern I use different questions from the ESS as dependent variables, standardizing answers.

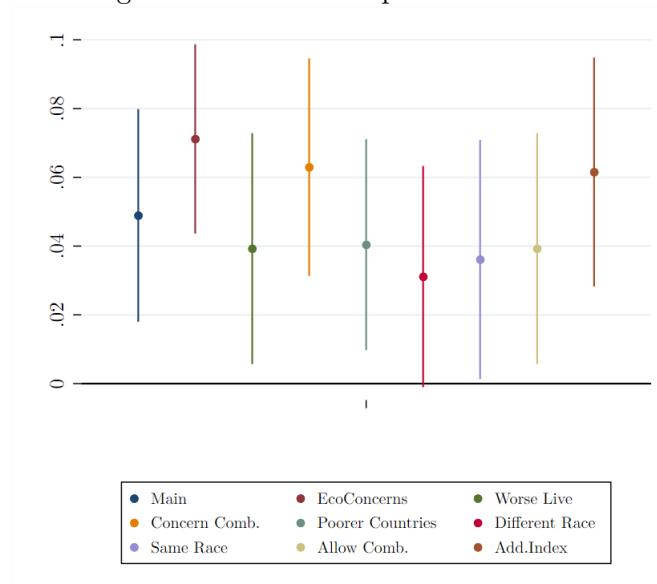
The first dependent variable is whether respondents see immigration as bad or good for the country's economy, and the second one is whether immigrants make the country a worse or

better place to live (The answers range from 0 to 10). In the third specification, I create an additive index combining these two questions with the main question about cultural concerns about immigration (Pardos-Prado and Xena, 2019).

Moreover, to tap directly anti-immigration *policy* preferences, I follow Ersanilli and Präg (2019), using three questions that asked respondents about whether their country should allow people from different groups to live there. Concretely, people from the “same ethnic group”, “a different ethnic group” and from “poorer countries outside Europe”. Response categories (values) include: ‘allow none’ (4), ‘allow a few’ (3), ‘allow some’ (2), and ‘allow many’ (1). I use each of these three questions and again I create an additive index with these answers. Finally, I create an index combining the six questions.

Figure 11 displays the differences in the effects for a typical high and a typical low OSS individual.

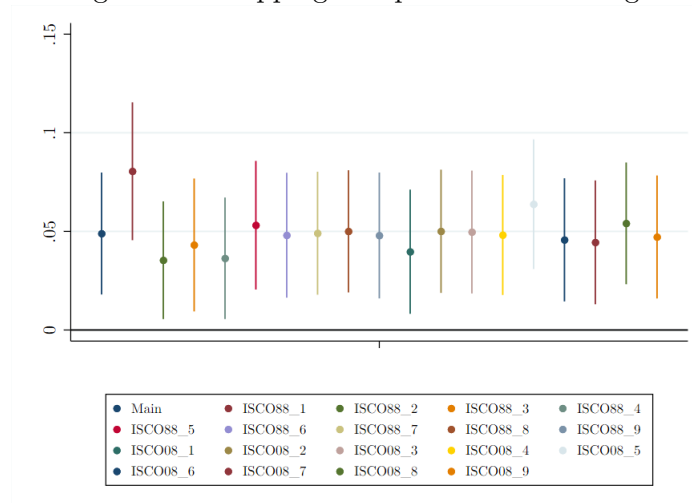
Figure 10: Different dependent variables



**Drop one occupation at a time.** To assess that the results do not hinge on any specific occupation, I drop each ISCO 1-digit occupation at a time, distinguishing by ISCO88 and ISCO08. It can be seen that the results are highly stable, with the interactive effects being slightly higher when managers (coded as ISCO88) are dropped.

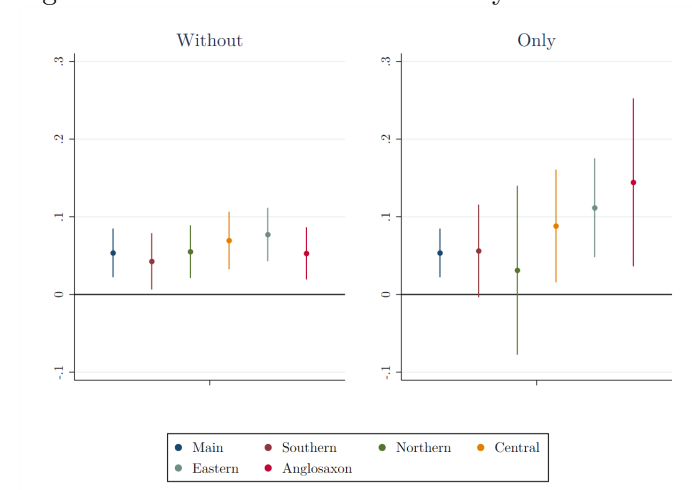
**What countries are driving the results?.** Policy feedback literature contends that individual risks will matter the most when employment protection is low and the welfare benefits are contingent on being employed (Gingrich and Ansell, 2012). While testing directly this hypothesis is beyond the scope of the paper, in this section I provide evidence on whether the

Figure 11: Dropping occupations ISCO 1-digit



results depend on a specific set of countries. Concretely, I divide countries according to whether they are Scandinavian, Mediterranean, Central, Eastern, or Liberal countries. Figure 12 displays these results. On the left panel there are the results dropping each set of countries at a time, and on the right panel regressing only for each subset of countries. From the left panel, it can be seen that the effect does not depend on any specific set of countries. In the right panel, it can be seen that there is some heterogeneity that is worth being explored.

Figure 12: Robustness of the Effect by set of countries



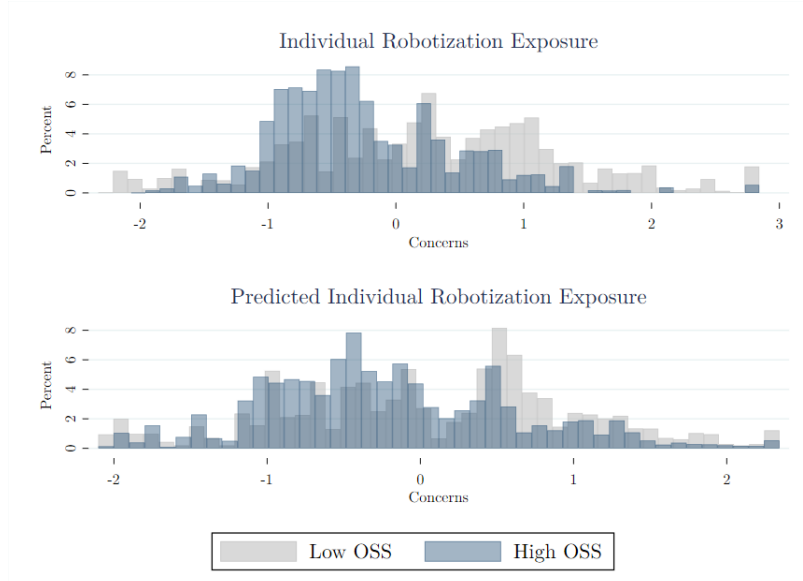
The cases that differ most from the main regression are Scandinavian countries and Liberal countries. The former countries are characterized by high levels of protection and welfare benefits, while Liberal countries (Ireland and the United Kingdom) have liberal welfare states with low welfare benefits and these tend to be employment-dependent. Consistent with the feedback policy literature, the effect is larger for Liberal countries than for Scandinavian countries. In-

deed, the effect for Scandinavian countries is close to zero and not statistically significant, while for Liberal countries it is three times larger than the average effect for the entire sample and highly statistically significant. Indeed, the difference between these two groups of countries is significantly different from zero at the 90% confidence level ( $t = 1.84$ ), and the difference of effect for high OSS is significant at the 95% confidence level ( $t = 2.41$ ).<sup>20</sup> Of course, there are a myriad of country differences that could explain these differences.<sup>9</sup>

**Robotization exposure.** If economic shocks consistently disproportionately affect occupations with low to medium OSS, we would expect a corresponding rise in anti-immigration sentiment among these groups during times of economic crisis. This could be the case with robotization. Nevertheless, it is worth noting that while robotization primarily affects occupations with low to medium OSS, there are individuals with high OSS who are exposed to high levels of robotization (Anelli, Colantone, and Stanig, 2021; Tafti, 2022). This is because the impact of robotization varies across regions and countries, leading to different pathways of robotization.

Anelli, Colantone, and Stanig (2021) provide individual-level data on exposure to robotization and, using the first seven rounds of the European Social Survey (ESS), show that such exposure is associated with increased support for radical right-wing parties. It is important to note that while they suggest an increase in nativism as a plausible mechanism, they do not distinguish between economic and cultural concerns related to immigration.

Figure 13: Histogram Robotization Exposure for low and high OSS individuals

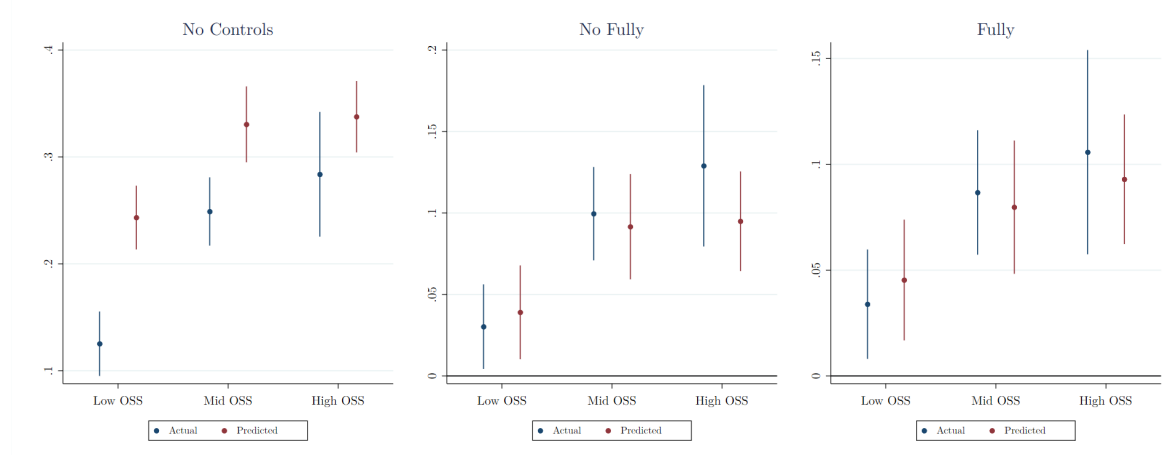


<sup>20</sup>The t-tests are:  $\frac{0.143-0.016}{\sqrt{0.0547^2+0.0418^2}} = 1.84$  and  $\frac{0.2121-0.0371}{\sqrt{0.0596^2+0.0413^2}} = 2.41$ .

Based on their data, Figure 13 shows individual exposure to robotization for low and high OSS individuals. Specifically, it shows two measures. The first is actual exposure, which is the exposure of individuals based on their current occupation. The second measure is predicted exposure, i.e., considering the expected occupation that individuals would be working in, in the absence of robotization. For the technical details, I refer the reader to Anelli, Colantone, and Stanig (2021). From the figure 13, it is clear that there is a substantial overlap between individuals with low and high levels of OSS.

In Figure 14, I show the effect of a one standard deviation increase in robotization exposure (using both exposure measures) on cultural backlash against immigration for different OSS levels. The left panel shows the effect without including controls and shows a large effect of this measure and a large interactive effect. The middle panel shows the results of the specification with controls but without being interacted with OSS, and the right panel with a fully interacted model. There is a significant interactive effect in all six specifications. Comparing the fully interacted model to the main specification in the paper, it can be seen that the effect is similar in size to the effect of increasing a standard deviation in OUR.

Figure 14: Marginal Effects Robotization Exposure for low and high OSS individuals



**Common Support.** As mentioned in the main text, one of the main problems of the analysis could be the lack of common support. I perform three analyzes. First, I truncate the data and use only the observations whose OUR is below the 99th percentile of high OSS individuals. Then I use the inverse hyperbolic sine function transformation of OUR and finally, I use this transformation and truncate the data. The results compared to the main analysis are shown in Figure 16. It can be seen that the effect tends to be stronger for truncated data, albeit they are non-statistically significance as the analysis has greater standard errors due to the obvious loss of information (134,000 vs 96,000 observations). The histograms for the common

support analysis are shown in Figure 15. It can be seen that all approaches mitigate the problem of strong extrapolation in the absence of common support, with the clearest case being when using the inverse hyperbolic sine function transformation of OUR with truncated data.

Figure 15: Results Common Support

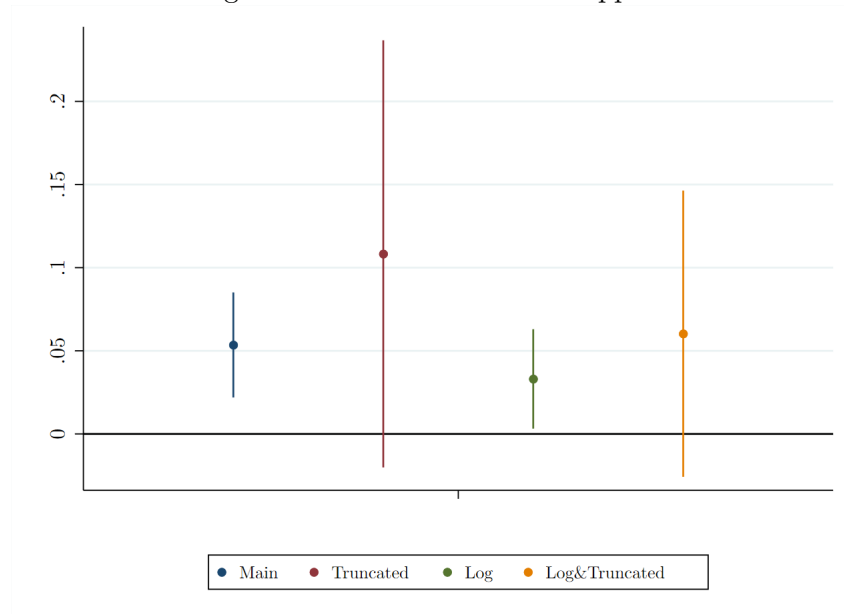
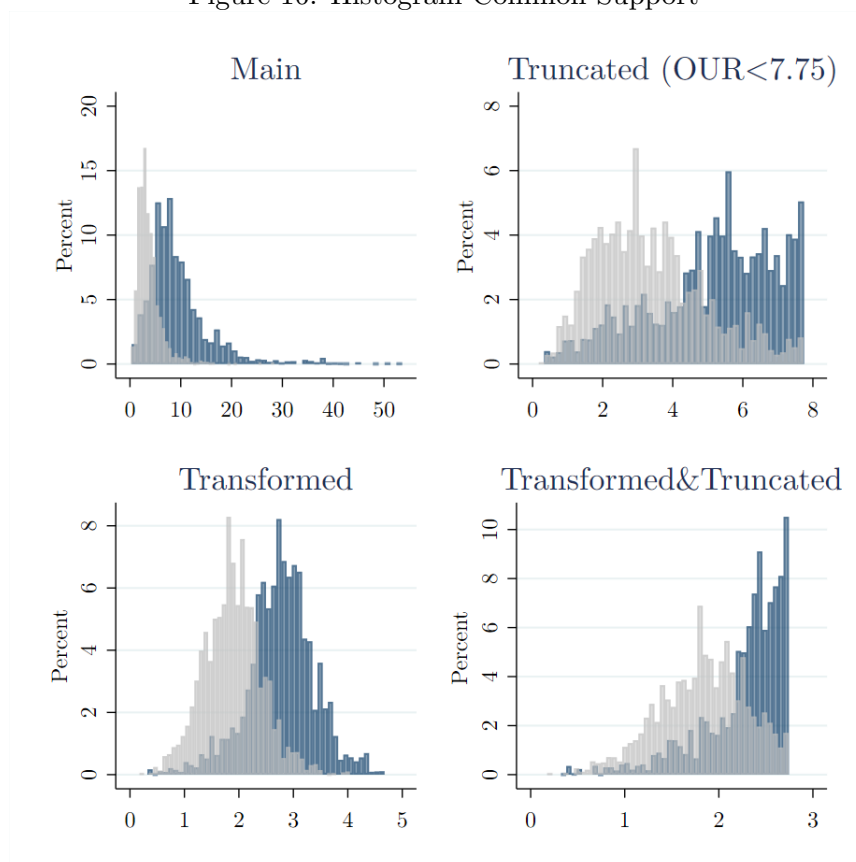


Figure 16: Histogram Common Support



**Sensitivity Analysis.** In this subsection I describe the sensitivity analysis proposed by Cinelli and Hazlett (2020), and the results obtained from it. The Omitted Variable Bias (OVB) formula plays a crucial role in their framework. In linear regression models, OVB formula quantifies the impact of excluding a covariate on the estimated coefficient of interest. Thus, a bivariate contour plot can be used to illustrate how the estimated effect would change based on hypothesized magnitudes of the confounding variable, thereby illustrating the potential sensitivity of the results. From this, an isoquant could be drawn to show the specific value the coefficient of an OLS would take in case the unobserved confounder affect the independent and dependent variables in different ways. They expand this formula to the case of having several confounders that could affect the dependent and independent variables non-linearly.

Their approach shows how strong should be the unobserved confounder to make the relationship of interest to disappear employing some of the controls as benchmarks. This allows me to assess the plausibility of these unobserved confounders. Figure 17 shows the results of this exercise using two key variables as controls: ideology and gender.<sup>21</sup> The y-axis is how much of cultural concerns about immigration are explained by the confounder ( $c$ ) after taking into account the effect of all other controls (i.e., the partial  $R_{y,c}^2$ ), and the x-axis is how much of the interactive effect is explained by the confounder after taking into account the effect of all other controls (i.e., the partial  $R_{x,c}^2$ )

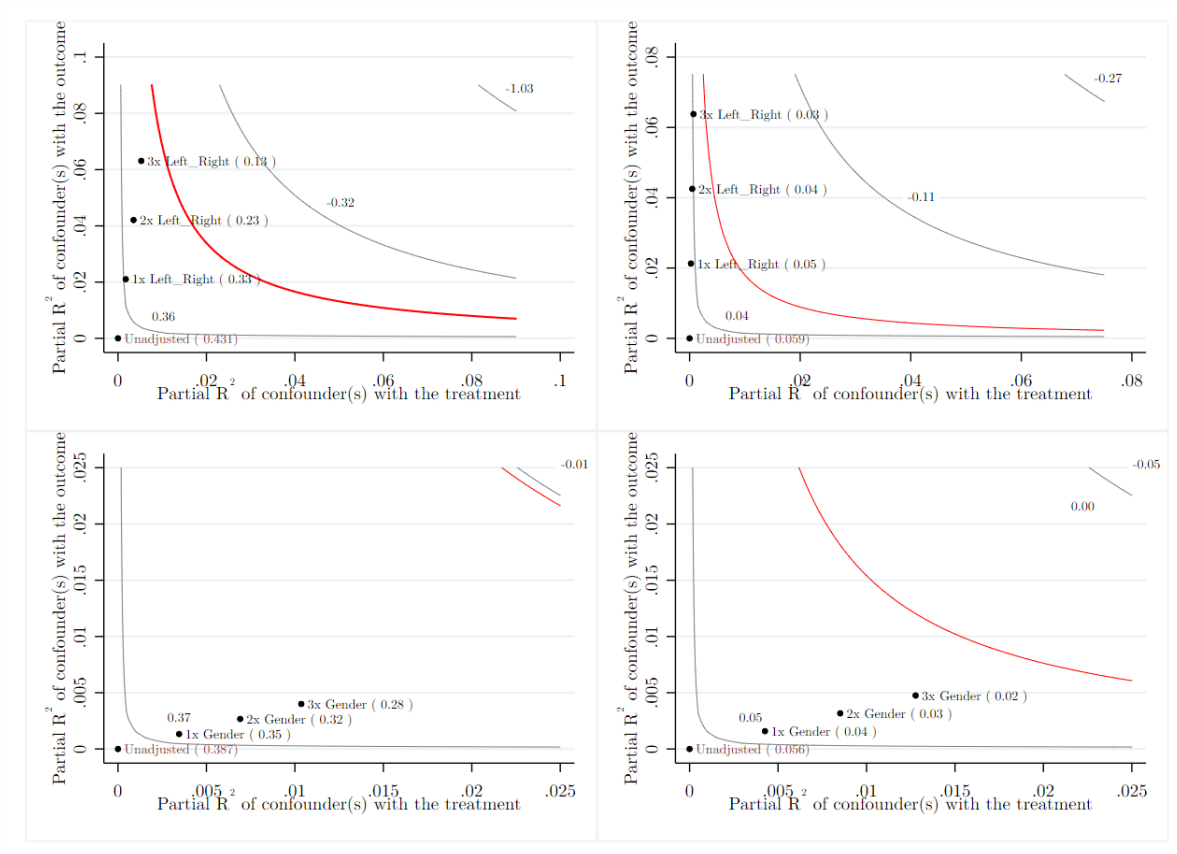
Figure 17 shows the effects of ideology in the top panels and gender in the bottom panels. The left panels show the coefficient of the interaction in a linear interactive effect specification and the right panels display the difference in OUR association with cultural immigration concerns between a typical low OSS person and a typical high OSS person. It can be seen that the effect in the binning regression does not disappear even when the unobserved confounders have an effect three times as large as the effect of ideology. Note that an effect three times as large as ideology self-placement is not very plausible. The partial  $R_{c,y}^2$  is 0.06, while the  $R^2$  of the main regression is 0.19, which includes country-year FE, immigration rates at the occupational level, years of education, OSS, OUR... Also in the case of gender, which is a key determinant of occupational choice and political preferences, there would still be an effect even if the unobserved confounder were three times as influential.

**Alternative Mechanisms.** I analyze three main alternative mechanisms: *i*) realized risks; *ii*) whether OUR interacted with other controls, such education, is driving the results; *iii*)

---

<sup>21</sup>Other controls such as years of education are not applicable because their inclusion *increase* the effects found.

Figure 17: Sensitivity Analysis



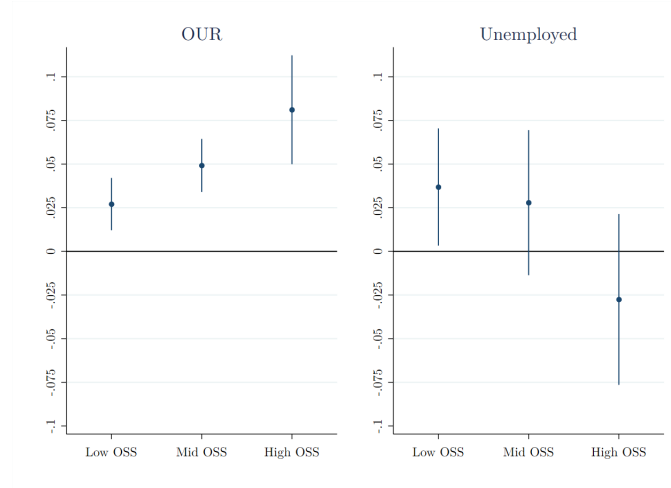
whether the results simply indicate that, when the occupational context deteriorates identify less with their occupations and more with their countries.

Starting with realized risks, Figure 18 shows the effects of OUR at different levels of OSS (left) and the same effects for being actually unemployed (right). It can be seen that contrary to the main effects found in the paper, being unemployed does not lead to greater concerns about immigration the greater the amount of OSS. If anything, the results go in the opposite direction.

Then I test whether the interactive effect of OUR and OSS is indeed driven by other controls. For instance, it could be that OUR have a different effect on political preferences depending on their level of education (not the amount of OSS). In the most demanding specification, I allow the effect of OUR to vary at each tercile of all controls used. Concretely, the specification used is the following:

$$\text{IMM}_i = \sum_{j \in \{L, M, H\}} \left\{ \alpha_j \text{OUR}_{o,c,t} + \eta_j \widetilde{\text{OSS}}_o + \beta_j \text{OUR}_{o,c,t} \times \widetilde{\text{OSS}}_o \right\} G_j +$$

Figure 18: Perceived vs realized risk



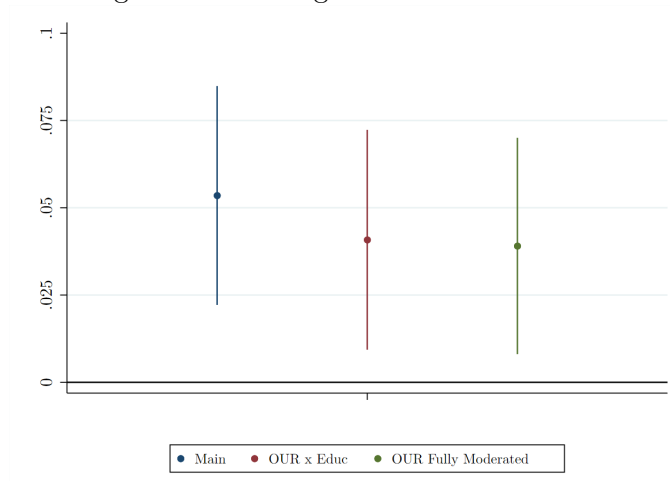
$$+ \sum_{l \in \{L, H\}} \sum_{k \in Z} (\delta_{l,k} \text{OUR}_{o,c,t} \times D_{i,l,k} + \gamma_{l,k} D_{i,l,k}) + \theta_{c,t} + e_i \quad (14)$$

The first part of equation 14 is equal to the main equation estimated in the text. The second part differs in the sense that it allows the effect of OUR to vary at different values of controls. Concretely, being  $k \in Z$  a given control,  $l$  can take two values, low and high.  $D_{i,l,k}$  takes value one for individual  $i$  if the value of control  $k$  is in the  $l$ -th tercile, and zero otherwise. In terms of the parameter  $\delta$ , for instance, for an individual with low levels of education, the effect of OUR we get is  $\delta_{L,educ}$ . Since I compute the effect of OUR at each tercile of OSS (thus, not having any reference category),  $\delta$ 's cannot be interpreted directly. Because now the effect of OUR depends on all controls, what I show in the results is the difference in the effect of OUR between low and high OSS individuals (i.e.,  $\alpha_L - \alpha_H$ ). This gives the differential effect of OSS between typical low and high OSS values, after partialling out the heterogeneous effects of OUR with all controls.

The effects are summarized in Figure 19. I start showing the main result, and then I introduce the effect of OUR interacted with education, which is the main suspect that could be driving the results. Even if the effect diminishes somehow, it remains strong and significant. In the last analysis, I show the result when interacting OUR with all controls. The results remain very stable.

Finally, I test whether the results could be explained by social identity theory. Concretely, using data from the 2003 round of ISSP. In this round, individuals have to select a social group that best defines themselves. I generate two sets of dummies for two dimensions: the occupation and the country. The first takes the value of one when the group is the *most* important factor,

Figure 19: Heterogeneous Effects of OUR



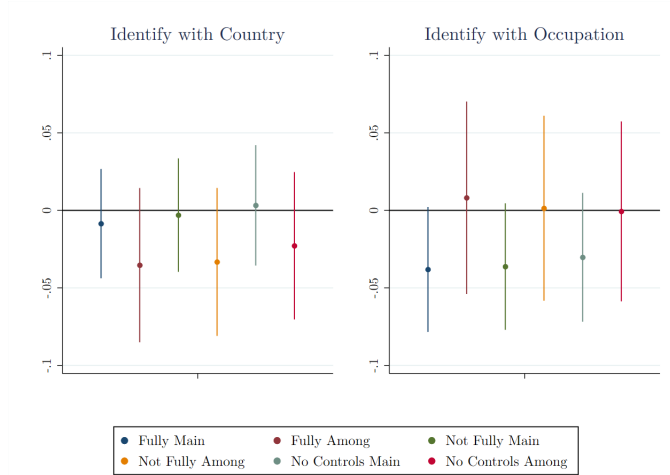
and zero otherwise. The second takes the value of one if the factor is *among the three* most important factors, and zero otherwise.

Figure 20 shows the results of the differential effects of OUR between individuals with low OSS and individuals with high OSS. It can be seen that, for higher values of OSS, individuals do not self-identify more with their country when the occupational context deteriorates. This is true for both ways of coding the variable (main important factor or among the three more important factors), when not fully interacting the controls with OSS, or when not adding controls. For the case of identifying with their occupation or class, the effect is negative (and significant at 90% of confidence) when considered the main factor, but close to zero and not statistically significant when coded as one of the main three factors. This evidence does not support the idea that the cultural reaction against immigration is simply driven because individuals identify more with their country.

## D.2 General Concerns: GSOEP

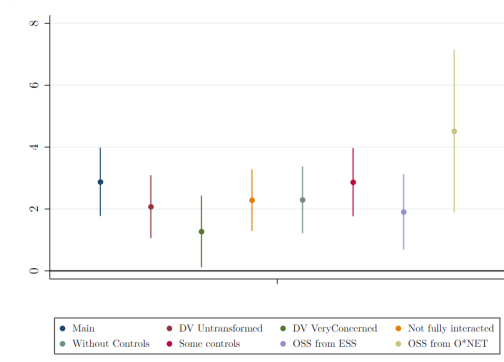
**Different specifications:** Figure 21 shows how robust are the results found to different specifications, compared to the main regression. The first exercise performed is to change the coding of the dependent variable. First, I leave the answers to concerns about immigration unchanged, implicitly making the proportional lines assumption that the effect is constant for each answer category. Second, by coding the dependent variable as one if the individual is very concerned about immigration and zero if s/he is somewhat concerned or not concerned at all. In this latter case, the effect is positive as expected but much lower compared to the main specification. Note

Figure 20: Self-identification: Country and Occupation



that this transformation may capture changes in what individuals understand as “somewhat” or “very” concerned, a thing that does not happen in the main coding of the variable.

Figure 21: Robustness General Concerns about Immigration



As in the previous cases, I also do the main regression without fully interacting controls with OSS, without including controls, and only introducing controls that are surely pre-treatment. In all these cases the results remain qualitatively equal than the main specification. Finally, I use OSS from the ESS and from O\*Net. The results are robust to these specifications.

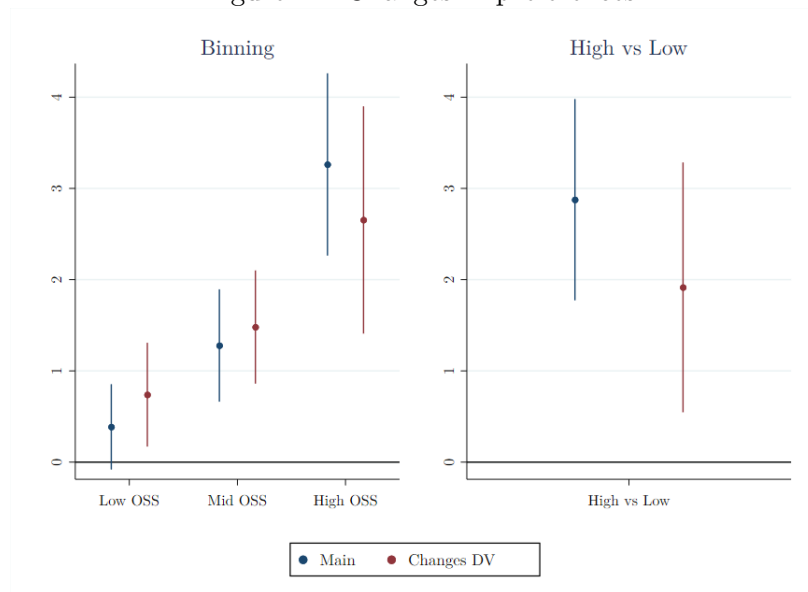
**Changes in preferences.** Kustov, Laaker, and Reller (2021) contends that preferences are highly stable. Formulating the main regression introducing the autoregressive term:

$$\text{IMM}_{i,t} = \gamma \text{IMM}_{i,t-1} + \sum_j \left\{ \alpha_j \text{OUR}_{o(i,t),t} + \beta_j \text{OUR}_{o(i,t),t} \times \widetilde{\text{OSS}}_{o(i,t)} \right\} G_{j(o)} + \delta Z_{i,t} + \theta_{i,o} + e_{i,t}$$

They claim that the autoregressive component is close to one ( $\gamma \approx 1$ ). To take this into account, Figure 22 displays the results using the change in preferences as the dependent variable

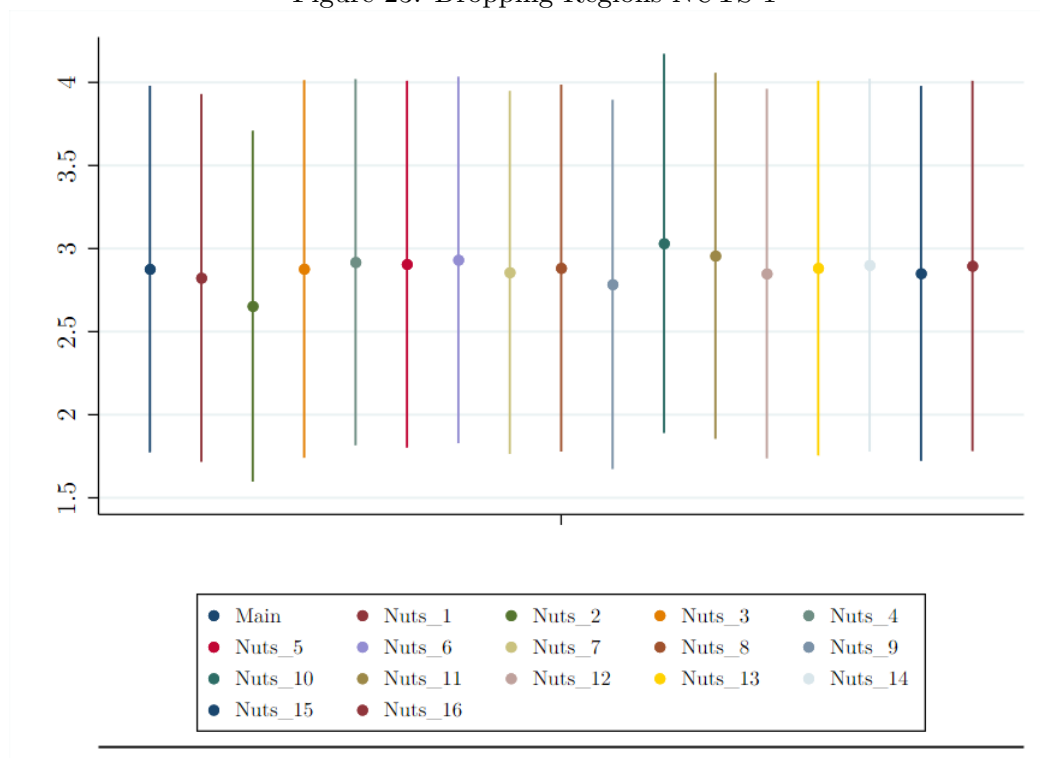
(i.e., when the autoregressive term is equal to one). The results are similar in this specification.

Figure 22: Changes in preferences



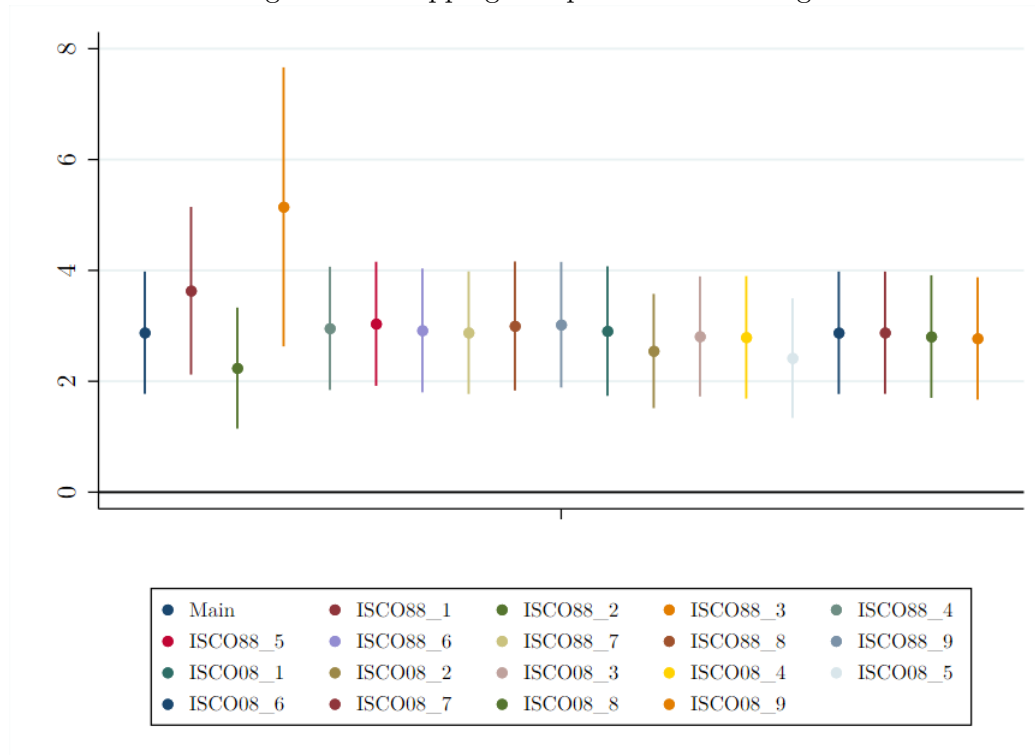
**Drop one region at a time.** To asses that the results do not rely on any specific region, leave out one region at a time (defined at NUTS-1) in Figure 23.

Figure 23: Dropping Regions NUTS-1



**Drop one occupation at a time.** I perform the same analysis dropping one occupation at a time. The results are displayed in Figure 24.

Figure 24: Dropping occupations ISCO 1-digit



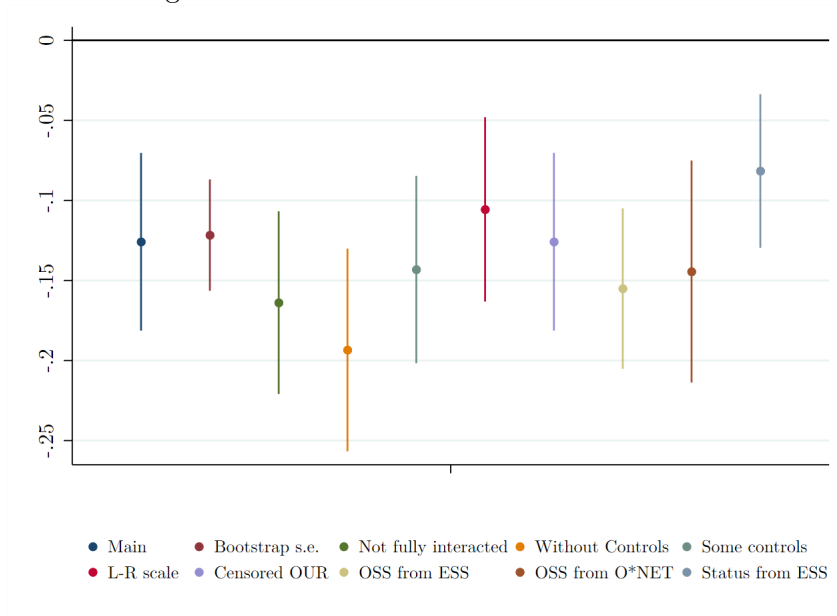
**Salience and refugee crisis.** One of the scope conditions for the findings is that immigration should be salient politically. Note that the argument is not about expecting to compete with migrants, but simply the loss of prestige leads to a reaction toward outgroups in order to regain social status. In Western countries, immigration is the classical scapegoat and is very salient. To see if this salience of immigration affects the relationship I test if the explored relationship is stronger in the aftermath of the refugee crisis in 2015. Indeed, in this period the average level of immigration concern in Germany increased from 60% (from 2012 to 2014) to 78%. The average interactive effect of OUR (comparing high vs low OSS individuals) where 1.67 before the crisis, and increased to 3.2 afterward. Nevertheless, the difference is far from being significant due to the small number of observations.

### D.3 Perceived Social Status: ISSP

Figure 25 examines the sensitivity of the effect of OUR, moderated by OSS, on perceived social status by changing some of the empirical choices made. Specifically, it shows the differences in the association of OUR and status between individuals with low and high OSS and the associated 95% confidence intervals.

It can be seen that the main specification used was demanding: The effects of the main

Figure 25: Robustness Perceived Social Status



regression are smaller compared to the case of introducing controls but not interacting them with OSS, and confidence intervals are higher compared to bootstrapped standard errors.<sup>22</sup> The third specification, in the case without controls, is where there is the strongest difference between low and high OSS individuals. Since it could be argued that the effect found is due to some post-treatment control, in the fourth regression I drop controls that are plausibly post-treatment.<sup>23</sup> In the fifth regression, I introduce ideological self-placement in the left-right scale. It could be argued that previous findings were driven by the fact that individuals simply become more conservative when their occupational assets devalue and for this reason, they become more against immigration. This effect would be different from the proposed causal mechanism going through decreased status. When introducing this control the effect becomes marginally less strong but remains highly significant. To ensure that the results do not depend on the specific measure used for OSS, I retrieve OSS measures from the ESS and from O\*Net.

Finally, I use the measure of status threat from the ESS proposed by Anelli, Colantone, and Stanig (2021). While the ISSP is the main survey providing direct questions about perceived social status, scholars working with other databases use alternative measures that also grasp this dimension. Anelli, Colantone, and Stanig (2021) use the first factor from a factor analysis of three ESS questions. The first one asks whether the respondents find it hard to be hopeful

<sup>22</sup>They are computed using 50 bootstrapped samples. The point estimates are slightly different because of the impossibility to use weights.

<sup>23</sup>Concretely, I drop the income, whether the individual is in a trade union, and whether the individual is unemployed.

about the future of the world, the second whether for most people life is getting worse, and finally whether respondents feel that they are treated with respect. I use the first score of the principal component analysis of these three variables as a dependent variable (also standardized).<sup>24</sup> Even with fewer observations, and the variable not directly tapping perceived social status, the interactive effect is statistically significant.

## References

- ANELLI, M., COLANTONE, I., and STANIG, P. (2021). “Individual vulnerability to industrial robot adoption increases support for the radical right”. *Proceedings of the National Academy of Sciences* 118.47, e2111611118.
- AVDEENKO, A. and SIEDLER, T. (2017). “Intergenerational correlations of extreme right-wing party preferences and attitudes toward immigration”. *The Scandinavian Journal of Economics* 119.3, pp. 768–800.
- CHRISTENKO, A., MARTINAITIS, Ž., and GAUŠAS, S. (2020). “Specific and general skills: Concepts, dimensions, and measurements”. *Competition & Change* 24.1, pp. 44–69.
- CINELLI, C. and HAZLETT, C. (2020). “Making sense of sensitivity: Extending omitted variable bias”. *Journal of the Royal Statistical Society Series B-Statistical Methodology* 82.1, pp. 39–67.
- CUSACK, T., IVERSEN, T., and REHM, P. (2006). “Risks at work: The demand and supply sides of government redistribution”. *Oxford Review of Economic Policy* 22.3, pp. 365–389.
- DONNELLY, M. J. (2016). “Competition and solidarity: union members and immigration in Europe”. *West European Politics* 39.4, pp. 688–709.
- ERSANILLI, E. and PRÄG, P. (2019). “Fixed-term work contracts and anti-immigration attitudes. A novel test of ethnic competition theory”. *SocArXiv*. December 8.
- FREEMAN, R. B. (1976). “Individual mobility and union voice in the labor market”. *The American Economic Review. Papers & Proceedings* 66.2, pp. 361–368.
- GINGRICH, J. and ANSELL, B. (2012). “Preferences in context: Micro preferences, macro contexts, and the demand for social policy”. *Comparative Political Studies* 45.12, pp. 1624–1654.
- HOUT, M. (2004). *Getting the most out of the GSS income measures*. National Opinion Research Center Chicago.

---

<sup>24</sup>Only the first eigenvalue from the PCA is greater than one (1.53).

- JÄGER, S. and HEINING, J. (2022). *How substitutable are workers? Evidence from worker deaths*. Tech. rep. National Bureau of Economic Research.
- KAMBOUROV, G. and MANOVSKII, I. (2009). “Occupational mobility and wage inequality”. *The Review of Economic Studies* 76.2, pp. 731–759.
- KITSCHOLT, H. and REHM, P. (2014). “Occupations as a site of political preference formation”. *Comparative Political Studies* 47.12, pp. 1670–1706.
- KUNOVICH, R. M. (2013). “Labor market competition and anti-immigrant sentiment: Occupations as contexts”. *International Migration Review* 47.3, pp. 643–685.
- KUSTOV, A., LAAKER, D., and RELLER, C. (2021). “The stability of immigration attitudes: Evidence and implications”. *The Journal of Politics* 83.4, pp. 1478–1494.
- LANCEE, B. and PARDOS-PRADO, S. (2013). “Group conflict theory in a longitudinal perspective: Analyzing the dynamic side of ethnic competition”. *International Migration Review* 47.1, pp. 106–131.
- MARGARYAN, S., PAUL, A., and SIEDLER, T. (2021). “Does education affect attitudes towards immigration? Evidence from Germany”. *Journal of Human Resources* 56.2, pp. 446–479.
- PARDOS-PRADO, S. and XENA, C. (2019). “Skill specificity and attitudes toward immigration”. *American Journal of Political Science* 63.2, pp. 286–304.
- PECORARO, M. and RUEDIN, D. (2020). “Occupational exposure to foreigners and attitudes towards equal opportunities”. *Migration Studies* 8.3, pp. 382–423.
- POLAVIEJA, J. G. (2016). “Labour-market competition, recession and anti-immigrant sentiments in Europe: occupational and environmental drivers of competitive threat”. *Socio-Economic Review* 14.3, pp. 395–417.
- REHM, P. (2009). “Risks and redistribution: An individual-level analysis”. *Comparative political studies* 42.7, pp. 855–881.
- RUEDA, D. (2018). “Food comes first, then morals: Redistribution preferences, parochial altruism, and immigration in Western Europe”. *The Journal of Politics* 80.1, pp. 225–239.
- TAFTI, E. A. (2022). “Technology, Skills, and Performance: The Case of Robots in Surgery”.
- WALTER, S. (2017). “Globalization and the demand-side of politics: How globalization shapes labor market risk perceptions and policy preferences”. *Political Science Research and Methods* 5.1, pp. 55–80.