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*A Novel Test of Ethnic Competition Theory*

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Article

# Fixed-term work contracts and anti-immigration attitudes. A novel test of ethnic competition theory

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## Abstract

Whether labor market competition is shaping anti-immigration attitudes is a contentious issue. We conduct a novel test of ethnic competition theory by comparing the attitudes toward immigration of workers with fixed-term contracts to those with permanent jobs in Europe. Fixed-term contract workers are particularly at risk of competition as they have to compete for jobs in the foreseeable future. In the first step of our investigation, we analyze cross-sectional data (European Social Survey, 2002–18) from 18 Western European countries. We find that—contrary to our expectation—fixed-term workers are less anti-immigration. The effect is substantively small. In the second step, we use a fixed-effects design with longitudinal data from the German Socio-Economic Panel (GSOEP, 1999–2015) to rule out time-constant unobserved heterogeneity. We find that transitioning from a fixed to a permanent contract does not affect anti-immigration attitudes. Our combined results thus add to the growing body of studies that do not find evidence for labor market competition as an explanation of anti-immigrant attitudes.

**Key words:** Europe, migration, immigration, preferences, contracts, social policy

**JEL classification:** F22 international migration, J15 economics of minorities, races, indigenous peoples and immigrants, J24 human capital and skills

## 1. Introduction

As immigration takes a prominent position in public debates in many countries, understanding of the drivers of attitudes toward immigration is crucial. Group threat theory (Blalock and Hubert, 1967) is one of the most prominent approaches to explaining anti-immigration attitudes. Its main claim is that competition with migrants over material or symbolic resources leads to a sense of ethnic threat, which in turn results in anti-immigration attitudes.

Competition in the labor market is the focal point of studies using ethnic competition theory. Whether these studies provide convincing support for ethnic competition theory is highly contested (e.g. Hainmueller and Hopkins, 2014). We contribute to this debate by exploring the role of fixed-term contracts in shaping anti-immigration attitudes.

A large body of studies on ethnic competition theory looks at the effect of education. The assumption is that migrants are competitors for labor market participants with a similar—generally low—level of education (Scheepers *et al.*, 2002; Schneider, 2007; Dancygier and Donnelly, 2013; Polavieja, 2016; Cavaille and Marshall, 2019; Margaryan *et al.*, 2021). This approach has been criticized, as education is related to liberal attitudes across the board, making it difficult to tease out any effect on competition (e.g. Hello *et al.*, 2006; Hainmueller and Hopkins, 2014; Pecoraro and Ruedin, 2016). Furthermore, education is a coarse measure of job skills. People may have received training on the job or have skills not directly related to educational level that influence the likelihood that their jobs could be taken up by immigrants. Moreover, cross-sectional studies looking at education tend to ignore that while immigrants in many countries are overrepresented in low-skilled work they are also commonly employed at intermediate and higher levels (Pecoraro and Ruedin, 2016). More sophisticated measures of competition such as occupation level, skill specificity and communication intensity of jobs or sectoral dynamics generally show support for the role of competition, though in some cases only for those with higher education or at the group rather than the individual level (Ortega and Polavieja, 2012; Dancygier and Donnelly, 2013; Pardos-Prado and Xena, 2019).

As several authors have pointed out, competition is not only determined by the number of immigrants and their skill level, but depends on the availability of jobs at these skill levels. Research looking at the relation between occupational unemployment or sectoral growth and anti-immigrant attitudes found ambiguous support for the role of ethnic competition (Dancygier and Donnelly, 2013; Pecoraro and Ruedin, 2016; Pardos-Prado and Xena, 2019).

In European labor markets, workers tend to be sheltered from competition by legal constraints on wage cuts and employment termination. This limits the competition faced by people in employment—even if immigrants have the skills to perform their job and job availability is low. Yet not all workers are sheltered to the same extent. Insecure forms of employment such as fixed-term, involuntary part-time and zero-hour contracts are becoming more prevalent in European labor markets (European Parliament, 2016). Their marginal labor market position leaves such workers more exposed to competition. This makes them a good test case for ethnic competition theory. Moreover, as new labor market insecurities show a substantial, albeit varying, presence across sectors and education groups (Polavieja, 2005; European Parliament, 2016), they allow disentangling the effects of labor market competition from those that shape general liberal attitudes.

In this study, we will focus on the effect of fixed-term contracts. In the member states of the European Union, the share of fixed-term contracts has sharply increased, from about 8.6% in 1985 to a peak of 14.3% in 2017 (OECD, 2020b). Over the same period, this rate among 15–24-year-olds went from 22.3% to 44.2%. Given a certain skill level, fixed-term contracts make workers more vulnerable to competition with immigrants—either over a renewed contract for their current employment or over new employment at the end of their contract—than their colleagues with permanent contracts. We argue that, knowing that their contract ends at a fixed point in the near future, fixed-term contract workers experience

what [Pardos-Prado and Xena \(2019, p. 289\)](#) call ‘prospective competition’. Following ethnic competition theory, this sense of prospective competition should lead to stronger anti-immigration attitudes.

We build on previous studies by examining three sets of factors that may influence whether workers on fixed-term contracts will experience more prospective labor market competition with migrants than workers on permanent contracts. Firstly, competition may depend on whether migrants can be hired for the position of the native fixed-term contract worker. We use sectoral share of immigrant workers as a proxy for replaceability and examine its moderating role on the relationship between fixed-term contracts and anti-immigration attitudes. Secondly, the level of competition depends on the availability of jobs. We therefore examine the moderating role of sectoral level unemployment. Thirdly, the extent to which fixed-term contracts expose people to more competition may depend on the degree of insider–outsider segmentation in the labor market. This segmentation is driven by the level of employment protection of fixed-term versus permanent contracts ([Polavieja, 2003](#); [Passaretta and Wolbers, 2019](#)). If dismissal protection for permanent contracts is low, fixed-term contracts are only marginally less secure than permanent ones and are unlikely to increase competition ([Marx and Picot, 2020](#)). To examine this, we check if the gap between employment protection legislation (EPL) for permanent and fixed-term contracts moderates the relationship between fixed-term contracts and anti-immigration attitudes.

Our analyses proceed in two steps. First, we use nine rounds of the [ESS \(2002–18\)](#), comparing anti-immigration attitudes of fixed-term workers to those of workers with permanent contracts across 18 Western European countries to ensure the external validity of our findings. We focus on Western Europe due to the strong geographic division in anti-immigrant attitudes between East and West Europe ([Czaika and Di Lillo, 2018](#); [Heath and Richards, 2019, 2020](#)). In a second step, we make use of longitudinal data from the German Socio-Economic Panel (GSOEP, 1999–2015) in a fixed-effects design to ensure the internal validity of our findings. This analysis also meets calls to take a dynamic rather than static approach to competition ([Meuleman \*et al.\*, 2009](#); [Lancee and Pardos-Prado, 2013](#)).

To preview our findings, we do not find a substantive difference in anti-immigration attitudes between fixed-term workers and permanent employees. This finding holds across education level, social class, countries, employment protection gap and sectoral immigrant and unemployment levels. We thus add to the growing doubts on the merits of ethnic competition theory as applied to economic competition.

The data used for our analysis are publicly available ([ESS, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018](#); [Schupp \*et al.\*, 2017](#)). We provide a set of Stata do-files for replicating our analyses online ([Ersanilli and Präg, 2021](#)).

## 2. Background and hypotheses

### 2.1 Labor market competition and anti-immigrant attitudes

What makes individuals like or dislike immigrants? Group conflict theory is one of the most prominent explanations used for understanding the attitudes held about immigrants and immigration. Ethnic competition theory is based on a synthesis of group conflict theory and social identity theory. Social identity theory holds that people have a need to belong to a high-status group. To fulfill this need, they will assign negative characteristics to any out-group, identify with their in-group and see their in-group as being better than the out-group.

This happens regardless of competition over resources. *Scheepers et al. (2002)* argue that group competition intensifies the process described by social identity theory. Group conflict theory posits that competition over resources leads to a sense of threat which in turn leads to ethnic exclusionism such as opposition to immigration (*Blalock and Hubert, 1967; Olzak, 1992; Scheepers et al., 2002*). Competition can take place over economic resources, such as jobs or symbolic resources such as national identity or language. We focus our discussion here on competition over economic resources.

Competition can occur at the macro- as well as at the micro-level. At the macro-level, fewer resources or more people competing over them will increase competition, for example, the arrival of immigrants, an economic downturn or the combination of the two. At the micro-level, people who hold labor market positions similar to those taken up by immigrants experience greater competition (*Scheepers et al., 2002*).

Ethnic exclusionism can be driven by actual or perceived competition. People's perception of competition—also known as 'perceived threat'—may act as a mediator between actual competition and anti-immigration attitudes (*Scheepers et al., 2002; Billiet et al., 2014*). Conversely, perceived threat might be a proxy for general prejudice rather than a result of actual competition (*Hainmueller and Hopkins, 2014; Polavieja, 2016*).

The relation between competition and exclusionism can be based on economic self-interest or group interest. People in positions similar to those often taken up by migrants—for example, working class and low educated—may display more negative attitudes about immigrants because immigrants pose a threat to their personal economic interests, such as job security or wage development (*Bobo, 1988; Scheve and Slaughter, 2001; Scheepers et al., 2002; McLaren, 2003; Billiet et al., 2014; Polavieja, 2016*). Alternatively, people in positions similar to those of migrants may develop more negative attitudes to immigration out of concern for the interests of their group, so-called 'sociotropic' concerns (*McLaren, 2003; Hainmueller and Hopkins, 2014*). Following this argument, people in positions similar to those of migrants are more negative about immigration, because their position provides them with more information about the presence of an immigrant threat (*Tolsma et al., 2007; Dancygier and Donnelly, 2013*), or because they identify with the group of people that is most affected by the threat (e.g. *Citrin et al., 1997; Scheepers et al., 2002; Dancygier and Donnelly, 2013*)—not because they are personally more threatened.

## 2.2 Previous research

The proposition that people most exposed to competition with immigrants show stronger ethnic exclusion and anti-immigration attitudes has been studied extensively (*Citrin et al., 1997; Scheepers et al., 2002; Dancygier and Donnelly, 2013; Helbling and Kriesi, 2014; Hainmueller et al., 2015*). The most used indicator of exposure to competition is education. Lower-educated report more ethnic threat and harbor stronger anti-immigration attitudes than their higher-educated counterparts (see, e.g. *Scheepers et al., 2002; Dancygier and Donnelly, 2013; Billiet et al., 2014; Polavieja, 2016; Cavaille and Marshall, 2019*). This has been interpreted as support for ethnic competition theory, as low-skilled people face most competition from immigrants who—at least in the USA and in most European countries—tend to be low-skilled. However, ethnic competition is not the only possible explanation for educational differences in anti-immigrant attitudes. Firstly, education does not only indicate skills for the labor market, it also reflects general attitudes toward issues such as diversity and ethnocentrism (*Hainmueller and Hopkins, 2014; Pecoraro and Ruedin, 2016*).

Secondly, education is a coarse and indirect measure of skill (Ortega and Polavieja, 2012; Polavieja, 2016; Pardos-Prado and Xena, 2019), thus giving limited insights into economic competition.

Survey experiments allow randomizing characteristics of immigrants such as education or skill-level to elicit anti-immigration attitudes in a causal fashion. They can thus tease out the influence of the factor of interest from associated factors. Hainmueller and Hiscox (2010) asked half of their respondents about their views on low-skilled migrants coming to the USA and the other half about high-skilled migrants. They find no evidence of economic self-interest shaping attitudes: both lower and higher educated respondents are equally opposed to low-skilled immigration and less opposed to high-skilled than low-skilled immigration. In a subsequent survey experiment, Hainmueller and Hopkins (2015) show that labor market position and education vary little with immigration preferences. Related survey experiments in Switzerland (Helbling and Kriesi, 2014) and 15 European countries (Naumann *et al.*, 2018) yielded similar results. The authors of these studies interpret their findings as evidence against ethnic competition theory. However, as their cross-sectional counterparts, these studies can be criticized for using a coarse measure of skill and thus of competition. Malhotra *et al.* (2013) conducted an experiment where they varied scenarios about a specific skill-set (high technology). They find respondents are more opposed to immigration of people with a similar skill set, thus supporting the role of economic self-interest, though with a small effect size.

A non-experimental approach related to Malhotra *et al.* (2013) exploits variation in competition across segments of the labor market such as sectors and occupation groups. An inflow of immigrants into an industry creates ethnic competition, unless the sector is expanding. Dancygier and Donnelly (2013) analyze the effect of job growth and immigrant inflow at the sectoral level. Sectoral growth has a negative relation with anti-immigration attitudes. Sectoral immigrant inflow is unrelated to anti-immigration sentiments during times of economic growth, but it increases anti-immigration attitudes when economies are declining or perceived to be declining. This pattern holds for higher- and lower-educated workers in the same way, even though they supposedly differ in the extent to which they would personally face competition from immigrant inflows. This goes against expectations based on self-interest. Dancygier and Donnelly (2013) interpret their findings as support for group-interest-based expectations, with people's perception of group competition shaped by their sectoral experience.

Using both cross-sectional and panel data, Pardos-Prado and Xena (2019) find a negative effect of the occupational unemployment rate on attitudes toward immigrants. As the occupational unemployment rate has but a very weak relation with national economic satisfaction, they interpret their finding as support for the self-interest rather than the group interest explanation; people in occupations with higher unemployment are more anti-immigration because they are concerned about their personal employment chances, not about the economy as a whole. In their study on Swiss workers, however, Pecoraro and Ruedin (2020) find that the effect of occupational unemployment becomes insignificant when accounting for sorting of less-productive workers into jobs with high shares of immigrants.

Another group of studies focusing on personal interest explanations of economic competition and anti-immigration attitudes examines the role of job skills. Over and above education, Ortega and Polavieja (2012) took into account the time it would take to learn a specific job, given the required job-specific human capital—and the degree of manual versus

communicational intensity of a position. Workers in occupations that require more specific human capital and more communication—in jobs that presumably can less easily be taken up by immigrants—are less opposed to immigration, also after accounting for level of education. [Pardos-Prado and Xena \(2019\)](#) define skill specialization as occupational group segmentation and show that people with higher levels of skill-specificity are more negative about immigration. They argue this is because people in highly specialized occupations will find it more difficult to find new employment (lower job availability) and are thus more concerned with newcomers in the labor market. Even though the two studies find contradictory effects of skill specialization, both purport to support the personal interest path of ethnic competition theory. An alternative explanation of their findings could be the role of ‘work logic’. Occupations that require more interactions with other people may for example lead their holders to have more liberal attitudes, including toward immigration ([Van de Werfhorst and Dirk de Graaf, 2004](#); [Güveli et al., 2007](#); [Oesch, 2012](#)).

Unemployment is a more direct measure of personal competition. Unemployed people are personally confronted with competition in their attempts to re-enter the labor market. Findings on the relation between unemployment and ethnic exclusionism are contradictory; some studies supporting that unemployed people perceive more ethnic threat and are more anti-immigrant than those in employment ([Scheepers et al., 2002](#); [Schneider, 2007](#); [Billiet et al., 2014](#); [Van Setten et al., 2017](#)), and others finding no such relation ([Citrin et al., 1997](#); [O’Rourke and Sinnott, 2006](#); [Kuntz et al., 2017](#)). [Pecoraro and Ruedin \(2016\)](#) find that among Swiss workers a higher self-assessed risk of unemployment is related to more negative views of migrants, but only for workers with tertiary education or employed in jobs demanding high skills. [Heizmann \(2015\)](#) found that unemployment has a stronger negative relation with perceived labor market competition when policies make it more difficult to re-enter the labor market, specifically when there is stronger EPL. Using German panel data and a fixed-effects approach, [Lance and Pardos-Prado \(2013\)](#) show that becoming unemployed leads to more concern about immigration. These findings are in line with ethnic competition theory, particularly with a self-interest interpretation.

In sum, the call is still out on labor market competition theory. There is no consensus as to how competition should best be conceived. Comparisons of educational groups only give a very broad impression of differences in labor market competition, both comparison of education groups and skills can be confounded by unobserved factors, survey experiments hinge on the assumption that reactions to hypothetical scenarios are similar to real-world reactions and it remains uncertain whether the relations found are based on personal or group interest.

### 2.3 Fixed-term contracts and competition

According to OECD data for 2019, 13.6% of employees in the EU-28 are on a temporary contract. Among 24–54-year-old employees, 11.6% have a temporary contract, up from 9.4% in 2000 ([OECD, 2020b](#)). This average hides considerable variation; ranging from a share below 3% in the Baltic States and Romania to over 25% in Spain. Fixed-term contracts have long-term negative impacts on wages ([Pavlopoulos, 2013](#); [Yoon and Chung, 2016](#)). Contract type also shapes attitudes; people on fixed-term contracts are more in favor of income redistribution and political parties that support these policies ([Marx and Picot, 2013](#); [Marx, 2014](#); [Vlandas, 2020](#))—preferences in line with their self-interest.



In the labor market, fixed-term contracts increase exposure to competition. To replace workers on permanent contracts, employers need to fire them. This is generally a costly procedure. Fixed-term workers, however, can be let go at the end of their contract term at low or no costs to the employer. Workers on fixed-term contracts indeed perceive their jobs as less secure than those on permanent contracts (Erlinghagen, 2008). Knowing that at the end of their contract, they will need to compete to stay in their current position and if this fails, to find new employment, workers on fixed-term contracts, experience prospective competition (Pardos-Prado and Xena, 2019). It is therefore in their personal interest to limit competition. Following the predictions of ethnic competition theory, we therefore expect that *workers on fixed-term contracts are more opposed to immigration than those on permanent contracts* (Hypothesis 1A).

Several authors have argued that anti-immigration attitudes are not triggered by the level of competition, but by a *change* in competitive conditions (Meuleman *et al.*, 2009; Dancygier and Donnelly, 2013; Lancee and Pardos-Prado, 2013). This leads to the hypothesis that *workers on fixed-term contracts become less opposed to immigration when they receive a permanent contract* (Hypothesis 1B).

Exposure to competitive threat is not the same for all fixed-term contract workers. Firstly, the intensity of competition with immigrants for jobs depends on whether employers could hire immigrants to fill these positions. Following Dancygier and Donnelly (2013), we take share of immigrants in a sector as a proxy for replaceability. We expect that *the difference in anti-immigration attitudes between fixed-term and permanent contract workers is greater the larger the share of immigrants in the sector of employment* (Hypothesis 2).

The intensity of competition also depends on the availability of jobs. We expect that *the difference in anti-immigration attitudes between fixed-term and permanent contract workers is greater the higher the sectoral unemployment* (Hypothesis 3).

Finally, the extent to which having a fixed-term contract increases exposure to competition depends on the relative security of a permanent contract. Policies that provide a high level of employment protection to workers on permanent contracts and only little to those on fixed-term contracts are known to lead to strong insider–outsider segmentation. In these labor markets, the high turnover costs of replacing permanent employees result in low transition rates between contract types, thus making workers on fixed-term contracts particularly vulnerable (Polavieja, 2003, 2005; Passaretta and Wolbers, 2019). We expect that *the difference in anti-immigration attitudes between fixed-term and permanent contract workers is greater the larger the gap in employment protection of permanent versus temporary contracts* (Hypothesis 4).

### 3. Cross-national analysis: ESS (2002–18)

#### 3.1 Data and method

Our analyses draw on nine rounds of the ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018), collected in the years from 2002 to 2020. The ESS is a biennial, repeated cross-sectional survey that comprises information from respondents aged 15 years and older in 36 European countries. Not all countries participated in all rounds. The quality of the ESS data collection process is generally considered to be very high (Koch *et al.*, 2009), as in all countries random probability samples are drawn and face-to-face interviews are conducted, following standardized procedures and strict quality controls to ensure representativeness and



comparability of the data. Country samples comprise on average ca. 1900 respondents per country and survey round. Although many countries were not able to reach the target response rate of 70%, the average response rate is 60.4%. Further descriptions of the ESS, including more detailed information on data collection and response rates for all countries are available on the ESS web site ([europeansocialsurvey.org](http://europeansocialsurvey.org)).

We restrict the sample to respondents aged 25–55 years whose main activity is employment, living in Western Europe,<sup>1</sup> as we are interested in prime-age workers who have finished full-time education and are not yet approaching retirement. Sample sizes by country and survey round are reported in [Online Appendix Table A1](#).

### Anti-immigration attitudes

Anti-immigration attitudes are our outcome variable and are measured based on three questions. The general question wording is ‘Now, using this card, to what extent do you think [country] should allow people from [a certain group] to come and live here?’ [Country] refers to the country where the interview takes place. Respondents are asked about three groups, namely people from the ‘same ethnic group’, ‘a different ethnic group’, and from ‘poorer countries outside Europe’. Response categories (and values) include: ‘allow none’ (4), ‘allow a few’ (3), ‘allow some’ (2), and ‘allow many’ (1). The answers to these questions are strongly intercorrelated ( $r = 0.70$ – $0.83$ ), have a one-dimensional solution in a principal component analysis (explained variance = 0.85%) and have a Cronbach’s alpha of 0.91 (range across countries from 0.84 in Greece and Denmark to 0.96 in Spain). In line with previous studies (e.g. [Hainmueller and Hiscox, 2007](#); [Hiers et al., 2017](#)), we averaged the answers across the three questions to obtain a variable ranging from 1 to 4, with higher values indicating a stronger anti-immigrant attitude.

### Contract type

Contract type was measured with a question ‘Do/did you have a work contract of unlimited duration (0), or, limited duration (1), or, do/did you have no contract?’ In line with previous studies ([Balz, 2017](#)), we have removed the minority of cases without a work contract and self-employed respondents from our analyses, as these groups are very heterogeneous, making any differences in attitudes difficult to interpret (but see the [Online Appendix](#)).

### Individual-level control variables

We distinguish between male (as reference category) and *female* respondents and adjust for differences by being *foreign-born* (native as reference),<sup>2</sup> *education* (broken down into low education (less than secondary, reference category), medium education (secondary) and high (tertiary) education), *age* (in decades) and *age squared* and 148 different occupational

- 1 Specifically, in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK.
- 2 While foreign-born respondents and respondents whose parents are foreign-born may be co-ethnics of aspiring immigrants, they would also be exposed to labor market competition with the newcomers, making it their personal interest to limit inflow. The outgroup mechanism described in ethnic competition theory also applies here. Several studies show that settled migrant communities see co-ethnic newcomers as outsiders rather than ingroup members (e.g. [Charsley and Bolognani, 2017](#)). We therefore include them in our analytical sample.

groups (based on the three-digit ISCO-88 coding scheme). We also use education as a stratifying variable.

We further stratify our models by *social class* based on a three-class version of the European Socio-economic Classification (ESEC; [Rose and Harrison, 2010](#)). We distinguish between those in the working class (e.g. cleaners or drivers), in intermediate classes (e.g. office clerks) and in the salariat (e.g. lawyers or scientists). We do not include social class as a control variable as most of its variation is captured by the 147 occupation dummies included in the equations.

### Higher-level variables

We take account of the *sectoral share of immigrants*, calculated as the number of immigrants (defined as all foreign-born) divided by the total number of employees, for each one-digit NACE sector ([Eurostat, 2008](#)) by country and year. It is expressed as a percentage on a scale from 0 to 100. Data come from the EU Labor Force Survey and were provided by Eurostat. For rounds 1–3, data are coded following NACE 1.1, for ESS rounds 4–8 following NACE 2.0.<sup>3</sup> This data are available for all countries in the ESS microdata.

*Sectoral unemployment* data also come from the Eurostat and are based on the EU Labor Force Survey. As with share of immigrants, data are matched based on one-digit NACE sector by country and year. Sectoral unemployment is not available for Norway after 2004.

The *gap in employment protection of permanent versus fixed-term contracts* is measured using the EPL indicators assembled by the OECD ([OECD, 2020a](#)). EPL scores for permanent contracts are based on policies for dismissal (such as notification procedures and severance pay). The score for temporary contracts is based on the criteria for hiring (e.g. types of work and maximum contract duration). As [Passaretta and Wolbers \(2019\)](#) argue, both indicators capture turnover costs. The scores are normalized to a 0–6 range, in which higher scores reflect higher levels of protection. Following [Passaretta and Wolbers \(2019\)](#), we use the absolute difference in EPL scores for temporary and permanent contracts. We calculated the gap in scores for each country and year combination. Scores above 0 reflect stronger protection of permanent versus temporary workers. This data are available for all countries. Data for Luxembourg and Iceland are only available from 2008 onward.

### Analytical strategy

In a first step, we make use of ordinary least squares (OLS) regression to analyze the difference in anti-immigration attitudes between those with fixed-term and permanent contracts. We subsequently control for potential confounders of the contract status–immigration attitude relation, namely country and survey round dummies plus their interactions to remove any country- and time-varying confounding, as well as the control variables listed above. For these regression models, we use cluster-robust standard errors that take into account clustering at the country–year level.

In a second step, we explore the difference in attitudes between fixed-term and permanent workers for subgroups. We stratify our analyses by education, social class and country. In a third step, we test Hypotheses 2–4, assessing how the attitude difference between

3 For round 4 (2008–9), ESS employed the NACE 1.1 coding scheme, however Eurostat switched to NACE 2.0 in 2008. We therefore recoded the round 4 industry data from NACE 1.1 to NACE 2.0.

permanent and fixed-term workers varies by the share of foreign-born in the industry, sectoral unemployment and the gap in employment protection by including interaction terms for each of these factors.

### 3.2 Results

We first examined the share of fixed-term contract workers in the sample. The average across the sample is 12% (Table 1), which is in line with OECD data. Online Appendix Figure A1 shows the percentage of fixed-term workers by country. Table 1 further reveals that workers with permanent contracts have a slightly stronger anti-immigration attitude compared with fixed-term workers, fixed-term workers are both better and worse educated than permanent workers, are more likely to be female, are younger and working class rather than intermediate class.

Hypothesis 1A posits that workers on fixed-term contracts are more opposed to immigration than those on permanent contracts. Table 2 provides no support for this Hypothesis. The first model of Table 2 shows an effect pointing in the opposite direction from the one posited in Hypothesis 1A. Workers on fixed-term contracts have a weaker anti-immigration attitude than those with permanent contracts ( $b = -0.06, P < 0.001$ ). This difference however is substantively small. The standard deviation of the outcome variable anti-immigrant attitude is 0.75, thus the difference between the groups amounts to  $(-0.06/0.75) = -0.08$  standard deviations.

The second model of Table 2 adds the control variables to the equation. From Table 1, we already know that fixed-term and permanent workers differ considerably in important respects. Adjusting for these differences in sex, origin, education, age as well as controlling for occupation reduces the difference in attitudes between fixed-term and permanent workers to  $-0.04$  ( $P < 0.001, -0.05$  SD). Comparing this difference to the attitude differences between educational groups, it shows that the difference between the lower and the medium-educated is twice as big as the difference between fixed-term and permanent workers. The attitude difference between the higher educated and the lower educated is almost seven times as big as the attitude difference between fixed-term and permanent workers. This underlines that the attitude difference between fixed-term and permanent works is substantively small.

Table 2 further conducts subgroup analyses by education and social class—two factors often seen as key determinants of exposure to competitive threat—controlling for all variables included in the previous model. Models by education reveal that the difference is driven by the higher educated; for those with medium education and low education the difference is not different from zero at conventional levels of statistical significance. The interaction between education and contract type is visualized in Panel A of Figure 1. Models by social class show no relation between contract type and attitudes for the working class and a substantively small negative relation in the intermediate and salariat classes. These findings all contradict Hypothesis 1A.

Further robustness checks, that is, controlling for marital status, household income, working hours and community size (Online Appendix Table A3), and stratifying the sample by sex, partner status (single, single-earner couple, dual-earner couple) and looking at the ‘most likely’ case (low-educated, single-earner working class individuals) all lead to the same conclusion (Online Appendix Table A4). In addition, we expanded our comparison to

**Table 1** Descriptive statistics for full sample and by contract type

	Total	Fixed-term	Permanent
Anti-immigration attitude (mean [SD])	2.23 (0.75)	2.19 (0.78)	2.23 (0.75)
Fixed-term contract	0.12	1.00	0.00
Education			
Low	0.16	0.21	0.16
Medium	0.42	0.34	0.43
High	0.42	0.45	0.42
Female	0.49	0.56	0.49
Foreign-born	0.12	0.18	0.11
Age (/10, mean [SD])	4.06 (0.86)	3.71 (0.88)	4.10 (0.84)
Social class			
Working class	0.42	0.48	0.41
Intermediate	0.20	0.16	0.21
Salaried	0.38	0.36	0.38
N	75 911		

Notes: Proportions unless otherwise stated. SD, standard deviation

Source: ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018), own calculations.

include those without a work contract, the unemployed and the self-employed ([Online Appendix Figure A2](#)), showing results that are in line with our key findings.

While the analyses in [Table 2](#) remove all between-country variation, we also conducted analyses to investigate country differences in the size of the attitude gap between fixed-term and permanent workers. [Figure 2](#) shows the result of this exploration—for most countries the coefficient is negative and not statistically different from 0. The difference in attitudes is only significant in Austria, France, Norway and Spain, but in the opposite from expected direction. There is no obvious commonality between these four countries that might explain why the attitudinal gap is non-zero here. They vary in their share of fixed-term contracts ([Online Appendix Figure A1](#)) and in the level of employment protection.

Hypothesis 2 posited that the difference between fixed-term and permanent contract workers in anti-immigration attitudes is greater the larger the share of immigrants in the sector of employment is. While the average effect of fixed-term contracts on anti-immigration attitudes is thus close to 0, this may hide variation related to the sectoral share of immigrant workers. To test the hypothesis, we added the sectoral share of immigrants and the interaction with fixed-term contracts to the model. The results are displayed in Panel B of [Figure 1](#), revealing that fixed-term workers have lower anti-immigration attitudes when there are more foreign-born in their industry. [Online Appendix Table A2](#) shows that the interaction between contract status and share of foreign-born is not statistically significant at conventional levels.

Hypothesis 3 conjectured the relation between contract type and anti-immigrant attitudes is moderated by sectoral unemployment. Panel C of [Figure 1](#) shows this is not the

**Table 2** Anti-immigrant attitude regressed on contract type and control variables, unstandardized coefficients (standard errors in parentheses)

	Full sample		Education			Social class		
	Model (1)	Model (2)	Low	Medium	High	Working	Intermediate	Salaried
Fixed-term contract (Ref. permanent)	-0.06*** (0.01)	-0.04*** (0.01)	0.01 (0.02)	-0.02 (0.01)	-0.07*** (0.01)	-0.02 (0.01)	-0.04* (0.02)	-0.05*** (0.01)
Female sex (Ref. male)		0.04*** (0.01)	0.08*** (0.02)	0.07*** (0.01)	0.00 (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.01 (0.01)
Foreign-born (Ref. native)		-0.18*** (0.02)	-0.39*** (0.03)	-0.19*** (0.02)	-0.07*** (0.02)	-0.29*** (0.02)	-0.12*** (0.02)	-0.05*** (0.01)
Education (Ref. low)								
Medium		-0.08*** (0.01)				-0.09*** (0.01)	-0.11*** (0.02)	-0.10*** (0.03)
High		-0.27*** (0.01)				-0.28*** (0.02)	-0.31*** (0.02)	-0.28*** (0.03)
Age (/10)		0.01** (0.00)	0.02 (0.01)	0.00 (0.01)	0.01* (0.01)	0.02** (0.01)	-0.00 (0.01)	0.01 (0.01)
Age (/10) squared		0.00 (0.00)	-0.01 (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.01* (0.01)
148 Occupation FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country and round FE plus interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average outcome (SD)	2.23 (0.75)	2.23 (0.75)	2.54 (0.79)	2.34 (0.73)	2.00 (0.69)	2.42 (0.76)	2.21 (0.73)	2.02 (0.69)
N respondents (N countries)	75 911 (18)	75 911 (18)	12 240 (18)	31 788 (18)	31 883 (18)	31 799 (18)	15 165 (18)	28 947 (18)

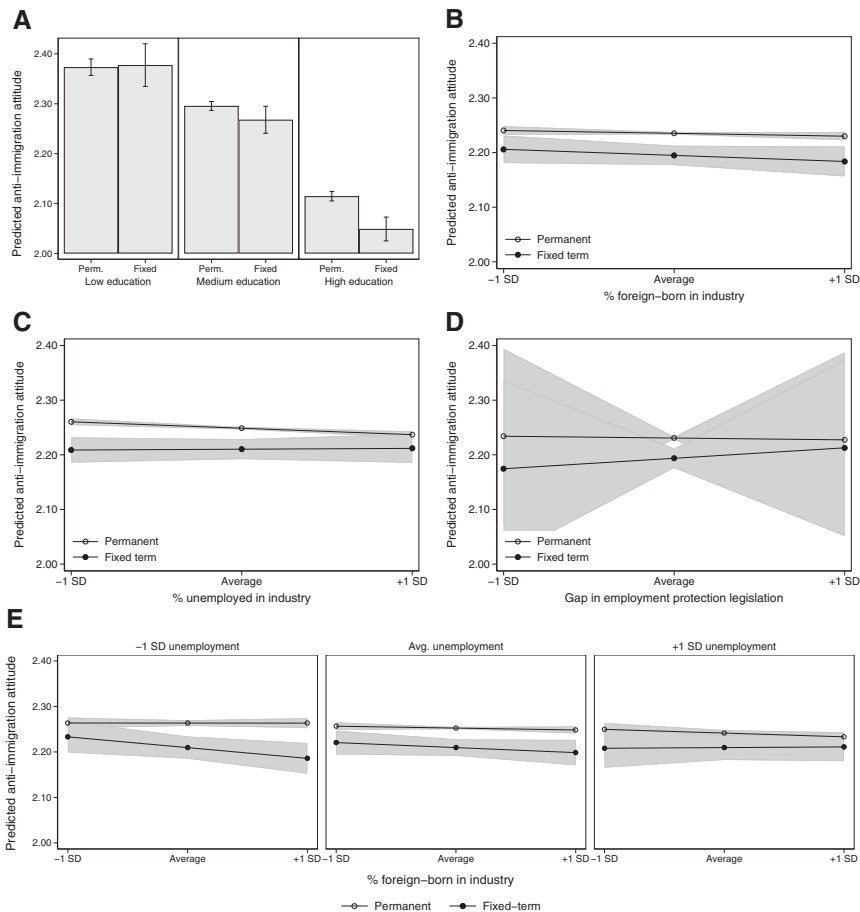
Notes: Standard errors are cluster-robust at the country-year level. FE, fixed effects.

Source: ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018).

\* $P = 0.05$ ,

\*\* $P = 0.01$  and

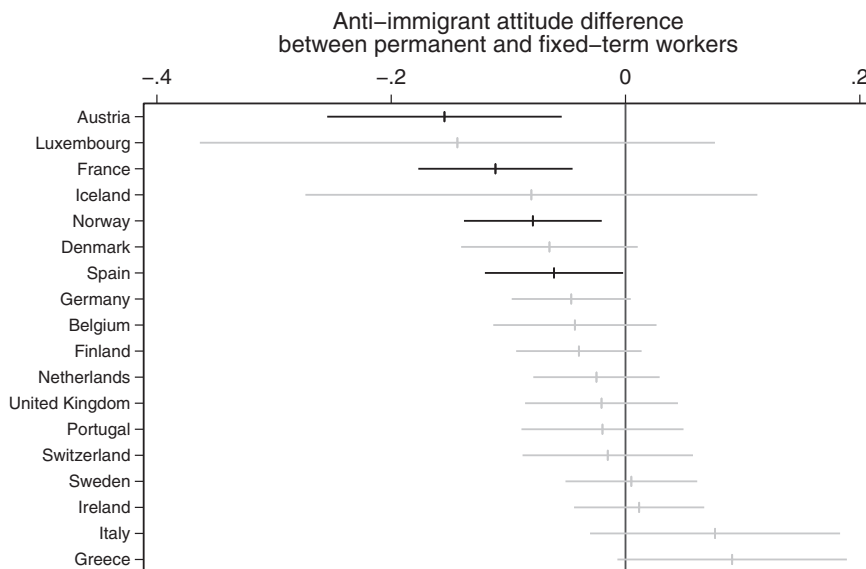
\*\*\* $P = 0.001$ .



**Figure 1** (A) Interaction between contract type and education. (B) Interaction between contract type and share of foreign-born in an industry. (C) Interaction between contract type and share of unemployed in an industry. (D) Interaction between contract type and EPL gap in a country. (E) Interaction between contract type, share of unemployed in an industry and share of foreign-born in an industry.

*Notes:* (A) Estimates based on country-specific OLS regression models controlling for all variables listed in Model (2) of Table 2. Error bars denote 95% confidence intervals based on cluster robust standard errors. (B) Estimates based on Model (2) of Online Appendix Table A2. Shaded areas denote 95% confidence intervals based on standard errors clustered at the country-year level. (C) Estimates based on Model (2) of Online Appendix Table A2. Shaded areas denote 95% confidence intervals based on standard errors clustered at the country-year level. Norway only observed until 2004. (D) Estimates based on Model (2) of Online Appendix Table A2. Shaded areas denote 95% confidence intervals based on standard errors clustered at the country-year level. Luxembourg and Iceland only observed from 2008 onward. (E) Estimates based on Model (2) of Online Appendix Table A2. Shaded areas denote 95% confidence intervals based on standard errors clustered at the country-year level.

*Source:* ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018), own calculations.



**Figure 2** Difference in anti-immigration attitude between fixed-term and permanent workers by country.

*Notes:* Error bars denote 95% confidence intervals. Confidence intervals shown in gray include zero.

*Source:* ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018), own calculations.

case; there is almost no discernable effect of sectoral unemployment on the anti-immigration attitudes of fixed-term workers. For workers on permanent contracts, there is a very modest decrease in anti-immigration attitudes with higher levels of sectoral unemployment. [Online Appendix Table A2](#) shows that this moderating effect of sectoral unemployment on the relation between contract type and attitudes is not statistically significant at conventional levels.

In a further test of Hypotheses 2 and 3, we also examined the three-way interaction between sectoral share of immigrants, sectoral unemployment, and contract type. Competition should become particularly pronounced when job availability is low, while immigrants' ability to take on these jobs (replaceability) is high. Panel E of [Figure 1](#) shows the interaction between contract type and sectoral share of immigrants at three different levels of sectoral unemployment. It shows that the finding from Panel B that fixed-term workers have lower anti-immigration attitudes when shares of foreign-born in their industry are higher is mainly present when unemployment is below average (left-most panel). At above-average unemployment (right-most panel), the moderating role of sectoral immigrant share on the relation between contract type and anti-immigrant attitudes decreases. At both below and above average levels of sectoral unemployment and shares of immigrant workers, however, fixed-term contract workers are less anti-immigrant than workers on permanent contracts, which is not in line with predictions of ethnic competition theory. [Online Appendix Table A2](#) shows the three-way interaction between unemployment, immigrant shares and contract type is not statistically significant. These results do not lend support to Hypotheses 2 and 3.



Hypothesis 4 predicted the difference between fixed-term and permanent contract workers in anti-immigration attitudes is greater the larger the gap in employment protection of permanent versus temporary contracts. Panel D of Figure 1 shows the opposite is the case; the larger the gap in employment protection, the smaller the difference in anti-immigration attitudes between workers on permanent and fixed-term contracts ( $b = 0.02$ ,  $P < 0.01$ ). Closer inspection reveals that this effect is driven by the EPL score for temporary contracts. While the predicted anti-immigration attitude for fixed-term workers is fairly stable across all levels of employment protection, for permanent workers less protection of fixed-term contracts is associated with lower anti-immigrant attitudes.

In sum, our cross-sectional analyses show no support for the role of labor market competition in shaping anti-immigration attitudes.

## 4. Longitudinal analysis: GSOEP (1999–2015)

### 4.1 Data and method

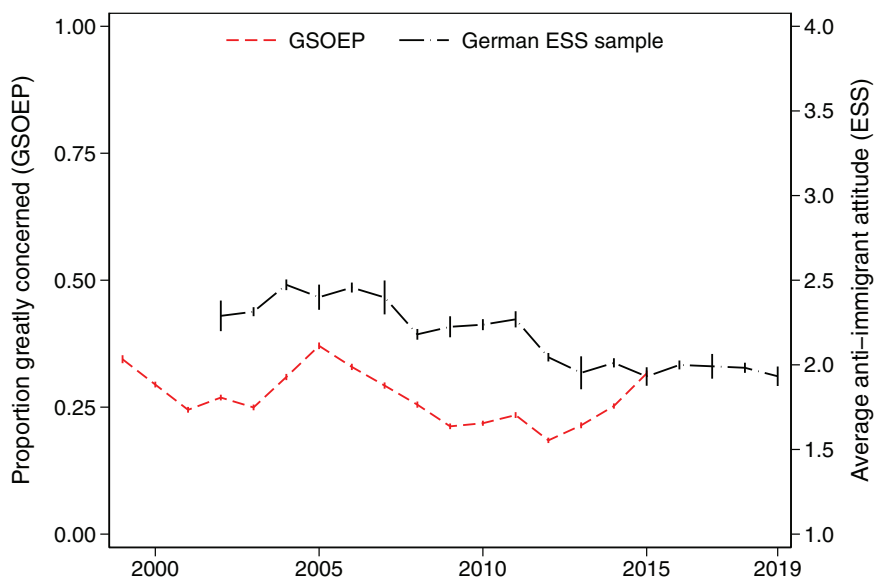
While the cross-sectional analyses did not reveal evidence for the hypothesized positive relation between fixed-term contracts and anti-immigration attitudes, it is too early to dismiss the role of labor market competition. Firstly, it might be that people on fixed-term contracts differ from those on permanent contracts in ways that also make them less—or at least not more—anti-immigration and that are not captured by the control variables in the models (i.e. are ‘unobserved’). For example, it could be that people who are less risk averse are both more likely to have a fixed-term contract and less likely to oppose immigration. Secondly, some have argued that anti-immigration attitudes are shaped by *changes* in competition rather than *levels* of competition; therefore, we should examine the effect of a change in contract status.

To address these two issues, we conducted an analysis of the GSOEP (Schupp *et al.*, 2017; Goebel *et al.*, 2019) for the years 1999–2015. GSOEP is a high-quality household panel study that follows the same respondents over time with annual interviews. Germany is a key case due to its typicality; it experienced several waves of immigration over the past decades and its levels of employment protection and prevalence of fixed-term contracts are close to the median of the countries in the cross-sectional analysis. The fact that the data follow individuals over time allows us to account for both observed and unobserved individual characteristics in fixed-effects analyses where individuals essentially serve as their own controls. Further, it allows a test of the dynamic interpretation of ethnic group competition.

We restrict the sample to individuals between 25 and 55 years of age in paid work to ensure comparability with the ESS analyses.

### Concern about migration

Our outcome is the answer to the question, ‘How concerned are you about immigration to Germany?’ with three response options: ‘Very concerned’, ‘Somewhat concerned’ and ‘Not concerned at all’. We coded the answer ‘Very concerned’ as 1 and the other two response options as 0. This question, which has been part of the questionnaire in every year since 1999, has been previously validated as a measure for anti-immigrant concern (Lancee and Pardos-Prado, 2013; Pardos-Prado and Xena, 2019), as well-known predictors of anti-immigrant attitudes correlate with the concern question in the same way. Figure 3 shows the trend in the outcome variable over time.



**Figure 3** Trend in outcome variables for the German sample of the ESS and the GSOEP sample.

*Note:* Spikes denote 95% confidence intervals.

*Source:* German sample of ESS (2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018) and GSOEP (1999–2015; Schupp *et al.*, 2017), own calculations.

### Contract type

Our key predictor is the contract status of respondents, based on a question ‘Do you have a fixed-term or permanent employment contract?’ We disregard self-employed respondents as well as those who are not working or without a job contract. Descriptive findings for contract types are reported in Table 3.

### Control variables

We include a number of control variables in our analyses. We control for *gender* and being *foreign-born*. Note that these time-constant variables can only be included in the random-effects models. Further, we control for a number of time-varying control variables: *age* and *age*<sup>2</sup>, *education* (lower secondary and below: low, upper secondary: medium and tertiary: high), 110 dummies for *occupation* based on three-digit ISCO-88 and *survey year* dummy variables.

### Analytical strategy

We conducted linear probability panel regressions with random and fixed-effects specifications. Particularly important here is the fixed-effects specification, where each individual essentially serves as their own control, allowing us to account for all time-constant confounding factors (e.g. ability and personality), regardless of whether these are observed or not. This is a major advantage over the ESS analyses, which hinged on the assumption that all relevant differences between fixed-term and permanent workers had been observed.

**Table 3** Descriptive statistics for contract type and contract trajectories

Predictor variable	% person-year observations	% persons experiencing the state/trajectory
Contract type		
Permanent	90.3	92.4
Fixed-term	9.7	25.4
Contract trajectory		
Permanent → permanent	87.0	72.5
Permanent → fixed	3.0	11.5
Fixed → permanent	4.3	16.0
Fixed → fixed	5.6	11.5

Note:  $N = 107\,985$  person-years and  $N = 24\,936$  persons.

Source: German Socio-Economic Panel (GSOEP, 1999–2015; Schupp *et al.*, 2017), own calculations.

## 4.2 Results

Results for the analysis of GSOEP data are reported in Table 4. Having a fixed-term contract is associated with greater concern about immigration only in the random effects specification. The effect size here is substantively small, having a fixed-term contract goes along with a 1% greater probability of being concerned about immigration. The fixed-effects specification shows that this association is due to unobserved time-constant confounders—that is, stable differences between workers on fixed-term and permanent contracts not captured in the model—as the relationship becomes smaller and statistically insignificant once all time-constant factors are accounted for. This further supports our rejection of Hypothesis 1A which posited that workers on fixed-term contracts are more opposed to immigration than those on permanent contracts.

The models on the right of Table 4 test Hypothesis 1B, which holds that workers changing from a fixed-term to a permanent contract become less concerned about immigration. While the coefficients for this transition do point in this direction, they are far from reaching conventional levels of statistical significance and substantively small. We thus also do not find support of Hypothesis 1B.

Predictions in Panels A and B of Figure 4 provide a second test of Hypothesis 2, which holds that differences between fixed-term and permanent workers are greater when the share of foreigners in an industry is greater. Panel A of Figure 4 suggests that the opposite is the case, yet not at conventional levels of statistical significance. Panel B further emphasizes that there are no significant differences when looking at the different transitions of contract types. Hence, we also do not find support for Hypothesis 2 for the German case.

Finally, Panels C and D offer a second test on Hypothesis 3 which asserted that differences in attitudes become larger with higher unemployment. Panel C shows that this is not the case, the difference is stable and even minimally—but not significantly—decreasing with higher unemployment levels. Panel D shows there are no significant differences in the relation between transition types and attitudes over sectoral unemployment. We thus do not find support for Hypothesis 3 in the German case.

**Table 4** Concern about immigration and contract type, random- and fixed-effects LPM panel regression models (robust standard errors in parentheses)

	Contract type				Transition type	
	RE	RE	FE	FE	FE	FE
Fixed-term contract (Ref. permanent)	-0.000 (0.004)	0.010* (0.004)	0.007 (0.005)	0.007 (0.005)		
Contract type transitions (Ref. permanent → permanent)						
Permanent → fixed					0.007 (0.008)	0.007 (0.008)
Fixed → permanent					-0.005 (0.006)	-0.006 (0.006)
Fixed → fixed					0.001 (0.008)	-0.000 (0.008)
Female (Ref. male)		-0.002 (0.004)				
Foreign-born (Ref. native)		-0.120*** (0.005)				
Age		-0.000 (0.002)		-0.006* (0.003)		-0.005 (0.003)
Age squared		0.000 (0.000)		0.000** (0.000)		0.000** (0.000)
Education (Ref. low)						
Medium		-0.029*** (0.007)		0.030 (0.017)		-0.031 (0.041)
High		-0.116*** (0.008)		0.038* (0.019)		-0.030 (0.042)
Intercept	0.317*** (0.006)	0.381*** (0.044)	0.301*** (0.006)	0.327*** (0.066)	0.272*** (0.006)	0.322*** (0.080)
Occupation FE	No	Yes	No	Yes	No	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
N observations	130 498	130 498	130 498	130 498	107 985	107 985
N individuals	29 576	29 576	29 576	29 576	23 411	23 411

Notes: RE, random effects; FE, fixed effects. All models include year-fixed effects (not shown).

Source: German Socio-Economic Panel (GSOEP, 1999–2015; Schupp et al., 2017), own calculations.

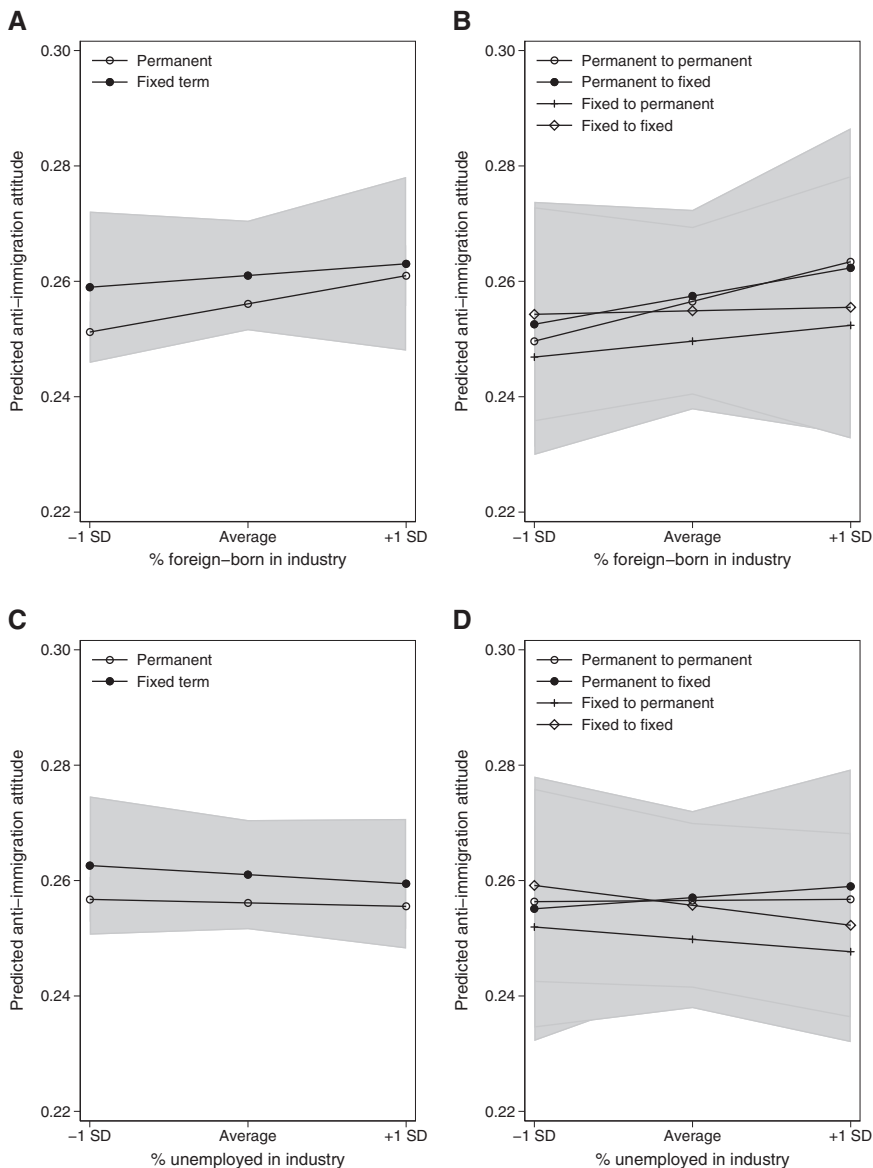
\*  $P = 0.05$ ,

\*\*  $P = 0.01$  and

\*\*\*  $P = 0.001$  (two-tailed).

## 5. Discussion

The recent success of anti-immigration parties and politicians across the Global North has been linked to economic insecurity (Rooduijn and Burgoon, 2017; Vlandas and Halikiopoulou, 2022). A key economic trend that has worsened labor market conditions of many Europeans is the proliferation of fixed-term contracts. Workers with fixed-term contracts are more likely to be competing for jobs with migrants in the foreseeable future than workers with permanent work contracts. We argue that following ethnic competition



**Figure 4** (A) Interaction between contract type and share of foreigners in an industry. (B) Interaction between contract type transition and share of foreigners in an industry. (C) Interaction between contract type and share of unemployed in an industry. (D) Interaction between contract type transition and share of unemployed in an industry.

Notes: Shaded areas denote 95% confidence intervals based on robust standard errors. Models used for the predictions are shown in [Online Appendix Tables A5 and A6](#).

Source: GSOEP (1999–2015; [Schupp et al., 2017](#)), own calculations.

theory, this prospective competition should consequently lead fixed-term workers to more strongly oppose immigration. This study addresses critiques on earlier studies that focused on factors which are not only associated with competition but also with general attitude formation—for example, education or job skills—as contract type cuts across these factors.

The results of our analyses showed little support for ethnic competition theory. Differences found between fixed-term and permanent workers in their opinions about migration were substantively small and often not in the expected direction. Even when controlling for education, age, occupation and other confounders, fixed-term workers held similar or even more favorable opinions toward immigration than workers with permanent contracts. This finding held across 18 Western European countries in a cross-sectional analysis and in a longitudinal analysis of panel data from Germany, a typical case for ethnic competition theory. Our finding also holds across factors that influence exposure to competition. Although we did find evidence of a (modest) moderating effect of the gap in employment protection of permanent versus fixed-term contract workers, the direction of effect was opposed to that hypothesized. We found no evidence that the relation between contract type and anti-immigrant attitudes is moderated by sectoral unemployment. This lack of evidence might flow from the high level of aggregation at which sectoral unemployment was measured (one-digit NACE). We mitigate some of that by controlling for participants' detailed occupational group.

While fixed-term contracts increase exposure to competition, they do not necessarily increase exposure to competition with *migrants*. Our analyses do not include a direct measure of competition with migrants. However, even under conditions when competition is most likely to be with migrants—that is, in sectors with higher shares of foreign-born workers and for people in working class occupations—we do not find support for ethnic competition theory.

Raess and Burgoon (2015) found that companies with higher shares of foreign-born workers are more likely to introduce fixed-term contracts. This may reflect quality sorting; companies that often employ immigrants draw workers with comparatively low productivity willing to work on fixed-term contracts (cf. Pecoraro and Ruedin, 2020). Following Allport (1954)'s contact hypothesis, this contact with immigrants leads to less anti-immigration attitudes. The negative effect of contact with immigrant co-workers may counteract any positive effect of increased competition for fixed-term contract workers on anti-immigration attitudes. In our analyses, we included the sectoral share of immigrants as a proxy for the likelihood an immigrant could take over a job. However, immigrant share is likely to also be related to contact with immigrants in the workplace. Our analyses show no (cross-sectional) or a positive effect (longitudinal) of sectoral share of immigrants on anti-immigration attitudes. This makes it unlikely that there is an underlying competition effect that is countered by contact experiences.

Strikingly, while our analyses of the German panel data showed no relation between increased job security and concern about immigration, a study using an earlier version of the same data found a relation between job loss and concern about immigration (Lancee and Pardos-Prado, 2013). Similarly, additional analyses of the ESS data show that the unemployed are more opposed to immigration than those employed on either permanent contracts or fixed-term contracts (Online Appendix Figure A2). This discrepancy might be because people respond stronger to loss (of employment) than to gain (of a more secure contract) (Kahneman and Tversky, 1979; Breen, 1997). That we do not find an effect of the transition from permanent to fixed-term contract either may be due to the voluntary nature

of a substantial part of these transitions. The role of loss versus gain may explain why [Dancygier and Donnelly \(2013\)](#) only found an effect of sectoral shrinkage and of immigrant inflow during an economic crisis: it is not increasing actual competition that leads to a sense of ethnic competition, but (increasing) competition at a time when people have a realistic fear or experience of job loss. This finding further underlines the importance of economic loss as a cross-cutting narrative in contemporary western societies ([Jackson and Grusky, 2018](#); [Paskov et al., 2021](#)).

The effect of loss versus gain could be explored by studying zero-hour contracts. Such contracts do not specify a minimum number of working hours for an employee. Employees work on a demand basis and are only paid for the hours worked. This kind of contract is common in the Netherlands, UK and Austria ([European Parliament, 2016](#)). If a sense of ethnic competition is triggered by loss, workers on zero-hour contracts who experienced a recent drop in average working hours should be more prone to express anti-immigration attitudes than those who experienced a stable or increasing number of hours.

Sub-group analyses reveal that unexpected lower levels of opposition to immigration among fixed-term contract workers compared with those on permanent contracts are mainly driven by the higher educated and those in higher occupational classes—and by workers who are single. This is particularly striking as other studies found support for certain measures of the role of competition only for the higher educated and/or higher occupational classes ([Ortega and Polavieja, 2012](#); [Pecoraro and Ruedin, 2020](#)). These contrasting results may be due to self-selection into certain occupations and contract type—and possibly an interaction between the two—that is not properly captured by the controls in our models. One factor that has been receiving more attention is the role of personality traits ([Gallego and Pardos-Prado, 2014](#); [Polavieja, 2016](#)). As the results from the longitudinal analyses in this study do not support ethnic competition theory either, self-selection is unlikely to explain why we do not find support for ethnic competition theory in our cross-sectional analyses.

Our findings add to the evidence from earlier research suggesting that factors other than individual economic prospects are the drivers of attitudes toward migration. While insecure contracts are known to impact people's attitudes and life courses, they do not seem to affect anti-immigration attitudes.

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## Supplementary material

[Supplementary material](#) is available at *SOCECO Journal* online.



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