The Impact of Trade Shocks on Nationalist Attitudes and Support for EU Membership: Panel Data Evidence from Great Britain

Nils D. Steiner

Otto-Friedrich-Universität Bamberg and Johannes Gutenberg-Universität Mainz,
nils.steiner@uni-bamberg and steiner@politik.uni-mainz.de

Philipp Harms

Johannes Gutenberg-Universität Mainz,

philipp.harms@uni-mainz.de

Abstract: This article leverages individual-level panel data on nationalist attitudes to contribute to the debate on the (economic) roots of popular opposition to globalization. We propose a 'nationalist backlash' thesis: Individuals living in regions suffering from stronger import competition form more nationalist attitudes as part of a broad counter-reaction to globalization. Our analysis of data from the British Household Panel Study (BHPS) finds that respondents from regions exposed to higher imports from low-wage countries—in particular, China—turn more critical of EU membership and international co-operation and become more emotionally attached to Britain. In contrast, there is no evidence that regional trade shocks cause economic policy orientations to shift leftwards. We thus document a direct individual-level response to import shocks in the form of rising nationalist attitudes that helps to explain these shocks' aggregate electoral consequences in terms of increased vote shares for the radical right.

Keywords: China shock; globalization; import competition; international trade; nationalism; political attitudes; EU support.

Word count: 9,838.

1. Introduction

In the aftermath of the election of Donald Trump, the June 2016 Brexit referendum in the UK and the parallel electoral gains of right-wing populist parties with anti-globalization platforms in several rich Western democracies, a vivid scholarly debate on the sources behind this nationalist backlash against globalization has set in (e.g. Hobolt 2016; Inglehart and Norris 2019; Mutz 2018; Rodrik 2018). This debate has often been framed around the question of culture vs. economics: Is public opposition to globalization rooted in deep-seated cultural values—such as authoritarianism, xenophobia or nationalism—*or* is it best understood via economic grievances among globalization's material losers? Yet, culture and economics might be more interconnected than implied by this simple juxtaposition (Colantone and Stanig 2019; Gidron and Hall 2020). Indeed, evidence begins to accumulate that cultural values are affected by economic distress experienced by individuals, with regional disparities playing an important part (Adler and Ansell 2020; Ballard-Rosa et al. 2019; Ballard-Rosa, Jensen and Scheve 2020; Broz, Frieden and Weymouth 2019; Carreras, Irepoglu Carreras and Bowler 2019; Guiso et al. 2018). For example, Carreras, Irepoglu Carreras and Bowler (2019) document that anti-immigrant and Eurosceptic attitudes are more widespread in British regions suffering from long-run economic decline.

Such economic distress may be a direct consequence of globalization, specifically of the profound redistributive effects of import competition (Acemoglu et al. 2016; Autor, Dorn and Hanson 2013; 2016). Recent research shows that, across Western Europe, parties with nationalist platforms have gained larger vote shares in regions 'shocked' by surging Chinese imports (Colantone and Stanig 2018a; Dippel, Gold and Heblich 2015; Malgouyres 2017). This line of research suggests that the nationalist

backlash against globalization at the ballot boxes may partly be a direct consequence of the economic transformations caused by globalization itself.

In the present study, we transfer the idea of a nationalist backlash being caused by regional exposure to import competition to the level of individual political attitudes. Our key argument is that individuals living in regions suffering from import competition form more nationalist and isolationist attitudes as part of a broad counter-reaction to globalization. We thus expect them to become more emotionally attached to the nation and less supportive of transfers of political power from the national to the international level.

We test this nationalist backlash hypothesis using data from the British Household Panel Study (BHPS), looking at the evolvement of nationalist attitudes between 1999 and 2008. This period covers China's WTO entry in 2001 and the subsequent surge in imports from China—i.e. the 'China shock' (Autor, Dorn and Hanson 2016). Our focus on imports from China is motivated by the consideration that rapidly increasing imports from China caused significant structural economic change in many developed countries (Acemoglu et al. 2016; Autor, Dorn and Hanson 2013; 2016). We leverage this 'China shock' as a clearly identifiable case to learn about the general phenomenon of low-wage import competition. Like previous work (e.g. Autor, Dorn and Hanson 2013; Ballard-Rosa et al. 2019; Colantone and Stanig 2018a; 2018b), we capture changes in region-specific import competition by combining data on increases in Chinese imports across sectors with employment shares of these sectors at the NUTS 3 regional level.

Our results indicate that individuals from regions more exposed to import competition turn more critical of international co-operation and EU membership. Moreover, their levels of nationalist sentiment increase. Following work on the 'compensation

hypothesis' (Cameron 1978; Rodrik 1998) and its individual-level mechanics (Rommel and Walter 2017; Walter 2010; 2017), we also test for an effect of import competition on economic policy orientations, but do not obtain any supportive evidence. We thus document a direct individual-level response to regional trade shocks in the form of rising nationalist attitudes—but no rising demand for state intervention in the economy—which helps to explain their electoral consequences in terms of the growing vote shares for parties of the radical right.

Our results thus corroborate findings from previous research on the electoral consequences of (Chinese) import competition, most notably the pathbreaking studies by Colantone and Stanig (2018a; 2018b). At the same time, our study is innovative in at least three important respects:

First, while previous research (Autor et al. forthcoming; Che et al. 2016; Colantone and Stanig 2018a; 2018b; Dippel, Gold and Heblich 2015; Malgouyres 2017) provides compelling evidence that local import shocks affect voting behavior, and that nationalist parties of the radical right—who oppose globalization most fiercely, particularly on the cultural dimension of political conflict (Kriesi et al. 2008; Mudde 2008)—tend to profit most from local trade shocks, our study produces additional insights on the individual-level mechanisms that connect trade shocks and aggregate-level outcomes. Such a connection may arise from several mechanisms—including a channel that runs through increases in general political disaffection rather than political attitudes shifting genuinely towards positions specific to the radical right. Our results, however, imply that vote shares of nationalist parties increase because nationalist attitudes increase among voters, i.e. the nationalist backlash observed at the polls is a result of a nationalist backlash in individual attitudes.

Second, in relation to parallel research that also studies the impact of local trade shocks on political attitudes (Ballard-Rosa et al. 2019; Ballard-Rosa, Jensen and Scheve 2020; Colantone and Stanig 2018c; Hays, Lim and Spoon 2019), our work is distinct in studying the impact on attitudes related to national identification and support for international political co-operation and integration. For reasons detailed in the next section, we suggest that this may be an important part of the public's response to import shocks. In fact, this conjecture is in line with a key tenet of one of the hallmark paradigms in international political economy, the theory of embedded liberalism (Ruggie 1982): The economic vagaries resulting from open markets may endanger not only public support for international economic openness (Hays, Ehrlich and Peinhardt 2005), but for a multilateral world order more broadly.

Third, a critical methodological innovation of our study is the use of individual-level panel data. Our empirical analysis crucially benefits from the fact that the attitudinal items of interest run repeatedly in the BHPS. By controlling for prior attitudes, we leverage intra-individual changes in attitudes over time for a clean identification. This helps in overcoming the problem—inherent to cross-sectional designs—that import shocks might be correlated with initial differences across regions, be it in voting patterns or political attitudes. In fact, the variation in industry specialization across regions—from which the local import shock is computed—in itself may contribute to differences in political attitudes and behavior across regions, as people's workplaces shape their political preferences (Kitschelt and Rehm 2014). While previous and parallel research relying on (repeated) cross-sections draws on a range of techniques to carefully engage with that confoundedness concern, it remains a crucial advantage to observe intra-individual changes in political attitudes.

The remainder of this paper is structured as follows. In the next section, we further elaborate upon the nationalist backlash hypothesis. The third section introduces our research design. The fourth section presents our empirical results. The final fifth section summarizes and discusses our key findings.

2. The nationalist backlash hypothesis

We begin our theoretical argument by setting it in relation to the parallel papers that also study the impact of local trade shocks on political attitudes, but do so with a focus on different attitudes and using cross-sectional data (Ballard-Rosa et al. 2019; Ballard-Rosa, Jensen and Scheve 2020; Colantone and Stanig 2018c; Hays, Lim and Spoon 2019). The common theoretical denominator across these studies is the notion that threats to and frustrations with one's social status push demands for norm as well as cultural conformity. This goes along with increased authoritarian tendencies (Ballard-Rosa et al. 2019; Ballard-Rosa, Jensen and Scheve 2020) and hostility towards out-groups, in particular: immigrants (Colantone and Stanig 2018c; Hays, Lim and Spoon 2019). Part of our argument is related to these ideas, emphasizing identification with the nation as a psychological mechanism to cope with threats to one's social status. Yet we mainly rely on the notion of a broad counter-reaction to globalization. We discuss this latter argument first and then turn to the social identity mechanism.

First, the simple intuition is that those negatively affected by one aspect of globalization, such as trade, turn critical towards other facets of globalization, such as the transfer of political power from the national to the international level. It is an established proposition that individual material self-interest leads those who are negatively affected by international trade to oppose it (e.g. Mayda and Rodrik 2005; O'Rourke and Sinnott 2001; Scheve and Slaughter 2001), particularly so when gains

and losses are visible to individuals (Rho and Tomz 2017). We reason the backlash caused by material consequences of trade not to be limited to attitudes towards trade, but to extend to a broader nationalist backlash against globalization in its various manifestations. In making this argument, we assume that individuals do not neatly distinguish between the different facets of globalization, but that these objects are connected within their belief systems. This assumption finds justification in empirical evidence that individuals' attitudes on different facets of globalization, such as immigration, European integration and free trade, are closely related to each other (de Vries 2018; Hellwig 2014; Hillen and Steiner 2020; Kriesi et al. 2008). Moreover, citizens, when repeatedly surveyed, report stable attitudes towards the concept of 'globalization' that are closely aligned with orientations towards specific globalization-related issues, and independently affect voting decisions (Mader, Steiner and Schoen forthcoming). Such evidence suggests that globalization may be an emotionally charged symbol for broad changes in the economic, social and political domain that individuals view in general either positively or negatively.

In a similar vein, Margalit (2012, 487) proposes that 'people view the material effects of trade as only one component of a broader "package" of openness that includes processes such as […] the increasing exposure to foreign influences [or] a shift towards a less traditionalist society'. Because of this mental connection, Margalit argues, nationalist and ethnocentric sentiments affect support for the prima facie economic issue of international trade. Our argument is that this logic works in the other direction as well in that the material consequences of trade may affect nationalist sentiments and views on the transfer of political power from the national to the international level.

Second, the nationalist backlash hypothesis gains additional justification from work on the economic drivers of national identity in the tradition of the social identity

paradigm (Tajfel and Turner 1986). According to Shayo's (2009) seminal model, the attractiveness of identifying with the nation increases when the psychological reward from alternative forms of group identification, such as class, erodes due to a decrease in social status of these groups. Obedient attachment to the nation can thus be an attractive social identity for individuals who face economic hardships and status threats. This tendency may be stronger to the extent that international competition is salient rendering 'one's membership in the nation a more salient attribute' (Shayo 2009, 155).

These considerations may well apply to individuals living in regions facing relative economic decline due to import competition. We therefore expect the counter-reaction to globalization to not only manifest in individuals' issue positions on the desired level of international political integration but to extend to the affective level of national identity. Where trade shocks hit harder, nationalist sentiments, such as 'national chauvinism' (Davidov 2009; Herrmann 2017) or 'blind patriotism' (Schatz, Staub and Lavine 1999), might rise.

As we focus on a region's exposure to low-cost import competition (rather than individual exposure), our argument rests on the assumption that the local context is important for individual attitude formation. Several channels might contribute to such a relevance of the local context (also see Broz, Frieden and Weymouth 2019). First, there might be direct as well as indirect effects of an increasing exposure to imports on individuals' economic well-being, which then might have repercussions on political attitudes. Second, in addition to reacting to the (direct or indirect) effects on individual material well-being, individuals might be socio-tropically motivated and care about their region of residence. Third, the local context might matter because communication among individuals could lead to a contagion of political attitudes.

3. Data and methods

3.1 Dependent variables

We test the nationalist backlash thesis with data from the British Household Panel Study (University of Essex 2010)—a nationally representative household panel running from 1991 to 2008. We utilize attitudinal items that were repeatedly included as part of 'rotating core' but not in every year and partly in irregular intervals. We measure nationalist sentiment as well as support for international co-operation from a battery of questions on 'national identity' administered in 1999, 2002, 2005 and 2008. Questions on support for EU membership were included in 1999, 2002 and 2006. As we aim to study intra-individual change, we can use the first observations from 1999 only to control for lagged values, making 2002 the first year we study as an outcome. We are thus able to study changes in nationalist attitudes in the 2000s—i.e. during a period in which imports from China into the UK surged, following China's entry into the WTO in 2001.

Table 1 lists the items we use to measure our three dependent variables. Our measure of nationalist sentiment combines two items that capture an affective dimension of

nationalism in the sense of national pride and uncritical attachment to one's nation.[1] For attitudes towards the EU, we combine three questions that each ask about opinions on British membership in the EU. We run principal component factor analyses—which returned reasonably strong factor loadings—to combine these items into single scales using the predicted factor scores. Support for international co-operation is measured via agreement with a single statement on co-operation with other countries.

Table 1: Operationalization of nationalist attitudes in the BHPS

Construct	Available years	Question/Statement	Scale	Loading on factor	Variance explained by factor
Nationalist sentiment	1999, 2002, 2005, 2008	'I would rather be a citizen of Britain than of any other country in the world'	0-4	0.77	0.60
		'People in Britain are too ready to criticize their country'	0-4	0.77	
Support for international co-operation	1999, 2002, 2005, 2008	'Britain should co-operate with other countries, even if it means giving up some independence'	0-4	single item	single item
Support for EU membership	1999, 2002, 2006	'Generally speaking, do you think that Britain's membership of the European Union is a good thing, a bad thing or is it neither good nor bad?'	0-2	0.89	0.70

[1] Following the vivid literature on the measurement of national identity, the first item is best conceived of as a measure of 'national chauvinism', i.e. the belief in the inherent superiority of one's nation, albeit capturing a mild form of such chauvinism (Herrmann 2017: S70). The second is a measure of 'blind patriotism', i.e. the 'attachment to country characterized by unquestioning positive evaluation, staunch allegiance, and intolerance of criticism' (Schatz et al. 1999: 151). For our purposes, it is key that both items share a focus on an emotional dimension of nationalist attachment. For another study using these two items for a measure of 'nationalist sentiment' in Britain, see Heath et al. (1999). In robustness checks, we considered alternative scales, including additional items, and found our results to be robust (see below).

		'Taking everything into consideration, would you say that Britain has on balance benefited or not from being a member of the European Union?'	0-1	0.85	
		'Do you think Britain's long-term policy should be... - to leave the European Union - to stay in the EU and try to reduce the EU's powers - to leave things as they are - to stay in the EU and try and increase the EU's powers or - to work for the formation of a single European government?'	0-4	0.77	

Note: Factor loadings and explained variance are from a principal component factor analysis with the items for the respective construct.

3.2 Model specification

As stated above, controlling for individuals' prior attitudes in order to study attitudinal change is key to our identification strategy. To leverage the panel structure efficiently, we draw on two consecutive observations, regressing the level value of an attitude in *t* on the lagged value of this attitude in *t-x* and other covariates, with *x* indicating the number of years separating two consecutive observations.[2] Our baseline specification is given by the following expression:

$$(1) \quad Y_{ir,t} = \alpha + \rho Y_{ir,t-x} + \beta\ CS_{r,t} + \sum_{k=1}^{K} \gamma_k\ x_{ir,t}^{k} + \xi_t + \varepsilon_r + \varepsilon_{r,t} + \nu_{ir,t}$$

[2] Note that this is equivalent to putting the difference between *t-x* and *t* on the left-hand side, while keeping the lagged level value in *t-x* on the right-hand side. Controlling for the lagged level value in *t-x* is essential to capture regression to the mean effects, which naturally arise from response scales with end points. For example, if someone already scores maximally high on nationalist sentiment, nationalist sentiment cannot increase any further. In terms of equation (1), we would thus expect ρ to take on a value well below 1.

In (1), *i* indexes individuals, *t* years and *r* regions. We regress the attitude of individual *i* residing in region *r* at time *t* ($Y_{ir,t}$) on its lagged value $Y_{ir,t-x}$, the corresponding Chinese import shock for the individual's region of residence at time *t* ($CS_{r,t}$), a vector of individual-level controls ($x_{ir,t}^{k}$), and a set of year fixed effects (ξ_t). In later models, we add further controls at regional levels to equation (1) as explained below.

In addition to error terms at the individual-year level ($\nu_{ir,t}$), equation (1) includes error terms at the NUTS 3 regional level (ε_r) and the level of NUTS 3 region-year combinations ($\varepsilon_{r,t}$), treating both as random effects. This is crucial, as our data are characterized by a hierarchical three level structure: Observations of individuals in year *t* (level 1) are nested within NUTS 3 region-year combinations (level 2), which are nested within NUTS 3 regions (level 3).[3] The underlying inferential challenge is that we are interested in how the Chinese import shock affects attitudes within a region, yet we only observe a sample of individuals within each NUTS 3 region. The multilevel model incorporates this uncertainty inherent in drawing inferences on the regional level from the individual level (see Gelman and Hill 2006).

We estimate linear models for all types of dependent variables in our main models—i.e. for the factor scores as well as the single item measure. This facilitates interpretation and comparability, while ordered logit hierarchical models for the ordinal response variable give similar results (see below). Technically, we estimate

[3] Note that results are almost perfectly identical when we omit the third level. In some of the robustness checks, we resort to the simpler specification with two levels to facilitate convergence of the estimator (see below). For the same reason, we occasionally estimated models via restricted maximum likelihood rather than maximum likelihood.

hierarchical models with random intercepts for NUTS 3 regions and NUTS 3 region-years via the 'mixed' command in Stata 16.1.[4]

3.3 Measuring local exposure to Chinese imports

Our measurement of the Chinese import shocks at the level of NUTS 3 regions is based on the approach developed by Autor, Dorn and Hanson (2013) and combines two pieces of information: The initial employment structure of a region and the increase in imports from China at the industry level. The idea is to infer how strongly regions are affected by increasing imports within a particular industry from the share of workers of a region that were initially employed in this industry. If many of the jobs within a region were in an industry that subsequently experienced a large increase in imports from China, the import shock will be high.

We use two versions of operationalizing this general idea that differ in how exactly we compute the change in Chinese imports by sector. The first is identical to the by now canonical measure of Autor, Dorn and Hanson (2013). It is based on the increase in imports in real Pound Sterling per worker in industry *j*. The formula is effectively a weighted average of these sectoral increases in imports per worker with the weights being sectoral employment shares:

[4] The fact that the EU support measure was included in irregular intervals poses additional challenges. First, we expect less persistence of the dependent variable between 2002 and 2006 than between 1999 and 2002 because of the longer time span between the two measurements. To model this, we thus additionally included interactions between the lagged dependent variable and the year dummies, allowing ρ to take different values. Second, we computed the Chinese import shock such that it exactly corresponds to the time structure of our observations on political attitudes, as explained below.

(2) $$CS_{r,t,increase\ per\ worker} = \sum_{j=1}^{J} \omega_{jr,t-x} \left(\frac{IM_{j,t} - IM_{j,t-x}}{L_{j,t-x}} \right)$$

with *r* indicating regions, *j* industries, and *t* standing for a given year. $IM_{j,t}$ is the real value (i.e. deflated by the Consumer Price Index, with 1995 used as base year) of UK imports in Pound Sterling from China in industry *j*. Equation (2) computes the difference between imports in year *t* and the base year *t-x*. This difference is divided by the total (i.e. countrywide) number of workers in industry *j* in the base year *t-x* ($L_{j,t-x}$). The increase in imports per worker is then weighted using $\omega_{jr,t-x}$, i.e. the share of employment for an industry in a region in the base year *t-x*. More specifically, it is defined as $\omega_{jr,t-x} = \frac{L_{jr,t-x}}{L_{r,t-x}}$, i.e. as a ratio that divides the number of workers in region *r* and industry *j* at time *t-x* by the total number of workers in region *r* in that period.

In addition, we propose a second measure based on growth rates of Chinese imports by sector that is otherwise identical to equation (2):

(3) $$CS_{r,t,growth\ rate} = \sum_{j=1}^{J} \omega_{jr,t-x} \left(\frac{IM_{j,t} - IM_{j,t-x}}{IM_{j,t-x}} \right) * 100$$

Equation (3) measures the growth in imports as the percentage change of the real value of imports from China in industry *j* between year *t-x* and year *t*. In addition to the general virtues of exploring robustness to alternative measurements, there are two specific reasons for considering this alternative. First, we suspect that growth rates might capture the processes underlying the attitudinal response to import shocks better than increases per worker: Growth rates take high values if industries which faced little import competition in the past experience surging imports. In these situations, import competition is especially likely to be perceived as a growing threat for an industry and, hence, likely to trigger an attitudinal response—perhaps more so than when imports

per worker increase substantially in absolute terms but were already high to begin with. Second, the advantage of the growth rate measure is that it accounts for industries' 'initial labor market relevance', as we explain in the supplementary appendix (see section A.3).

For both measures, we computed the China shock measure such that it corresponds to the time structure of our survey data, with *t-x* being the year in which the lagged dependent variable is measured. For instance, if we predict nationalist sentiment in 2008 by its prior lagged value in 2005, *t* is 2008 and *t-x* is 2005. We thereby predict change in an attitude over a specific period with the change in exposure to Chinese imports over the same period and based on the employment shares at the beginning of this period. We believe that this is the cleanest approach for our set-up. Nonetheless, we will consider alternatives below.

Our regional units are NUTS 3 regions in Great Britain according to the 2006 NUTS revision. There are 128 of such NUTS 3 regions, of which more than 120 are usually observed in our models. To assign individual-years in the BHPS to 2006 NUTS 3 regions, we rely on a (conditional access) BHPS dataset on the local authority districts (LADs) that households are situated in (University of Essex 2014). We computed the 'China shock' according to equations (2) and (3) distinguishing between 21 harmonized industries in the primary and secondary sectors based on regional employment share data from NOMIS and data on imports from China by industry from the OECD STAN database.[5]

[5] We provide more information in the supplementary appendix**,** including details on data compilation and descriptive statistics on changes in Chinese imports by sector. Note that, due to lacking regional employment data, Northern Ireland could not be included.

Descriptive results on the China shock across regions in section B.2 of the supplementary appendix indicate face validity, but also severe skewness. To ensure that our results are not driven, or distorted, by a few heavy outliers, we logged the original values. Specifically, we calculated:

$$(4) \qquad CS_{r,t,m}^{log} = \ln\left(CS_{r,t,m} + 1\right),$$

with *m* representing either *increase per worker* or *growth rate*. We then normalized $CS_{r,t,m}^{log}$ to range from zero to one in the observed data, in order to allow for an easier interpretation and comparison of effect sizes.[6]

3.4 Control variables

We limited control variables at the individual level to ones that are plausibly pre-treatment, i.e. not themselves affected by the import shock. We include gender, age (and age squared), education and immigration background (see supplementary appendix A.1).

At the regional level, we include both fixed effects and substantive control variables. As an alternative to the year fixed effects of equation (1), we include fixed effects at the level of NUTS 1 region-year and NUTS 2 region-year combinations. These models identify the effects only from variation across NUTS 3 region-years within NUTS 1 (or 2) region-years.

[6] We also used the 'neglog' transformation (Whittaker et al. 2005)—which is meant to handle skewed data with both positive and negative values—to transform all alternative trade shock measures used in robustness checks, which sometimes contain negative values. It is defined as $-\ln(-x+1)$ if $x \leq 0$ and as $\ln(x+1)$ if $x>0$. Because the main measures contain only positive values, this transformation simplifies to equation (4). We also normalized all additional trade shocks to range from zero to one.

In addition, we control for the employment share of manufacturing in 1998 (as reported by NOMIS) of NUTS 3 regions. As increasing imports mainly affect manufacturing, this is a tough control that is strongly correlated with the China shock. Nonetheless, we opt to disentangle the specific impact of the China shock from developments common to traditional manufacturing regions. We keep the value fixed at its 1998 level to avoid post-treatment bias, as changes in the manufacturing share over our observation period might be driven by rising imports from China. Furthermore, we incorporate the share of the population born outside of the UK, including both levels and changes (in percentage points) between *t-x* and *t*, and measured at the level of Local Area Districts (LADs).[7] This introduces another layer to the data structure. Accordingly, we add random intercepts at the level of LADs-years to the respective multilevel models, turning these into hierarchical models with four nested levels (individual-years, LADs-years, NUTS 3 region-years, NUTS 3 regions).

4. Results

4.1. Benchmark results

We present our main regression results in three tables.[8] ***Table 2*** studies nationalist sentiment, ***Table 3*** support for international co-operation and ***Table 4*** support for EU membership. Each table reports results for both measures of the China shock across

[7] See further information on these control variables in supplementary appendix A.1.

[8] We present full versions of these tables in supplementary appendix D.2, including the coefficients for individual-level control variables. In supplementary appendix D.1, we support our benchmark results graphically by plotting random intercepts estimated for NUTS 3 region-years against the China shock measures. In the regressions of supplementary appendix C, we show how the China shock affects individuals' wages.

six types of specifications. The first three models control for regional confounding via different types of fixed effects: The first model contains year fixed effects, the second NUTS 1 region-year fixed effects and the third NUTS 2 region-year fixed effects. The fourth model adds the 1998 manufacturing employment share to the specification with NUTS 1 region-year fixed effects. The fifth model further adds the level of and the change in the share of the population born outside of the UK. The sixth model estimates this model with NUTS 2 region-year fixed effects.

For nationalist sentiment, we consistently obtain statistically significant positive effects for both measures of the China shock, in line with our expectations (see ***Table 2***). The coefficients tend to get larger in more saturated models while the standard errors slightly increase. The effect sizes are roughly similar across the two measures, indicating that nationalist sentiment is predicted to be higher by around 0.2 when comparing individuals in a NUTS 3 region-year with a minimum shock (=0) to one with a maximum shock (=1). This is a substantially meaningful effect, also relative to the observed standard deviation of nationalist sentiment (=1.00) and of its first difference (=1.01).[9] Overall, we obtain strong support for the expectation that

[9] One should also bear in mind that, within our panel data set-up, the China shock hits three times and not just once. The effects might thus cumulate over time, though the persistence of any shock is limited, as indicated by the coefficient for the lagged dependent variable (=0.45). If we compare one NUTS 3 region that is hit by a shock of 0.75 in the 1999-2002, 2002-2005 and 2005-2008 intervals with another region that is hit by a shock of 0.25 in these intervals, and if we use the estimated coefficient of 0.2, nationalist sentiment in 2008 is predicted to be higher by 0.17 (=0.5·0.2·0.45·(0.5·0.2)+ 0.45·0.45·(0.5·0.2)) for an individual living in the region with the larger shock than for an individual in the region with the smaller shock. However, we are reluctant to draw strong inferences on long-run dynamics, as the limited number of observed periods naturally limits our ability to do so with accuracy.

uncritical attachment to one's nation increases in regions more heavily exposed to import competition.

Regarding support for international co-operation, the results on the effect of the China shock differ across the two measures (see ***Table 3***). For the increase per worker-measure, all estimated effects are statistically indistinguishable from zero. In case of the growth rate measure, however, the evidence overall supports the idea that a larger China shock decreases support for international co-operation. The coefficient is not significant at conventional levels with NUTS 2 region-year fixed effects in the specification without regional level substantive control variables. However, when substantive control variables at the regional level are added, the effects are sizeable and statistically significant with $p<0.10$ for both models with NUTS 1 region-year fixed effects and models with NUTS 2 region-year fixed effects. The estimated effect sizes are around -0.2, indicating a meaningful effect, considering the observed standard deviation of support for international co-operation (=1.04) and of its first difference (=1.06).

Table 2: Regressing nationalist sentiment on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Nationalist sentiment$_{t-3}$	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***
	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)
Chinese import shock	0.092*	0.12**	0.12**	0.17*	0.17*	0.17*	0.12*	0.20**	0.19*	0.22*	0.23*	0.26+
	(0.042)	(0.044)	(0.043)	(0.074)	(0.079)	(0.076)	(0.062)	(0.069)	(0.075)	(0.100)	(0.10)	(0.14)
Manufacturing share$_{1998}$				-0.14	-0.096	-0.083				-0.052	-0.017	-0.043
				(0.17)	(0.18)	(0.17)				(0.14)	(0.15)	(0.19)
Foreign born population					0.25	0.37*					0.30+	0.35*
					(0.16)	(0.18)					(0.15)	(0.18)
Change in foreign born population					0.035	-0.23					-0.061	-0.24
					(0.41)	(0.41)					(0.40)	(0.41)
Demographic controls	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Fixed effects												
Year	☑						☑					
NUTS 1-Year		☑		☑	☑			☑		☑	☑	
NUTS 2-Year			☑			☑			☑			☑
Random intercepts												
NUTS 3	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
LAD-year level					☑	☑					☑	☑
Observations												
NUTS 3	123	123	123	123	123	123	123	123	123	123	123	123
NUTS 3-year	366	366	366	366	366	366	366	366	366	366	366	366
LAD-year					1039	1039					1039	1039
Individual-year	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726
BIC	62472.8	62750.2	63406.3	62759.6	63018.8	63442.1	62473.6	62750.2	63407.7	62760.2	62784.1	63444.0

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$.

Table 3: Regressing support for international co-operation on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Support for international co-operation$_{t-3}$	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***
	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)
Chinese import shock	-0.040	-0.011	-0.028	0.018	0.023	-0.048	-0.19*	-0.15+	-0.11	-0.23*	-0.21+	-0.29+
	(0.056)	(0.053)	(0.047)	(0.087)	(0.087)	(0.085)	(0.076)	(0.082)	(0.084)	(0.11)	(0.12)	(0.16)
Manufacturing share$_{1998}$				-0.086	-0.059	0.11				0.18	0.19	0.33
				(0.20)	(0.20)	(0.20)				(0.17)	(0.17)	(0.21)
Foreign born population					0.14	0.16					0.11	0.13
					(0.17)	(0.19)					(0.17)	(0.19)
Change in foreign born population					-0.094	-0.15					-0.055	-0.14
					(0.43)	(0.44)					(0.43)	(0.44)
Demographic controls	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Fixed effects												
Year	☑						☑					
NUTS 1-year		☑		☑	☑			☑		☑	☑	
NUTS 2-year			☑			☑			☑			☑
Random intercepts												
NUTS 3 level	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
LAD-year level					☑	☑					☑	☑
Observations												
NUTS 3	123	123	123	123	123	123	123	123	123	123	123	123
NUTS 3-year	366	366	366	366	366	366	366	366	366	366	366	366
LAD-year					1040	1040					1040	1040
Individual-year	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546
BIC	63520.5	63781.6	64430.9	63791.6	63805.9	64465.3	63515.1	63778.5	64429.6	63787.4	63802.7	64462.3

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table 4: Regressing support for EU membership on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Support for EU membership$_{t-3/4}$	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Support for EU membership$_{t-3/4}$ * year=2006	-0.041**	-0.042**	-0.044**	-0.042**	-0.042**	-0.044**	-0.041**	-0.042**	-0.043**	-0.042**	-0.042**	-0.043**
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Chinese import shock	-0.14*	-0.16**	-0.15**	-0.21*	-0.21*	-0.25*	-0.12+	-0.17**	-0.12+	-0.24*	-0.24*	-0.16
	(0.068)	(0.060)	(0.057)	(0.098)	(0.099)	(0.098)	(0.064)	(0.066)	(0.064)	(0.11)	(0.11)	(0.13)
Manufacturing employment share$_{1998}$				0.18	0.16	0.27				0.18	0.17	0.086
				(0.24)	(0.24)	(0.24)				(0.24)	(0.24)	(0.28)
Foreign born population					0.069	0.042					0.023	0.052
					(0.23)	(0.26)					(0.23)	(0.27)
Change in foreign born population					-0.82	-0.57					-0.78	-0.58
					(0.56)	(0.58)					(0.56)	(0.58)
Demographic controls	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Fixed effects												
Year	☑						☑					
NUTS 1-year		☑		☑	☑			☑		☑	☑	
NUTS 2-year			☑			☑			☑			☑
Random intercepts												
NUTS 3 level	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
LAD-year level					☑	☑					☑	☑
Observations												
NUTS 3	122	122	122	122	122	122	122	122	122	122	122	122
NUTS 3-year	240	240	240	240	240	240	240	240	240	240	240	240
LAD-year					663	663					663	663
Individual-year	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556
BIC	21483.1	21614.8	22004.9	21623.4	21646.8	22038.8	21483.8	21614.5	22008.6	21623.1	21646.2	22043.5

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Finally, there is strong and consistent evidence that support for EU membership decreases for individuals residing in NUTS 3 regions which were more heavily exposed to rising imports from China (***Table 4***). While one out of the twelve coefficients is not significant at accepted levels of statistical significance (see model 12 in ***Table 4***), this appears to be just a result of the loss in precision caused by the inclusion of NUTS 2 region-year fixed effects and regional substantive controls. The coefficients indicate negative effects of, again, roughly around -0.2 for both measures. Relative to the observed standard deviation of support for EU membership (=1.00) and of its first difference (=0.84), the estimates point to substantially meaningful effect sizes.

Overall, we obtain broad support for the nationalist backlash thesis. The findings are especially clear for the growth rate measure. Across three different dependent variables, we find that individuals located in regions with stronger exposure to growing imports from China become more 'nationalist' over time: Their nationalist sentiment increases and their support for both international co-operation in general, and EU membership specifically, decreases. For the increase per worker measure, we equally obtain strong evidence for increasing feelings of attachment to the nation and decreasing support for EU membership, yet no clear evidence for the expected negative effect on support for international co-operation.[10]

[10] One potential reason why we obtain weaker evidence for international co-operation is that we have to rely on agreement with a single statement. This may increase measurement error and limit our ability to accurately capture real change in the underlying latent attitudes over time.

4.2 Robustness and extensions

We extended our baseline analyses in several directions. The results of (most of) our robustness checks are reported in a condensed format in ***Table 5***, that concentrates on the coefficient of the import shock variable. To allow for a quick comparison, entry (1) reproduces the coefficients from models 2 and 8 of Tables 2 to 4, the specification with NUTS 1 region-year fixed effects, which we used as baseline specification for the robustness checks. Entry (2) excludes all individuals with any recorded changes in residence in NUTS 3 region between *t* and *t-x*, thus limiting the analysis to those who constantly lived in the region during the time period for which the import shock was calculated. The coefficients remain stable, though the standard errors increase slightly—presumably due to the reduced number of observations. The effect of the growth rate measure on support for international co-operation falls below the $p<0.10$ significance threshold, while all effects on the two other dependent variables remain significant with $p<0.05$.

Entry (3) in ***Table 5*** excludes individuals working in the primary and secondary sectors. Entry (4) includes only individuals working in the tertiary sector, thus additionally excluding those who miss sector information because they do not work. Our results are similar, even in the face of the drastic sample reduction caused by including only tertiary sector workers. This suggests that the effects on nationalist attitudes are not limited to those who are, at least potentially, directly affected by import competition by way of working in one of the broad sectors exposed to trade in goods—a finding that is supported by our analysis of effect heterogeneity via interaction effects (see supplementary appendix D.4).

Table 5: Results from robustness checks and extensions

	Nationalist sentiment		Support for international co-operation		Support for EU membership	
	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate
(1) Coefficient from baseline model	0.12**	0.20**	-0.011	-0.15+	-0.16**	-0.17**
	(0.044)	(0.069)	(0.053)	(0.082)	(0.060)	(0.066)
(2) Excluding movers	0.12*	0.19**	0.022	-0.11	-0.14*	-0.14*
	(0.046)	(0.072)	(0.057)	(0.086)	(0.063)	(0.069)
(3) Excl. primary and secondary sector workers	0.12*	0.19**	0.0073	-0.10	-0.16**	-0.17**
	(0.046)	(0.072)	(0.054)	(0.084)	(0.061)	(0.067)
(4) Including only tertiary sector workers	0.095	0.16+	-0.082	-0.26**	-0.25***	-0.20*
	(0.058)	(0.092)	(0.060)	(0.096)	(0.075)	(0.083)
(5) Fixed employment shares from 1998	0.13*	0.12*	0.0037	-0.066	-0.18**	-0.16*
	(0.053)	(0.061)	(0.059)	(0.066)	(0.067)	(0.064)
(6) Increase/growth relative to 1998	0.28*	0.23*	-0.0032	-0.014	-0.38*	-0.26+
	(0.12)	(0.089)	(0.13)	(0.11)	(0.15)	(0.14)
(7) Imports from China and other EMEs	0.14**	0.15*	-0.048	-0.16*	-0.17**	-0.19*
	(0.048)	(0.071)	(0.054)	(0.077)	(0.063)	(0.081)
(8) Imports from other EMEs only	0.12	0.13+	-0.055	-0.19*	-0.0058	-0.14+
	(0.072)	(0.070)	(0.074)	(0.076)	(0.078)	(0.083)
(9) *Additional control for incr. in all imports*						
Coefficient for Chinese import exposure	0.12**	0.23**	-0.013	-0.21+	-0.17**	-0.12
	(0.044)	(0.083)	(0.054)	(0.11)	(0.060)	(0.091)
Coefficient for general import exposure	-0.011	-0.070	-0.025	-0.068	-0.18*	-0.077
	(0.060)	(0.089)	(0.068)	(0.11)	(0.091)	(0.097)
(10) *Additional control for incr. exports to China*						
Coefficient for Chinese import exposure	0.13*	0.20*	-0.010	-0.20*	-0.16*	-0.19*
	(0.049)	(0.086)	(0.054)	(0.097)	(0.061)	(0.085)
Coefficient for Chinese export exposure	0.025	-0.019	-0.0013	0.11	0.00066	0.056
	(0.057)	(0.10)	(0.057)	(0.11)	(0.059)	(0.14)
(11) Chinese imports in other adv. economies	0.39*	0.19*	-0.072	-0.10	-0.16*	-0.13+
(instrument, reduced form)	(0.15)	(0.073)	(0.18)	(0.082)	(0.067)	(0.074)
(12) Predicted value from instrument	0.12*	0.27*	-0.023	-0.15	-0.14*	-0.12+
(1st stage: bivariate OLS)	(0.049)	(0.11)	(0.059)	(0.12)	(0.059)	(0.066)
(13) Instrumental variables regression (2SLS)	0.11*	0.23*	-0.032	-0.11	-0.14*	-0.12+
	(0.048)	(0.094)	(0.058)	(0.10)	(0.058)	(0.073)

Note: Results for coefficients for main variables of interest in linear multilevel models (with random intercepts at NUTS 3 level and NUTS 3-year level) with NUTS 1-year fixed effects in entries (1) to (10) and (12). Coefficient in entry (11) is from a 2SLS regression estimated by Stata-ado 'ivreg2' with standard errors clustered at NUTS 3-year level. Standard errors in parentheses. Significance levels: + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Entries (5) and (6) in ***Table 5*** consider modifications to the China shock measures. Entry (5) uses a version of the China shock measure that uses employment shares from the initial year 1998 as weights for all years. The measure used in entry (6) considers the increase in imports or its growth rate, respectively, as compared to 1998 for all years (and not relative to *t-x*). While we believe that it is more adequate to use the versions described by equations (2) and (3), because they are closer to what happens in the regions in the period of interest, the effects on nationalist sentiment and support for EU membership are robust to using these modified measures. Only the negative effect of the growth rate measure on support for international co-operation is not statistically significant.

Next, we varied the source countries used for calculating the import shock. The measure employed in entry (7) in ***Table 5*** utilizes the sum of imports from China *and* five other emerging market economies (EMEs) (India, Malaysia, Turkey, Poland and the Czech Republic). The results are robust to using this measure—if anything, they are marginally stronger than when looking at Chinese imports only. The measure included in entry (8) considers imports from the five other EMEs only. The signs of the coefficients are all preserved, and for the growth rate measure all three coefficients are statistically significant. Interestingly, we now observe the most pronounced effect on support for international co-operation, which strengthens this particular result. These two sets of findings suggest that the effects observed in the main models are not specific to Chinese imports, but rather seem to reflect a general reaction to low-cost import competition. In contrast, we do not find consistent effects of a measure that considers all imports into the UK, whereas the effects of the China shock are largely robust to including this covariate (see entry (9)). The effects are also robust to including a measure that calculates equations (2) and (3) with respect to UK exports to China (see entry (10)). Theoretically, some regions might profit from increased exports to China, but such 'winner' effects seem of rather

limited relevance as compared to 'loser' effects from low-cost import competition, as confirmed by the absence of any statistically significant effects of the export measure.

In entries (11) to (13) of **Table *5*** we draw on an instrument that replaces Chinese imports to the UK in equations (2) and (3) with the sum of Chinese imports to other advanced economies (USA, France, Germany and Japan) following the strategy proposed by Autor, Dorn and Hanson (2013). Entry (11) directly plugs this measure into our multilevel regressions. Entry (12) instead draws on predicted values (from a simple bivariate regression) for the China shock from these instruments. Entry (13) reports results from a 2SLS instrumental variables regression with standard errors clustered at the level of NUTS 3 region-years. The coefficient for the effect of the growth rate measure on support for international co-operation remains largely similar in magnitude as compared to the baseline model, but is estimated with less precision and therefore no longer statistically significant. The effects on nationalist sentiment and support for EU membership are all statistically significant in these regressions.

Further robustness checks showing that our results are not driven by how we have combined items into summary scales used as dependent variables are reported in section D.3 of the supplementary appendix. There, we make use of the individual items for a set of ordered logit multilevel regressions. The individual coefficients are all in the expected direction and statistically significant for at least a subset of the constituent items. We also varied the items we condense into a measure of nationalist attitudes via factor analysis. We lump the two items on nationalist sentiment and the one on support for international co-operation together, and we add two further items included in the 'national identity' module of the BHPS in different

combinations. We obtain statistically significant positive effects on all four new factors for both measures of the China shock.[11]

To sum up, the overall claim that local exposure to (Chinese) import competition causes a nationalist backlash in political attitudes is robustly supported by these analyses. One might debate whether the findings on support for international co-operation alone are sufficiently robust, yet it is worth emphasizing that we find largely similar and robust effects across three different dependent variables that are all connected to the nationalist backlash thesis. We believe that the findings back up each other. It is also worth re-iterating that our results largely hold robustly for two versions of the import shock measure. Nonetheless, there are some indications of the growth rate measure showing more consistent effects: In contrast to the increase per worker measure, it results in evidence of a negative effect on support for international co-operation as well, and it shows much clearer effects when looking at imports from other EMEs. While we cannot be entirely sure about this, the stronger influence of the growth-rate based China shock may reflect this measure's ability to better capture instances in which import competition is perceived as a growing threat.

4.3 Effects of the China shock on economic policy attitudes

One additional potential consequence of exposure to import competition is an effect on demand for 'compensation'. This expectation builds on the logic behind the well-known compensation hypothesis: As globalization increases economic risks, it leads to demands for economic safeguarding in terms of government spending, which in turn results in a positive macro-level association between trade openness and the size of government (Cameron 1978; Rodrik 1998).

[11] In the supplementary appendix, we additionally report results from models with indicators of changes in local economic activity (section D.4) and from models with interactions between individual characteristics and the China shock (section D.5). The findings, first, suggest that the nationalist backlash is a specific reaction to import competition not merely a general consequence of local economic decline. Second, there is little evidence that direct 'losers' of globalization react more strongly—in line with the expectation of socio-tropic effects.

Studies on the underlying micro-level mechanisms reveal that those workers who are personally negatively exposed to international economic competition feel more economically insecure, demand stronger welfare state policies and are more likely to vote for left-wing parties who advocate such policies (Rommel and Walter 2017; Walter 2010; 2017). Similarly, local import shocks might be expected to cause rising demands for redistribution to the economically disadvantaged, for risk insurance through welfare state policies, and for generally more state intervention in the economy. In short, individuals living in regions exposed to import competition may move to the left on economic policy.

The BHPS incorporates a set of questions on individuals' attitudes towards economic policy, also as a 'rotating core', that allow us to test this expectation. We focused on a similar period as for the analysis of nationalist attitudes, analyzing data on economic policy orientations in 2004 and 2007, while controlling for their lagged values in 2000 and 2004, respectively. In supplementary appendix E, we present the results from a set of multilevel model estimations that follow equation (1). We experimented with different ways of combining the six different items. In none of the cases did we obtain an effect even close to conventional levels of statistical significance. We believe that this is an important non-result, which stands in contrast to the strong results we obtain for the nationalist backlash thesis. Taken together, these findings help to understand why previous studies have found that it is not left parties who profit from local exposure to import competition, but parties of the nationalist right.

5. Conclusion

This paper has addressed the question whether intensifying exposure to low-wage import competition at the regional level induces individuals to adopt an increasingly nationalist attitude. Answering this question is important for understanding the sources behind the anti-globalization backlash recently observed in Western democracies. While previous studies have provided evidence that exposure to import competition contributes to the success of nationalist parties, our study of the consequences of import shocks has studied political attitudes directly and should help us better understand why we observe these effects on voting behavior. To present clean evidence on this matter, we combined data on regional exposure to the surge in imports from China with panel data from the BHPS, focusing on changes over time for identification.

Our results are broadly supportive of the nationalist backlash thesis. To begin with, our findings corroborate the findings of Colantone and Stanig (2018b) on the Brexit referendum in that we find regional exposure to Chinese imports to be associated with growing opposition to EU membership. Importantly, we have provided evidence that this effect is not limited to attitudes towards the EU, but extends to people's views on the general trade-off between international co-operation and national independence as well as an increase in nationalist sentiment. These results are consistent and back each other up.

Our results are somewhat stronger when focusing on sectoral growth rates of Chinese imports rather than changes per worker, in particular regarding the effect on support for international co-operation. Yet, the effects on the other two outcomes are similar, no matter which of the two shock measures we use. More generally, our results are stable across a range of demanding robustness checks. Taken together, the presented findings strongly support the nationalist backlash thesis. We thus conclude that the China shock has caused individuals' attitudes to shift into a nationalist direction—at least in the country and period we have studied. In stark contrast,

we obtained no evidence for a leftward shift in economic policy positions. This pattern of results helps us better understand why it is mostly not left parties who profit from attracting globalization losers, but parties of the nationalist right.

Our findings are thus in line with the central tenet of the theory of embedded liberalism that compensating globalization's losers might be necessary to sustain public support for an open world order based on multinational co-operation. At the same time, we do not necessarily observe that losers from international trade demand such compensation. They seem to rather turn against globalization itself.

One obvious limitation is that our results are from a single country. It is unclear how generalizable they are. There are reasons to expect relatively pronounced effects of import competition in the British case: First, the British welfare state provides only limited compensation to globalization losers. As suggested by the theory of embedded liberalism (Ruggie 1982) and the compensation hypothesis (Cameron 1978; Rodrik 1998), in more generous welfare states effects of import competition might be muted as the welfare state dampens the economic distress caused by trade shocks. Second, the UK is a country with exceptionally diverse economic developments across regions. Future research may investigate how the nationalist backlash in political attitudes is sensitive to such context conditions.

References

Acemoglu D et al. (2016) Import competition and the great US employment sag of the 2000s. *Journal of Labor Economics* **34**(S1), S141-S198.

Adler D and Ansell B (2020) Housing and Populism. *West European Politics* **43**(2), 344-365.

Autor, DH, Dorn D and Hanson GH (2013) The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review* **103**(6), 2121–68.

Autor, DH, Dorn D and Hanson GH (2016) The China shock: Learning from labor-market adjustment to large changes in trade. *Annual Review of Economics* **8**, 205-240.

Autor, DH et al. (forthcoming) Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure. *American Economic Review*.

Ballard-Rosa C et al. (2019) The Economic Origins of Authoritarian Values: Evidence from Local Trade Shocks in the United Kingdom. Working Paper. https://sites.google.com/site/cameronballardrosa/research.

Ballard-Rosa, C, Jensen A, and Scheve K (2020) Economic decline, social identity, and authoritarian values in the United States. Working Paper. https://sites.google.com/site/cameronballardrosa/research.

Broz, JL, Frieden F and Weymouth S (2019) Populism in place: The economic geography of the globalization backlash. Working Paper. https://scholar.harvard.edu/files/jfrieden/files/populism_in_place_v2.0.pdf.

Cameron, DR (1978) The Expansion of the Public Economy: A Comparative Analysis. *American Political Science Review* **72**(4), 1243–61.

Carreras, M, Irepoglu Carreras Y and Bowler S (2019) Long-term economic distress, cultural backlash, and support for Brexit. *Comparative Political Studies* **52**(9), 1396-1424.

Che, Y et al. (2016) Does Trade Liberalization with China Influence U.S. Elections? NBER Working Paper 22178. http://www.nber.org/papers/w22178.

Colantone, I and Stanig P (2018a) The Trade Origins of Nationalist Protectionism: Import Competition and Voting Behavior in Western Europe. *American Journal of Political Science* **62**(4), 936-953.

Colantone, I and Stanig P (2018b) Global Competition and Brexit. *American Political Science Review* **112**(2), 201-218.

Colantone, I and Stanig P (2018c) The Economic Determinants of the 'Cultural Backlash': Globalization and Attitudes in Western Europe. BAFFI CAREFIN Centre Research Paper No. 2018-91. http://dx.doi.org/10.2139/ssrn.3267139.

Colantone, I and Stanig P (2019) The Surge of Economic Nationalism in Western Europe. *Journal of Economic Perspectives* **33**(4), 128-51.

Davidov, E (2009) Measurement equivalence of nationalism and constructive patriotism in the ISSP: 34 countries in a comparative perspective. *Political Analysis* **17**(1), 64-82.

De Vries, CE (2018) The cosmopolitan-parochial divide: Changing patterns of party and electoral competition in the Netherlands and beyond. *Journal of European Public Policy* **25**(11), 1541-1565.

Dippel, C, Gold R and Heblich S (2015) Globalization and Its (Dis)-Content: Trade Shocks and Voting Behavior. NBER Working Paper 21812. http://www.nber.org/papers/w218122.

Gelman, A and Hill J (2006) Data analysis using regression and multilevel/hierarchical models. Cambridge: Cambridge University Press.

Gidron, N and Hall PA (2020) Populism as a Problem of Social Integration. *Comparative Political Studies* **53**(7), 1027-1059.

Guiso, L et al. (2018) Populism: Demand and Supply. Working Paper. http://www.tommasosonno.com/docs/Populism_GuisoHerreraMorelliSonno.pdf.

Hays, JC, Ehrlich SD and Peinhardt C (2005) Government spending and public support for trade in the OECD: An empirical test of the embedded liberalism thesis. *International Organization* **59**(2), 473-494.
Hays, J, Lim J and Spoon J (2019) The path from trade to right-wing populism in Europe. *Electoral Studies* **60**, 1-14.
Heath, A et al. (1999): British national sentiment. *British Journal of Political Science* **29**(1), 155-175.
Hellwig, T (2014) The Structure of Issue Voting in Postindustrial Democracies. *Sociological Quarterly* **55**(4), 596–624.
Herrmann, RK (2017) How Attachments to the Nation Shape Beliefs About the World: A Theory of Motivated Reasoning. *International Organization* **71**(S1), S61-S84.
Hillen, S and Steiner ND (2020) The consequences of supply gaps in two-dimensional policy spaces for voter turnout and political support: The case of economically left-wing and culturally right-wing citizens in Western Europe. *European Journal of Political Research* **59**(2), 331-353.
Hobolt, SB (2016) The Brexit Vote: A Divided Nation, a Divided Continent, *Journal of European Public Policy* **23**(9), 1259-1277.
Inglehart, R and Norris P (2019) *Cultural backlash: Trump, Brexit, and authoritarian populism*. Cambridge: Cambridge University Press.
Kitschelt, H and Rehm P (2014) Occupations as a site of political preference formation. *Comparative Political Studies* **47**(12), 1670-1706.
Kriesi, H et al. (2008) *West European Politics in the Age of Globalization*. Cambridge: Cambridge University Press.
Malgouyres, C (2017) Trade shocks and far-right voting: Evidence from French presidential elections. Robert Schuman Centre for Advanced Studies Research Paper No. RSCAS 2017/21. https://dx.doi.org/10.2139/ssrn.2942173.
Mader, M, Steiner ND and Schoen H (forthcoming) The globalisation divide in the public mind: Belief systems on globalisation and their electoral consequences. *Journal of European Public Policy*, https://doi.org/10.1080/13501763.2019.1674906.
Margalit, Y (2012) Lost in Globalization: International Economic Integration and the Sources of Popular Discontent. *International Studies Quarterly* **56**(3), 484–500.
Mayda, AM and Rodrik D (2005) Why are some people (and countries) more protectionist than others? *European Economic Review* **49**(6), 1393-1430.
Mudde, C (2007) Populist radical right parties in Europe. Cambridge: Cambridge University Press.
Mutz, DC (2018) Status threat, not economic hardship, explains the 2016 presidential vote. *Proceedings of the National Academy of Sciences* **115**(19), E4330-E4339.
O'Rourke, KH and Sinnott R (2001) The determinants of individual trade policy preferences: International survey evidence. *Brookings Trade Forum* 2001, 157–196.
Rho, S and Tomz M (2017) Why Don't Trade Preferences Reflect Economic Self-Interest? *International Organization* **71**(S1), S85–S108.
Rodrik, D (1998) Why Do More Open Economies Have Bigger Governments? *Journal of Political Economy* **106**(5), 997–1032.
Rodrik, D (2018) Populism and the Economics of Globalization. *Journal of International Business Policy* **1**(1-2), 12-33.
Rommel, T and Walter S (2017) The Electoral Consequences of Offshoring. How the Globalization of Production Shapes Party Preferences in Multi-Party Systems. *Comparative Political Studies* **51**(5), 621–658.
Ruggie, JG (1982) International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order. *International Organization* **36**(2), 379-415.

Schatz, RT, Staub E and Lavine H (1999) On the Varieties of National Attachment: Blind versus Constructive Patriotism. *Political Psychology* **20**(1), 151-174.

Scheve, KF and Slaughter MJ (2001) What determines individual trade-policy preferences? *Journal of International Economics* **54**(2), 267–292.

Shayo, M (2009) A Model of Social Identity with an Application to Political Economy: Nation, Class, and Redistribution. *American Political Science Review* **103**(2), 147-174.

Tajfel, H and Turner J (1986) The Social Identity Theory of Intergroup Behavior. In Worchel S and Austin W (eds), *Psychology of Intergroup Relations.* Chicago: Nelson Hall, pp. 7–24.

University of Essex. Institute for Social and Economic Research (2010) British Household Panel Survey: Waves 1-18, 1991-2009. [data collection]. 7th Edition. UK Data Service. SN: 5151, http://doi.org/10.5255/UKDA-SN-5151-1.

University of Essex. Institute for Social and Economic Research. (2014) British Household Panel Survey, Waves 1-18, 1991-2009: Conditional Access, Local Authority Districts. [data collection]. 4th Edition. UK Data Service. SN: 6027, http://doi.org/10.5255/UKDA-SN-6027-2.

Walter, S (2010) Globalization and the Welfare State: Testing the Microfoundations of the Compensation Hypothesis. *International Studies Quarterly* **54**(2), 403–26.

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), 55-80.

Whittaker, J, Whitehead C and Somers M (2005) The Neglog Transformation and Quantile Regression for the Analysis of a Large Credit Scoring Database. *Journal of the Royal Statistical Society: Series C (Applied Statistics)* **54**(5), 863-878.

Supplementary appendix to

"Local Trade Shocks and the Nationalist Backlash in Political Attitudes: Panel Data Evidence from Great Britain"

Appendix A: Supplementary information on the data set

A.1 Compiling the data set

Data on **regional employment shares** are from NOMIS (NOMIS Annual Business Inquiry employee analysis, available from https://www.nomisweb.co.uk/, accessed: August 2019), the database on UK labor market statistics of the Office for National Statistics (ONS). NOMIS provides data of the total number of workers (full-time & part-time) per industry (according to SIC 2003) for NUTS 3 regions in the 2003 revision for the years 1998 to 2008. We converted this information to the 2006 NUTS 3 revision. Note that it is not possible to cleanly convert the regional employment data to more recent NUTS revisions given that some of the NUTS 3 regions were split after the 2006 revision. It is thus best to keep the NUTS 3 regional data in the structure of the 2006 revision (and this is feasible, because we are able to assign individual-years from the BHPS to 2006 NUTS 3 regions—see below).

We obtained data on **imports from China by industry**—and other bilateral trade used for robustness checks—from the OECD STAN database (STAN Bilateral Trade in Goods by Industry and End-use (BTDIxE), ISIC Rev. 3, available from http://www.oecd.org/sti/ind/stanstructuralanalysisdatabase.htm, accessed: August 2019). This source contains imports by industry according to ISIC revision 3. We transformed this information to SIC 2003 (which conforms to ISIC revision 3.1), distinguishing between 21 industries in the primary and secondary sectors. We list these sectoral classifications in section A.2 and show increases as well as growth rates of Chinese imports by sector over time (both calculated over the last three years) in section B.1.

Based on these data and using correspondingly harmonized industry classifications for the regional employment shares, we computed the **"China shock"** according to equations (2) and (3). Note, that in doing so we excluded information for "E-Q other activities". For the measure based on increases per worker (equation 2), it makes almost no difference whether we include

or exclude "E-Q other activities". Given the high value of the denominator, i.e. the number of workers in "E-Q other activities", imports per worker are negligible. Yet, growth rates for "E-Q other activities" are non-negligible. Given the exceptionally high corresponding regional employment shares, they would otherwise dominate our growth rate measure (equation 3) and introduce a lot of noise.

To **assign individual-year observations in the BHPS to 2006 NUTS 3 regions**, we rely on a (special license) dataset from the BHPS on the local authority districts (LADs) that households are situated in in a given year (University of Essex 2014).[12] With rare exceptions, it is unequivocal to assign LADs to 2006 NUTS 3 regions, as the NUTS 3 regions represent a higher level of aggregation and do not cut through LADs.[13]

For reasons of consistency, we also use the 2006 NUTS revision for distinguishing NUTS 2 regions when including **NUTS 2 region-year fixed effects**. (NUTS 1 regions are identical in the 2006 revision and in more recent ones.) Excluding Northern Ireland, there are 11 NUTS 1 regions and 34 NUTS 2 regions. The number of NUTS 3 regions per NUTS 1 region varies between 5 (London) and 20 (Scotland). The number of NUTS 3 regions per NUTS 2 region varies between 1 and 8. In the three cases were this number is one, the NUTS 3 regions do not contribute to our estimate of interest with NUTS 2-year fixed effects included, as they are fully accounted for by these fixed effects. The rather low numbers of NUTS 3 regions per NUTS 2 region underscore that including NUTS 2 region-year fixed effects amounts to a strong test.

[12] This assignment of household addresses to LADs is based on the November 2013 version of the ONS Postcode Directory.

[13] Specifically, we used a lookup file from the ONS to assign LADs (as at 31 December 2013) to 2015 NUTS 3 regions (available from https://geoportal.statistics.gov.uk/datasets/local-authority-district-december-2013-to-nuts3-to-nuts2-to-nuts1-january-2015-lookup-in-the-uk). Using correspondence tables from Eurostat (available from https://ec.europa.eu/eurostat/web/nuts/history), we then moved backward to convert 2015 NUTS 3 regions to 2010 NUTS 3 regions and then 2010 NUTS 3 regions to 2006 NUTS 3 regions. We lost only few observations along the way. Specifically, three LADs in the (North-)West of Scotland—"Highlands", "North Ayrshire" and "Argyll and Bute"—that cut through NUTS 3 boundaries could not be assigned to a 2015-NUTS 3 region in the first place.

We obtained estimates for **shares of the population born outside the UK in England and Wales** based on the Annual Population Survey (available from https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/populationoftheunitedkingdombycountryofbirthandnationality, accessed: December 2019). Recall that our dataset measures the China shock at the level of NUTS 3 regions according to the 2006 revision, which results from the structure of the available data on employment shares (see above). This makes it difficult to obtain and enter controls at the exact same regional level as the employment shares. Given that we have information on residency in LADs it is, however, straightforward, to merge data at this regional level. These data start in 2000 only, which means that the change in percentage points in 2002 only refers to changes from 2000 (not 1999) to 2002. This data source does not provide data for Scottish LADs. For Scotland, we took estimates from the Scottish Census (available from: https://www.scotlandscensus.gov.uk/census-results, accessed: January 2020) available for 1991, 2001 and 2011 and linearly interpolated values in between. We observe 405 LADs in our merged dataset.

As stated in the article, we limited **control variables at the individual level** to ones that are plausibly pre-treatment, and include gender, age (and age squared), education and immigration background. Education reflects as categories the highest formal qualification obtained, distinguishing between no qualification (used as baseline category), other qualification, GCSE or equivalent, A-level or equivalent, other higher degree, and university degree. We include three dummy variables on immigration background that measure (a) whether an individual was born outside of the UK and whether (b) one parent or (c) both parents were born outside of the UK.

A.2 Industry classification (SIC 2003) used for computing the China shock

Figure A.2.1: Industry classification (SIC 2003) used for computing the China shock

CODE	INDUSTRY
A	AGRICULTURE, HUNTING AND FORESTRY
B	FISHING
C	MINING AND QUARRYING
15+ 16	Manufacture of food products and beverages; manufacture of tobacco products
17+ 18+ 19	Manufacture of textiles, wearing apparel; dressing and dyeing of fur, tanning and dressing of leather; manufacture of handbags, saddlery, harness and footwear
20	Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw & plaiting materials
21+ 22	Manufacture of pulp, paper & paper products, publishing, printing & reproduction of recorded media
23	Manufacture of coke, refined petroleum products & nuclear fuel
24	Manufacture of basic chemicals, manufacture of pesticides and other agro-chemical products; manufacture of paint, varnish & similar coatings, printing inks & mastics; manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet
25	Manufacture of rubber and plastic products
26	Manufacture of other non-metallic mineral products
27	Manufacture of basic metals
28	Manufacture of fabricated metal products, except machinery & equipment
29	Manufacture of machinery and equipment not elsewhere classified
30	Manufacture of office machinery and computers
31	Manufacture of electrical machinery & apparatus not elsewhere classified
32	Manufacture of radio, television, communication equipment & apparatus
33	Manufacture of medical, precision and optical instruments, watches and clocks
34	Manufacture of motor vehicles, trailers and semi-trailers
35	Manufacture of other transport equipment
36	Manufacture of furniture; manufacturing not elsewhere classified

A.3 Accounting for "labor market relevance" when computing the China shock

As explained in the main text, the "growth rate" measure of the "China shock" we use is given by

$$(A.1) \quad CS_{r,t,growth\ rate} = \sum_{j=1}^{J} \omega_{jr,t-x} \left(\frac{IM_{j,t} - IM_{j,t-x}}{IM_{j,t-x}} \right) * 100,$$

with *r* indicating regions, *j* industries, and *t* standing for a given year. $IM_{j,t}$ is the real (i.e. nominal value deflated by the Consumer Price Index, with 1995 used as base year) value in UK imports in Pound Sterling from China in industry *j*. The weights $\omega_{jr,t-x}$ denote the employment shares for an industry in a region in the base year *t-x*. More specifically, they are defined as $\omega_{jr,t-x} = \frac{L_{jr,t-x}}{L_{r,t-x}}$, i.e. as a ratio that divides the number of workers in region *r* and industry *j* at time *t-x* by the total number of workers in region *r* in that period. Conversely, the measure used by Autor et al. (2013) as well as Colantone and Stanig (2018a, 2018b) is defined as

$$(A.2) \quad CS_{r,t,increase\ per\ worker} = \sum_{j=1}^{J} \omega_{jr,t-x} \left(\frac{IM_{j,t} - IM_{j,t-x}}{L_{j,t-x}} \right) * 100,$$

where the change in imports is divided by the country-wide number of workers in industry *j* at *t-x*, $L_{j,t-x}$. We can link the two expressions by writing

$$(A.3) \quad CS_{r,t,growth\ rate} = \sum_{j=1}^{J} \omega_{jr,t-x} \, \boldsymbol{\varphi_{j,t-x}} \left(\frac{IM_{j,t} - IM_{j,t-x}}{L_{j,t-x}} \right) * 100,$$

with $\varphi_{j,t-x} \equiv \frac{L_{j,t-x}}{IM_{j,t-x}}$ reflecting the "*initial labor market relevance*" of industry *j* imports—i.e. the employment in industry *j* at time *t-x* relative to the value of imports in that industry at time *t-x*. We argue that augmenting the standard China shock variable by these weights is important, since this transformation gives a larger weight to those import-competing industries that employed a larger number of people in the initial time period. Compare imports of jewelry and imports of textiles: while $\left(IM_{jewelry,t} - IM_{jewelry,t-x}\right)/L_{jewelry,t-x}$ may be high, its "labor market relevance"—i.e. the number of people employed relative to the monetary value of

imports—is likely to be low. Conversely, $\left(IM_{textiles,t} - IM_{textiles,t-x}\right)/L_{textiles,t-x}$ is likely to be low, due to large-scale initial employment in the textiles industry. This, however, makes it necessary to account for the "labor market relevance" of imports by pre-multiplying this expression with $\varphi_{textiles,t-x}$. Note, also, that it is the industries with high initial employment and low initial imports—i.e. large values of $\varphi_{j,t-x}$—that are most likely to trigger the massive structural change that changes individuals' political attitudes.

Given these arguments, we decided to augment the (standard) *increases per worker*-based measure of the China shock by a *growth-rates*-based measure.

Appendix B: Descriptive results

B.1 Change in Chinese imports across sectors

Figure B.1.1: Increase in imports per worker (in real British Pounds) over last three years (common y-scale)

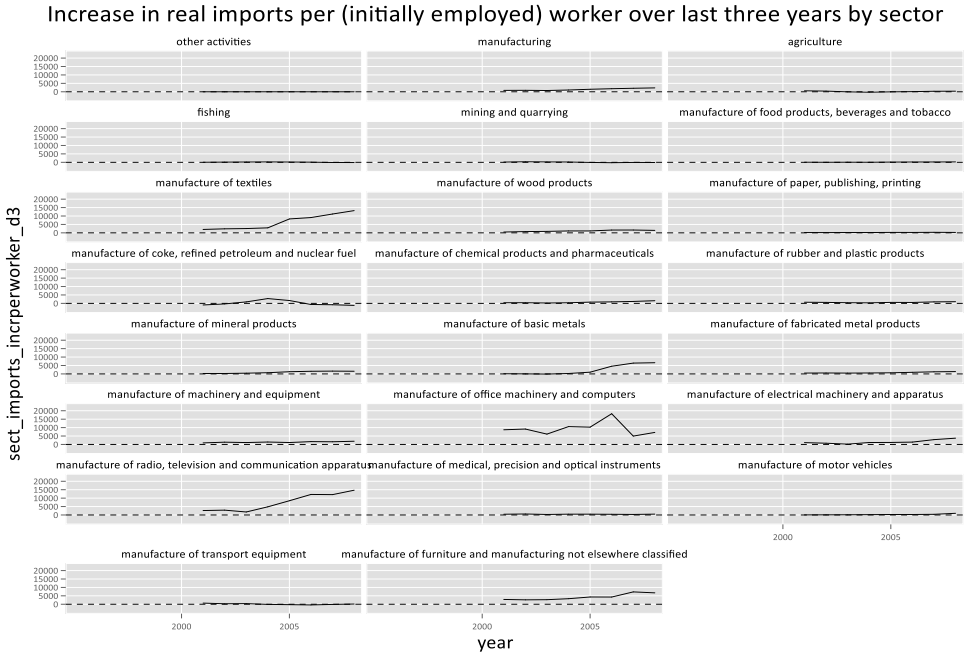


Figure B.1.2: Increase in imports per worker (in real British Pounds) over last three years (separate y-scales)

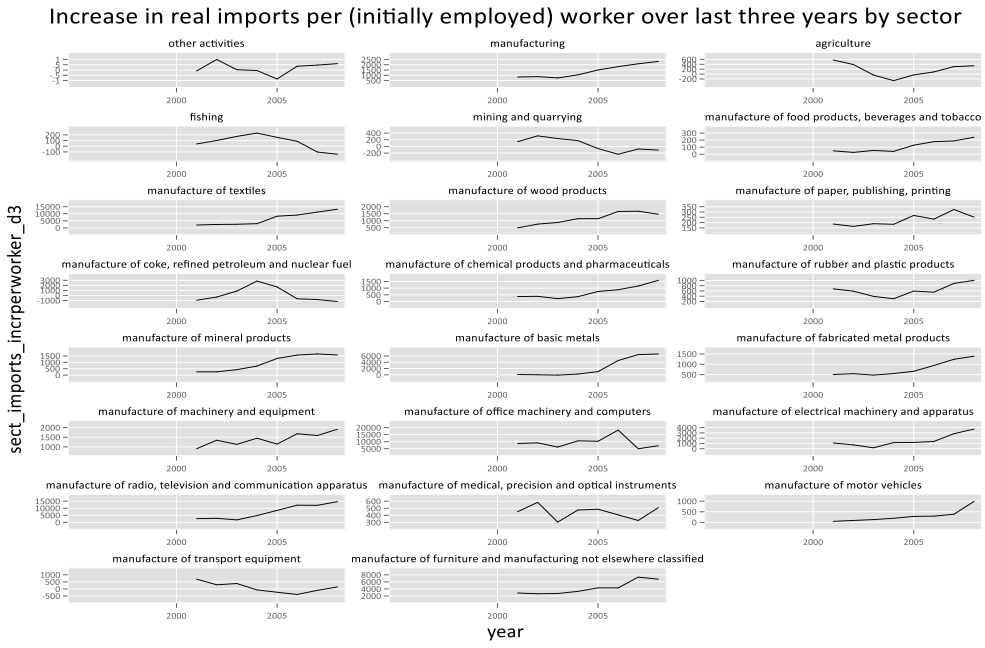


Figure B.1.3: Growth rates in Chinese real imports (in percent) over last three years (common y-scale)

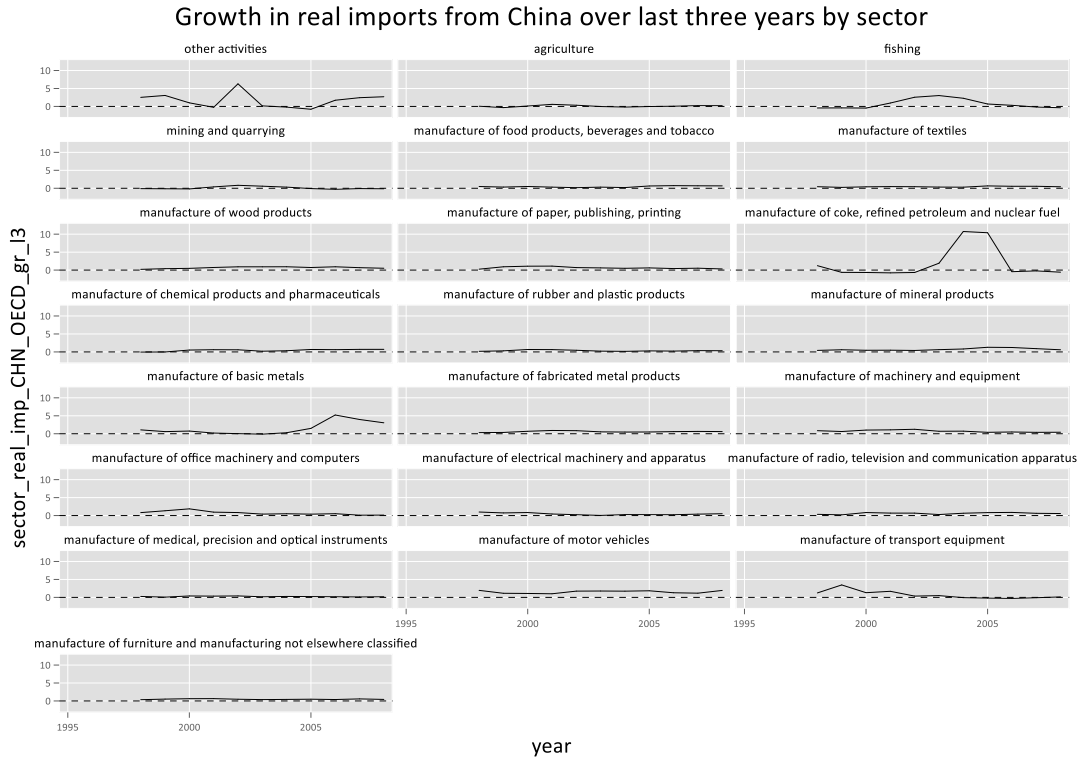
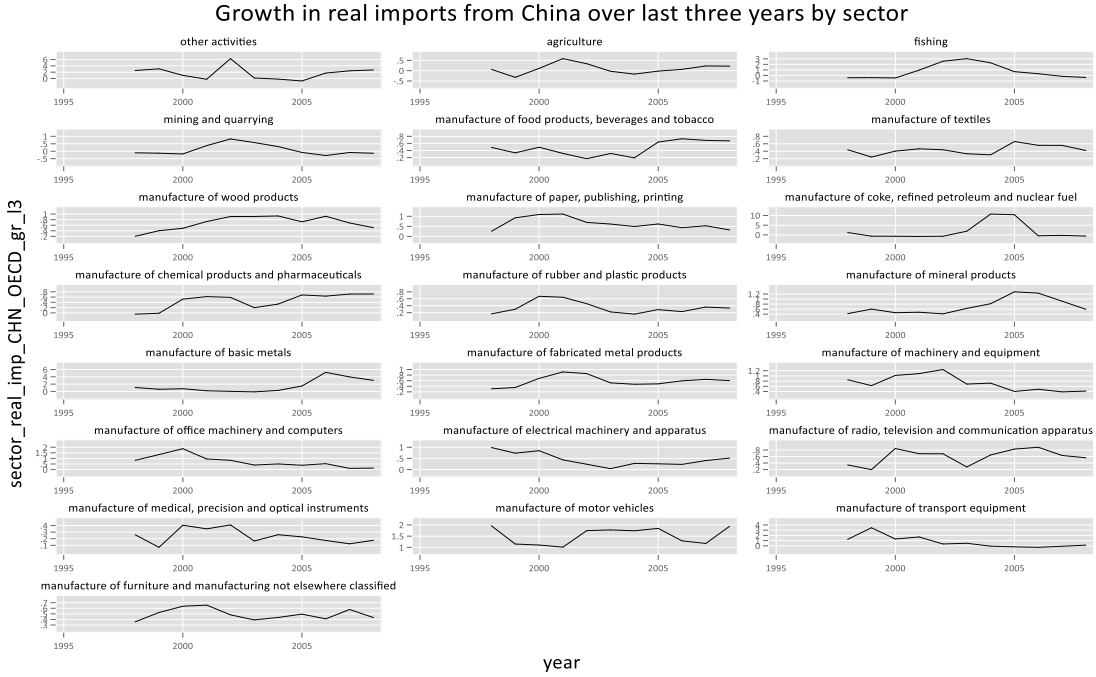


Figure B.1.4: Growth rates in Chinese real imports (in percent) over last three years (separate y-scales)

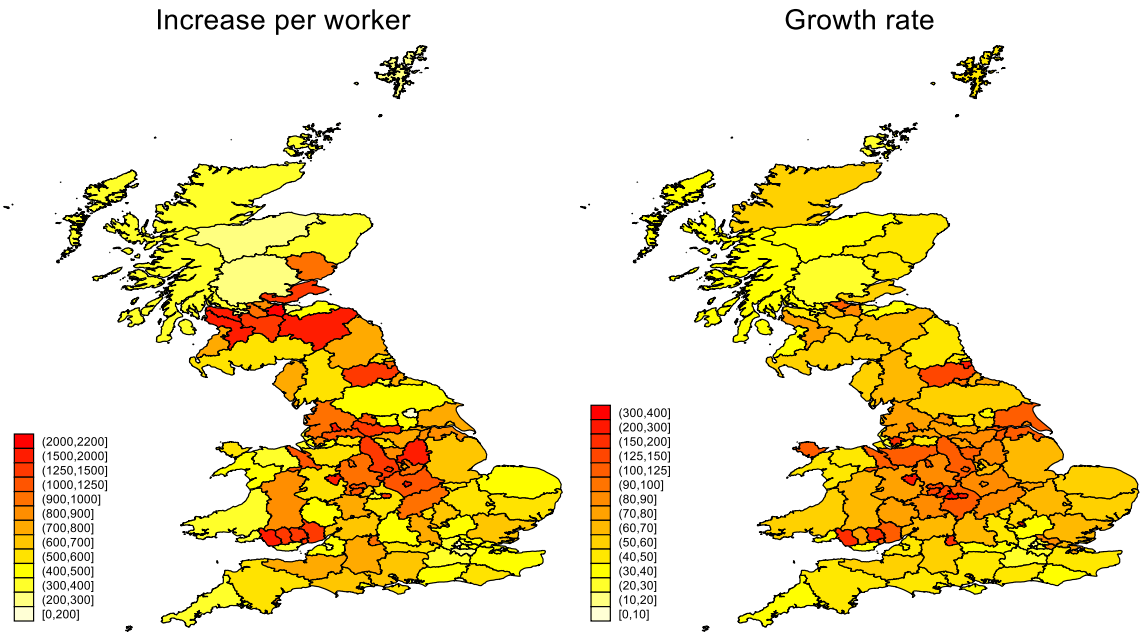


B.2 Descriptive evidence on regional China shocks

To illustrate the geographical pattern of regional differences in exposure to growing imports from China, ***Figure B.2.1*** shows a map of the China shocks. For this purpose, we focus on a long-run measure that calculates equations (2) and (3) with t=2008 and t-x=1999. These are the end and starting points, respectively, for the observations of nationalist sentiment and support for international cooperation in the BHPS. While the left-hand side panel of ***Figure A.5*** is based on the *increase per worker*-measure of the China shock, the figure on the right-hand side is based on the *growth rate* measure. Both maps reveal roughly similar patterns. For example, we observe large shocks in regions in the Midlands and low values for London regions.[14] There are, at the same time, noticeable differences between the two measures, with, e.g., the increase per worker measure recording high values for regions in Central Scotland, and the growth rate measure less so. It is also important to recognize the substantial variation across NUTS 3 regions even within broader regions apparent for both measures. Such variation may allow us to obtain efficient estimates of the impact of the China shock from models including NUTS 1 and even NUTS 2 region-year fixed effects.

[14] Both measures indicate the smallest shocks for "Inner London – West" (increase per worker: 10.8; growth rate: 111.3). The largest shocks are observed for "West Lothian", located in Central Scotland between Glasgow and Edinburgh, in case of the increase per worker (2151.4), and for "Solihull" in the West Midlands in case of the growth rate (303.7).

Figure B.2.1: Chinese import shocks for NUTS 3 regions in 2008 with 1999 as base year

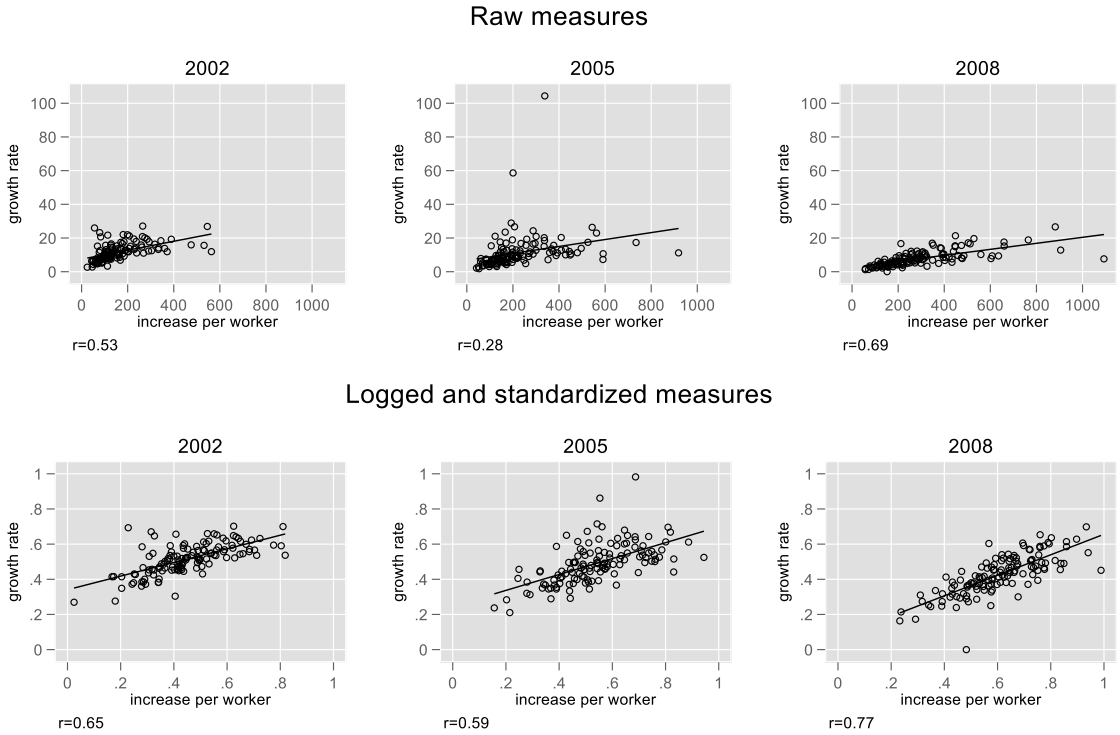


In ***Figure B.2.2***, we show scatterplots that compare both measures of the import shocks, this time looking at the data we actually use for the panel data analysis of nationalist sentiment and support for international cooperation: We present data for 2002 with 1999 as base year, for 2005 with 2002 as base year, and for 2008 with 2005 as base year. The upper panel, plotting the raw data, shows that both measures are correlated. Yet, we observe skewed distributions for both variables and heavy outliers that drive the correlation downwards. This is especially apparent for 2005.

As mentioned in the main text, we logged the original values of the China shock. Specifically, we used $CS_{r,t,m}^{log} = \ln(CS_{r,t,m} + 1)$, with *m* representing either *increase per worker* or *growth rate*. We then normalized $CS_{r,t,m}^{log}$ to range from zero to one in the observed data, in order to allow for an easier interpretation and comparison of effect sizes. The lower panel in ***Figure B.2.2*** displays these transformed measures. The association between the two measures is now notably higher, ranging from 0.59 for 2005 and 0.77 for 2008. These correlations are high

enough such as to not result in dramatically different pictures of which NUTS 3 regions are heavily exposed to growing Chinese imports. Still, it could well make a difference for (some of) the regression results how exactly the import shock is measured—and it is sensible to test that.

Figure B.2.2: Chinese import shocks in NUTS 3 regions, increase per worker vs. growth rate

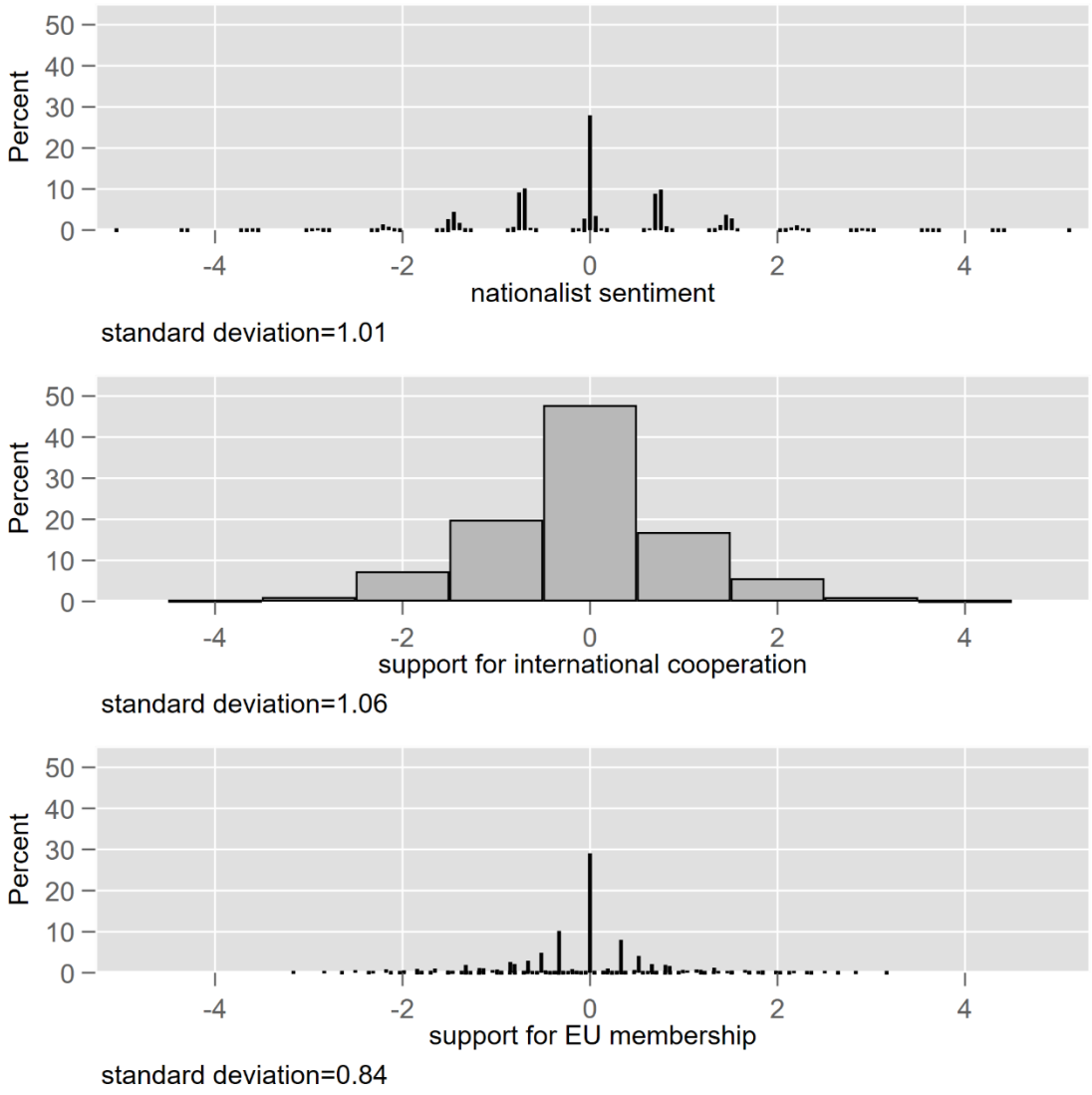


Note: Linear fit lines added to scatterplots. Pearson correlation coefficient (*r*) listed below plots.

B.3 Change in nationalist attitudes over time

As our analysis aims to identify the effect of the China shock from within-individual variation in nationalist attitudes over time, it is instrumental to check how much attitudinal change is observed in the data. We thus computed the difference in our three dependent variables for all two subsequent observations. ***Figure B.3.1*** plots the distributions of these first differences. The figure reveals much stability in the political attitudes of interest. Yet, we do observe a reasonable amount of change that we leverage in our analysis.

Figure B.3.1: Histograms with change in nationalist attitudes over time



Appendix C: The effect of the China shock on wages

In this section, we report the results of regressing individual income on regional exposure to Chinese import competition. We are interested in the income effects for substantive reasons, yet also use this exercise as a check on the validity of our identification strategy and model specification. We thus adopt equation (1) and the same time structure as for our models on nationalist sentiment and support for international cooperation, i.e. we predict income in 2002, 2005 and 2008, using lagged income from 1999, 2002 and 2005 as well as the China shock computed with x =3. Individual income is measured via a variable that records "usual net pay per month in current job" in British Pounds. The results are displayed in ***Table C.1*** below.

For the increase per worker measure, we obtain substantially and statistically significant negative coefficients across all model specifications. The effect is weaker once we include NUTS 1 region-year fixed effects, but it is still statistically significant with $p<0.10$. Importantly, the effect remains similar in magnitude when we exclude individuals employed in the primary and secondary sectors. This suggests that those employed in the tertiary sector, who are largely shielded from the direct effects of import competition, are still indirectly affected via general equilibrium effects on local economic activity.

Because shocks to regional economic activity may affect which goods are imported to the UK, regressing income on the import shocks raises an endogeneity concern. We thus adopted the instrumental variable strategy proposed by Autor et al. (2013). Specifically, we replaced Chinese imports to the UK in equation (2) with the sum of Chinese imports to other advanced economies—namely the USA, France, Germany and Japan—to construct an instrument for $CS_{r,t,increase\ per\ worker}$. The two-stage-least-square (2SLS) regressions (with standard errors clustered at the level of NUTS 3 region-years) result in similar, marginally stronger effects of the China shock on individuals' net wages.

Table C.1: Regressing monthly net pay on Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Nationalist sentiment$_{t-3}$	0.81***	0.81***	0.80***	0.82***	0.81***	0.80***	0.81***	0.81***	0.80***	0.82***	0.81***	0.80***
	(0.0066)	(0.0067)	(0.0074)	(0.060)	(0.061)	(0.069)	(0.0066)	(0.0067)	(0.0074)	(0.060)	(0.061)	(0.069)
Chinese import shock	-128.5***	-49.3+	-56.0+	-127.7***	-62.3*	-73.0*	-164.2***	-24.2	-68.9	-357.1***	-85.4	-136.5*
	(30.3)	(29.1)	(32.6)	(34.0)	(29.1)	(33.6)	(43.9)	(46.1)	(52.1)	(81.6)	(54.6)	(62.9)
Demographic controls	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Fixed effects												
Year	☑			☑			☑			☑		
NUTS 1-year		☑	☑		☑	☑		☑	☑		☑	☑
Model type												
Linear multilevel model	☑	☑	☑				☑	☑	☑			
2SLS with SEs clustered for NUTS 3-years				☑	☑	☑				☑	☑	☑
Excluding primary and secondary sector			☑			☑			☑			☑
Observations												
NUTS 3-year	364	364	362	364	364	362	364	364	362	364	364	362
Individual-year	12378	12378	10190	12378	12378	10190	12378	12378	10190	12378	12378	10190
BIC	184969.8	185169.6	153100.0	185028.4	185151.3	153082.0	184973.6	185172.2	153101.2	185000.2	185155.8	153084.7

Note: Results from linear multilevel models and two-stage least square regressions. Linear multilevel models contain random intercepts at the level of NUTS 3 region-years. Instrument in two-stage least square regressions is constructed from Chinese imports to other advanced economies (USA, France, Germany and Japan) and then transformed via the "neglog" transformation (Whittaker et al. 2005) and normalized to range from zero to one in the observed data. Instrumental variable regressions are estimated with standard errors robust to clustering of errors at NUTS 3-years. Demographic controls are gender, age, age squared, education, migration background (own and parents). Very high incomes above £ 7500 excluded from the estimation. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The findings are a bit more mixed when we use the growth rate measure instead. The coefficients are always negative, as expected, and indicate economically meaningful effects. Yet, the estimates are too imprecise in some of the model specifications that include NUTS 1 region-year fixed effects to achieve statistical significance. Again, the results are stronger when using the instrument. Importantly, we do obtain a substantially and statistically significant negative effect from the 2SLS regressions when excluding individuals employed in the primary and secondary sectors.

Overall, these results support the notion that Chinese import competition affected regional variation in wage development and did so even for service workers who were only indirectly affected by the impact of the China shock on the local economy. Previous studies have established such negative effects of import competition on local wages using aggregate data at the regional level (Autor et al. 2003). The fact that we are able to replicate such effects in an analysis of individual-level panel data confirms our confidence in the general viability of our identification strategy and specification. The findings are a bit more consistent for the increase per worker measure than for the growth rate measure (though the estimated effects are not necessarily larger). This may indicate that the former is better suited to capture economic effects of exposure to import competition. It does not necessarily imply, however, that the same is true for the attitudinal response to the China shock.

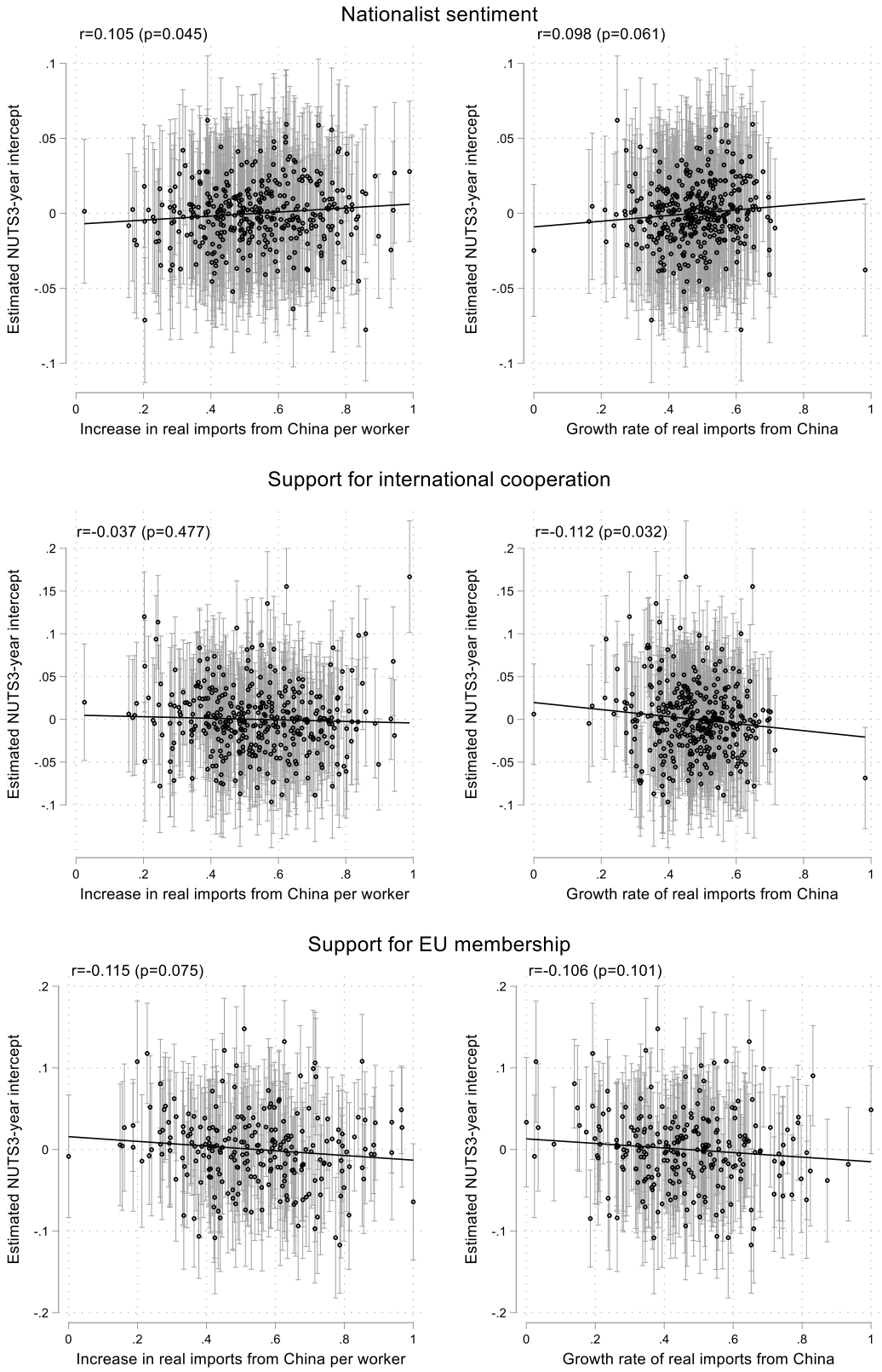
Appendix D: Additional results for nationalist backlash regressions

D.1 Estimated random intercepts vs. China shock

In this section, we show scatterplots that visualize the association between estimated changes in attitudes for NUTS 3 regions-years and the China shock. These scatterplots in Figure D.1.1 also illustrate how the multilevel model works. To construct this figure, we estimated a slightly simplified version of equation (1): We estimated multilevel models with observations nested in NUTS 3 region-years, controlling for the lagged dependent variable, demographic variables and year fixed effects, but not the China shock. We then saved the estimated random intercepts from these regressions. These "region effects" can be interpreted as estimates of how living in the different NUTS 3 region-years affects (changes in) individual attitudes. Figure D.1.1 plots these random intercepts against the two versions of the China shock.

The substantial standard errors around the point estimates for the random intercepts underscore the uncertainty inherent in drawing inferences on regional-level effects from individual-level survey data. Nonetheless, the scatterplots still largely support the nationalist backlash thesis. Higher China shocks tend to be associated with positive region effects on nationalist sentiment and negative region effects on support for international cooperation and EU membership, as expected. Apart from the increase per worker measure and support for international cooperation, all correlations at least border on conventional levels of statistical significance. While this two-step procedure shows how the expected patterns emerge from the data, it is statistically more efficient to directly include the China shock in the multilevel models.

Figure D.1.1: Estimated random intercepts for NUTS 3-years vs. import shocks



Note: Shown are estimated random intercepts (with error bars +/- one standard error) from multilevel models with observations nested in NUT3-years, controlling for the lagged dependent variable, demographic variables (gender, age, age², education, migration background) and year fixed effects. Pearson correlation (r) between estimated random intercepts and exposure to increasing Chinese imports displayed on top of each graph.

D.2 Extended version of tables for main models presented in the article

Table D.2.1: Regressing nationalist sentiment on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Nationalist sentiment$_{t-3}$	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***
	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)	(0.0058)
Chinese import shock	0.092*	0.12**	0.12**	0.17*	0.17*	0.17*	0.12*	0.20**	0.19*	0.22*	0.23*	0.26+
	(0.042)	(0.044)	(0.043)	(0.074)	(0.079)	(0.076)	(0.062)	(0.069)	(0.075)	(0.100)	(0.10)	(0.14)
Manufacturing share$_{1998}$				-0.14	-0.096	-0.083				-0.052	-0.017	-0.043
				(0.17)	(0.18)	(0.17)				(0.14)	(0.15)	(0.19)
Foreign born population					0.25	0.37*					0.30+	0.35*
					(0.16)	(0.18)					(0.15)	(0.18)
Change in foreign born					0.035	-0.23					-0.061	-0.24
					(0.41)	(0.41)					(0.40)	(0.41)
Other qualification	-0.069**	-0.069**	-0.066**	-0.069**	-0.068**	-0.066**	-0.069**	-0.070**	-0.067**	-0.070**	-0.069**	-0.066**
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
GCSE etc	-0.075***	-0.075***	-0.073***	-0.075***	-0.074***	-0.072***	-0.075***	-0.076***	-0.074***	-0.076***	-0.075***	-0.073***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
A-level etc	-0.093***	-0.093***	-0.092***	-0.093***	-0.092***	-0.091***	-0.092***	-0.093***	-0.092***	-0.093***	-0.091***	-0.091***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Other higher degree	-0.10***	-0.10***	-0.10***	-0.10***	-0.10***	-0.100***	-0.10***	-0.10***	-0.10***	-0.10***	-0.10***	-0.10***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Degree	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.021)	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.021)
Male	0.0044	0.0042	0.0045	0.0042	0.0045	0.0047	0.0043	0.0041	0.0045	0.0041	0.0043	0.0046
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Age/100	0.047	0.041	0.038	0.044	0.058	0.060	0.051	0.041	0.036	0.043	0.057	0.055
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
(Age/100)^2	0.52**	0.52**	0.53**	0.52**	0.51**	0.52**	0.52**	0.52**	0.54**	0.52**	0.51**	0.52**
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Not born in UK	-0.093**	-0.093**	-0.091**	-0.093**	-0.094**	-0.092**	-0.093**	-0.093**	-0.091**	-0.093**	-0.095**	-0.092**
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
One parent not born in UK	-0.052*	-0.053*	-0.052*	-0.054*	-0.055*	-0.053*	-0.052*	-0.053*	-0.052*	-0.053*	-0.055*	-0.053*
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Both parents not born in UK	0.0047	-0.00016	-0.0010	-0.00096	-0.0098	-0.011	0.0046	0.00090	-0.00070	0.00072	-0.0085	-0.0096
	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)
Year=2005	0.011						0.021					
	(0.016)						(0.016)					
Year=2008	-0.065***						-0.041*					
	(0.017)						(0.016)					
Constant	-0.12*	-0.075	-0.10	-0.071	-0.098	-0.13	-0.14*	-0.12	-0.15	-0.12	-0.15+	-0.19+
	(0.051)	(0.078)	(0.095)	(0.078)	(0.081)	(0.097)	(0.057)	(0.082)	(0.10)	(0.083)	(0.084)	(0.11)
Fixed effects												
Year	Yes						Yes					
NUTS 1-year		Yes		Yes	Yes			Yes		Yes	Yes	
NUTS 2-year			Yes			Yes			Yes			Yes
Random intercept standard deviations												
NUTS 3	0.00000016***	0.00011	1.1e-09***	0.000014***	0.000077***	8.2e-10***	0.000000023***	0.000016***	1.2e-09***	0.0000024***	0.0000016***	3.4e-10***
NUTS 3-year level	0.050***	0.037***	6.5e-09***	0.037***	0.040***	6.3e-09***	0.049***	0.035***	6.0e-09***	0.035***	0.00019***	3.4e-09***
LAD-year level					0.044***	0.000000064***					0.045***	0.000000027***
Observations												
NUTS 3	123	123	123	123	123	123	123	123	123	123	123	123
NUTS 3-year	366	366	366	366	366	366	366	366	366	366	366	366
LAD-year					1039	1039					1039	1039
Individual-year	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726	24726
BIC	62472.8	62750.2	63406.3	62759.6	63018.8	63442.1	62473.6	62750.2	63407.7	62760.2	62784.1	63444.0

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table D.2.2: Regressing support for international cooperation on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Support for intern. cooperation$_{t-3}$	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***	0.45***
	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)	(0.0055)
Chinese import shock	-0.040	-0.011	-0.028	0.018	0.023	-0.048	-0.19*	-0.15+	-0.11	-0.23*	-0.21+	-0.29+
	(0.056)	(0.053)	(0.047)	(0.087)	(0.087)	(0.085)	(0.076)	(0.082)	(0.084)	(0.11)	(0.12)	(0.16)
Manufacturing share$_{1998}$				-0.086	-0.059	0.11				0.18	0.19	0.33
				(0.20)	(0.20)	(0.20)				(0.17)	(0.17)	(0.21)
Foreign born population					0.14	0.16					0.11	0.13
					(0.17)	(0.19)					(0.17)	(0.19)
Change in foreign born					-0.094	-0.15					-0.055	-0.14
					(0.43)	(0.44)					(0.43)	(0.44)
Other qualification	-0.035	-0.034	-0.033	-0.034	-0.033	-0.033	-0.035	-0.033	-0.033	-0.033	-0.033	-0.032
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
GCSE etc	-0.054**	-0.053**	-0.053**	-0.053**	-0.052*	-0.053**	-0.054**	-0.053**	-0.053**	-0.052*	-0.052*	-0.052*
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
A-level etc	0.029	0.029	0.028	0.029	0.030	0.028	0.028	0.029	0.028	0.029	0.029	0.028
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Other higher degree	-0.0034	-0.0018	-0.0015	-0.0019	-0.0012	-0.00088	-0.0041	-0.0022	-0.0016	-0.0021	-0.0014	-0.00069
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Degree	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***	0.21***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Male	0.078***	0.079***	0.079***	0.079***	0.079***	0.078***	0.079***	0.079***	0.079***	0.079***	0.079***	0.078***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Age/100	-0.50**	-0.51**	-0.51**	-0.51**	-0.51**	-0.51**	-0.49**	-0.51**	-0.51**	-0.51**	-0.51**	-0.50**
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
(Age/100)^2	0.54**	0.55**	0.54**	0.55**	0.55**	0.54**	0.53**	0.54**	0.54**	0.54**	0.55**	0.54**
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Not born in UK	0.036	0.034	0.036	0.034	0.033	0.035	0.036	0.034	0.035	0.034	0.033	0.034
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
One parent not born in UK	0.087***	0.091***	0.091***	0.091***	0.090***	0.090***	0.086***	0.090***	0.091***	0.090***	0.089***	0.090***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Both parents not born in UK	0.13***	0.13***	0.14***	0.13***	0.13***	0.13***	0.13***	0.13***	0.13***	0.13***	0.13***	0.13***
	(0.035)	(0.035)	(0.035)	(0.035)	(0.036)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.036)	(0.035)
Year=2005	-0.067***						-0.074***					
	(0.017)						(0.016)					
Year=2008	-0.082***						-0.10***					
	(0.018)						(0.017)					
Constant	1.05***	1.03***	1.17***	1.03***	1.01***	1.15***	1.13***	1.10***	1.21***	1.10***	1.08***	1.24***
	(0.057)	(0.085)	(0.10)	(0.085)	(0.087)	(0.11)	(0.064)	(0.091)	(0.11)	(0.091)	(0.094)	(0.12)
Fixed effects												
Year	Yes						Yes					
NUTS 1-year		Yes		Yes	Yes			Yes		Yes	Yes	
NUTS 2-year			Yes			Yes			Yes			Yes
Random intercept standard deviations												
NUTS 3	0.052***	0.036***	0.020***	0.036***	0.023***	0.0000070***	0.053***	0.038***	0.020***	0.038***	0.026***	0.0000086***
NUTS 3-year level	0.051***	0.039***	0.00000016***	0.039***	0.00000039***	0.00000030***	0.049***	0.036***	0.00000013***	0.035***	3.2e-09***	0.00000023***
LAD-year level					0.073***	0.048***					0.071***	0.047***
Observations												
NUTS 3	123	123	123	123	123	123	123	123	123	123	123	123
NUTS 3-year	366	366	366	366	366	366	366	366	366	366	366	366
LAD-year					1040	1040					1040	1040
Individual-year	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546	24546
BIC	63520.5	63781.6	64430.9	63791.6	63805.9	64465.3	63515.1	63778.5	64429.6	63787.4	63802.7	64462.3

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table D.2.3: Regressing support for EU membership on local Chinese import shock

	Increase in real imports per worker						Growth rate of real imports					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Support for EU membership$_{t-3/4}$	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***	0.65***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Support for EU memb.$_{t-3/4}$ X Year=2006	-0.041**	-0.042**	-0.044**	-0.042**	-0.042**	-0.044**	-0.041**	-0.042**	-0.043**	-0.042**	-0.042**	-0.043**
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Chinese import shock	-0.14*	-0.16**	-0.15**	-0.21*	-0.21*	-0.25*	-0.12+	-0.17**	-0.12+	-0.24*	-0.24*	-0.16
	(0.068)	(0.060)	(0.057)	(0.098)	(0.099)	(0.098)	(0.064)	(0.066)	(0.064)	(0.11)	(0.11)	(0.13)
Manufacturing share$_{1998}$				0.18	0.16	0.27				0.18	0.17	0.086
				(0.24)	(0.24)	(0.24)				(0.24)	(0.24)	(0.28)
Foreign born population					0.069	0.042					0.023	0.052
					(0.23)	(0.26)					(0.23)	(0.27)
Change in foreign born					-0.82	-0.57					-0.78	-0.58
					(0.56)	(0.58)					(0.56)	(0.58)
Other qualification	-0.031	-0.028	-0.026	-0.028	-0.029	-0.026	-0.031	-0.027	-0.025	-0.027	-0.028	-0.025
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
GCSE etc	0.038	0.042	0.043	0.042	0.041	0.043	0.038	0.042	0.044	0.043	0.042	0.044
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
A-level etc	0.082**	0.087**	0.084**	0.087**	0.086**	0.085**	0.082*	0.087**	0.085**	0.087**	0.086**	0.085**
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Other higher degree	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***	0.12***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Degree	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***	0.32***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Male	0.015	0.016	0.018	0.016	0.015	0.018	0.015	0.016	0.018	0.016	0.016	0.018
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Age/100	-0.21	-0.18	-0.20	-0.19	-0.20	-0.22	-0.21	-0.18	-0.20	-0.19	-0.20	-0.21
	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)
(Age/100)^2	0.057	0.029	0.044	0.034	0.042	0.060	0.058	0.027	0.042	0.032	0.042	0.052
	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
Not born in UK	0.079	0.075	0.078	0.074	0.075	0.079	0.079	0.074	0.077	0.074	0.075	0.078
	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
One parent not born in UK	0.00061	0.0045	-0.00030	0.0049	0.0045	0.00051	0.00063	0.0037	0.00090	0.0037	0.0034	0.0011
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Both parents not born in UK	0.072	0.082+	0.087+	0.083+	0.083+	0.088+	0.073	0.082+	0.088+	0.082+	0.083+	0.088+
	(0.048)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.048)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
Year=2006	-0.21***	-0.067	-0.19	-0.055	-0.053	-0.16	-0.22***	-0.092	-0.18	-0.088	-0.086	-0.17
	(0.022)	(0.077)	(0.24)	(0.079)	(0.079)	(0.25)	(0.019)	(0.076)	(0.24)	(0.076)	(0.076)	(0.25)
Constant	0.030	-0.047	0.070	-0.053	-0.041	0.066	0.017	-0.049	0.047	-0.056	-0.040	0.052
	(0.082)	(0.11)	(0.13)	(0.11)	(0.11)	(0.13)	(0.080)	(0.11)	(0.13)	(0.11)	(0.11)	(0.13)
Fixed effects												
Year	Yes						Yes					
NUTS 1-year		Yes		Yes	Yes			Yes		Yes	Yes	
NUTS 2-year			Yes			Yes			Yes			Yes
Random intercept standard deviations												
NUTS 3	0.049***	0.00000027***	7.6e-10***	0.00000020***	0.00000023***	0.000000032***	0.054***	0.000031***	2.2e-09***	0.000011	0.00000021***	0.000000024
NUTS 3-year level	0.066***	0.047***	1.9e-09***	0.046***	0.017	0.00000040***	0.064***	0.047***	6.8e-09***	0.046***	0.011	0.000000024
LAD-year level					0.056***	0.022*					0.058***	0.032***
Observations												
NUTS 3	122	122	122	122	122	122	122	122	122	122	122	122
NUTS 3-year	240	240	240	240	240	240	240	240	240	240	240	240
LAD-year					663	663					663	663
Individual-year	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556	9556
BIC	21483.1	21614.8	22004.9	21623.4	21646.8	22038.8	21483.8	21614.5	22008.6	21623.1	21646.2	22043.5

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

D.3 Additional robustness checks for the nationalist backlash effect

Table D.3.1: Ordered logit results with single items

	Rather be a citizen of Britain than of any other country		People too ready to criticize their country		Cooperate with other countries even if it means giving up some independence		Evaluation of Britain's membership of the EU		Benefited or not from being a member of the EU?		Britain's long-term policy toward EU	
	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate	Incr. p. worker	Growth rate
Chinese import shock	0.069	0.22	0.28**	0.42**	-0.052	-0.30+	-0.43**	-0.36*	-0.38*	-0.40+	-0.057	-0.066
	(0.10)	(0.16)	(0.090)	(0.14)	(0.10)	(0.16)	(0.14)	(0.15)	(0.19)	(0.21)	(0.12)	(0.13)

Note: Results for coefficient of Chinese import shock in binary (benefited from membership) and ordered (all other items) logit multilevel models with NUTS 1-year fixed effects; models are estimated with two levels (random intercepts at NUTS 3-year level); standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table D.3.2: Results using alternative factors for measuring nationalist attitudes

	Nationalist sentiment (baseline)		Nationalist sentiment & int. coop.		Nationalist sentiment (broader)		Nationalist sentiment (broader) & int. coop.		Nationalism, broad	
	Factor built from … (with loading)		Factor built from … (with loading)		Factor built from … (with loading)		Factor built from … (with loading)		Factor built from … (with loading)	
I would rather be a citizen of Britain than of any other country in the world	☑ (0.77)		☑ (0.76)		☑ (0.73)		☑ (0.74)		☑ (0.73)	
People in Britain are too ready to criticize their country	☑ (0.77)		☑ (0.65)		☑ (0.62)		☑ (0.58)		☑ (0.48)	
Cooperate with other countries even if it means giving up some independence			☑ (-0.49)				☑ (-0.36)		☑ (-0.47)	
Government should do everything it can to keep all parts of Britain together					☑ (0.68)		☑ (0.64)		☑ (0.53)	
Britain has a lot to learn from other countries in running its affairs									☑ (-0.49)	
Variance in items explained by factor	0.60		0.42		0.46		0.36		0.30	
	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate
Coefficient of Chinese import shock	0.12^{**}	0.20^{**}	0.11^{*}	0.21^{**}	0.12^{**}	0.23^{***}	0.11^{*}	0.24^{***}	0.082^{+}	0.21^{**}
	(0.044)	(0.069)	(0.045)	(0.071)	(0.043)	(0.067)	(0.043)	(0.067)	(0.045)	(0.070)

Note: Results for coefficient of Chinese import shock in linear multilevel models (with random intercepts at NUTS 3 level and NUTS 3-year level) with NUTS 1-year fixed effects. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

D.4 Regressions including change in local economic activity

In this section, we report results from models that additionally control for indicators of changes in local economic activity. The goal is to explore a possible mediation sequence in which the China shock affects the state of the regional economy, and the regional economy then affects nationalist attitudes. To explore potential mediators of the impact of the China shock via regional economic activity, we additionally collected estimates of (change in) local unemployment rates (available from https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/datasets/modelledunemploymentforlocalandunitaryauthoritiesm01/current, accessed: December 2019) and regional gross valued added per head (available from https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedbalancedbylocalauthorityintheuk, accessed: December 2019), both also measured at the LAD-year level and provided by the ONS. In case of unemployment, we computed the change (in percentage points) in the unemployment rate between the base year *t-x* and *t*. In case of regional gross valued, we computed the difference in gross value added between the base year *t-x* and *t*, and logged this value to account for its skewed distribution. Specifically, we used the "neglog" transformation (Whittaker et al. 2005) and normalized the resulting values to range from zero to one to ease interpretability. As a third measure of change in local economic activity, we calculated the percentage point change in the manufacturing employment share available from the NOMIS data (see section A1 above).

We added these three regional-level variables to our baseline model with NUTS 1 region-year fixed effects. Because (change in) the unemployment rate and regional gross value are measured at the level of local area districts (LADs), we estimated multilevel models with four nested levels (individual-years, LADs-years, NUTS 3 region-years, NUTS 3 regions). We present the results in three separate tables, one for each dependent variable (see Tables D.4.1 to D.4.3). In each case, we present a baseline model, that is, one without the three indicators of economic

change first to gauge how coefficients of the China shock change once we enter the controls.[15] As we might not have enough statistical power to reliably detect mediation effects and given the general difficulties in establishing mediation, we need to interpret the detailed results of these models cautiously.

Nonetheless, we can draw one negative conclusion with high certainty: The findings do not suggest that the effect of the China shock is fully mediated by its impact on the local economy. None of the potential mediators is statistically significant for any of the three dependent variables. The coefficients of the China shock measures become somewhat smaller only with regard to nationalist sentiment, whereas the other coefficients remain almost the same. There may be hints that point to possible partial mediation. For example, the coefficient for the change in the manufacturing employment share suggests that when the manufacturing employment shares falls (possibly due to the China shock[16]), nationalist sentiment goes up as does support for EU membership. A similar pattern emerges for the change in the unemployment rate: With rising unemployment, nationalist sentiment goes up and support for international cooperation as well as EU membership decreases. Yet, none of this is statistically reliable.

It appears that declines in local economic activity as such do not seem to trigger a strong nationalist backlash, yet local exposure to import competition does. The nationalist backlash thus does not seem to be a mere reaction to changes in local economic activity, be they caused by import competition or other phenomena. It seems to matter what the source of threats for local economic activity is; (only) when it is import competition, this seems to result in a nationalist backlash.

[15] Note that these baseline models differ slightly from the models we used as baseline models for the robustness checks discussed in the article, in that they include random intercepts at the LAD-year level. This is necessary to make sure that differences across the models without and with indicators of change in local economic activity are driven by the inclusion of these indicators, not by the inclusion of random intercepts at the LAD-year level.

[16] Note that there is a negative association between the China shock and the change in the manufacturing share. For d=3 and computed at the NUTS3-level, the correlation is -0.28 for the change per worker measure and -0.47 for the growth rate measure.

Table D.4.1: Regressing nationalist sentiment on China shock and change in local economic activity

	Incr. p. worker	Incr. p. worker	Growth rate	Growth rate
	(1)	(2)	(3)	(4)
Nationalist sentiment$_{t-3}$	0.45***	0.45***	0.45***	0.45***
	(0.0058)	(0.0059)	(0.0058)	(0.0059)
Chinese import shock	0.12**	0.080	0.19**	0.14+
	(0.045)	(0.051)	(0.070)	(0.082)
Change in manufacturing employment share		-0.70		-0.78
		(0.55)		(0.55)
Change in gross value added per head		0.18		0.17
		(0.15)		(0.16)
Change in unemployment rate		0.44		0.57
		(0.92)		(0.96)
Demographic controls	☑	☑	☑	☑
Fixed effects				
NUTS 1-Year	☑	☑	☑	☑
Random intercepts				
NUTS 3	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑
LAD-year level	☑	☑	☑	☑
Observations				
NUTS 3	123	121	123	121
NUTS 3-year	366	348	366	348
LAD-year	1039	985	1039	985
Individual-year	24726	23556	24726	23556
BIC	62758.1	59844.9	62758.2	60070.6

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table D.4.2: Regressing support for international cooperation on China shock and change in local economic activity

	Incr. p. worker	Incr. p. worker	Growth rate	Growth rate
	(1)	(2)	(3)	(4)
Support for international cooperation$_{t-3}$	0.45***	0.45***	0.45***	0.45***
	(0.0055)	(0.0057)	(0.0055)	(0.0057)
Chinese import shock	-0.0043	0.015	-0.13	-0.13
	(0.054)	(0.061)	(0.084)	(0.089)
Change in manufacturing employment share		0.22		-0.12
		(0.62)		(0.58)
Change in gross value added per head		0.27		0.25
		(0.17)		(0.17)
Change in unemployment rate		-0.21		-0.13
		(1.04)		(1.03)
Demographic controls	☑	☑	☑	☑
Fixed effects				
NUTS 1-Year	☑	☑	☑	☑
Random intercepts				
NUTS 3	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑
LAD-year level	☑	☑	☑	☑
Observations				
NUTS 3	123	121	123	121
NUTS 3-year	366	348	366	348
LAD-year	1040	986	1040	986
Individual-year	24546	23390	24546	23390
BIC	63776.3	60849.4	63774.0	60847.3

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table D.4.3: Regressing support for EU membership on China shock and change in local economic activity

	Incr. p. worker	Incr. p. worker	Growth rate	Growth rate
	(1)	(2)	(3)	(4)
Support for EU membership$_{t-3/4}$	0.65***	0.65***	0.65***	0.65***
	(0.011)	(0.012)	(0.011)	(0.012)
Support for EU membership$_{t-3/4}$ * year=2006	-0.047**	-0.047**	-0.047**	-0.042**
	(0.016)	(0.016)	(0.016)	(0.015)
Chinese import shock	-0.15*	-0.14+	-0.17*	-0.16*
	(0.061)	(0.077)	(0.066)	(0.078)
Change in manufacturing employment share		0.28		0.32
		(0.68)		(0.64)
Change in gross value added per head		-0.36		-0.31
		(0.30)		(0.30)
Change in unemployment rate		-0.37		-0.33
		(1.16)		(1.16)
Demographic controls	☑	☑	☑	☑
Fixed effects				
NUTS 1-Year	☑	☑	☑	☑
Random intercepts				
NUTS 3	☑	☑	☑	☑
NUTS 3-year level	☑	☑	☑	☑
LAD-year level	☑	☑	☑	☑
Observations				
NUTS 3	122	114	122	114
NUTS 3-year	240	224	240	224
LAD-year	663	624	663	624
Individual-year	9556	8962	9556	8962
BIC	21622.2	20358.5	21621.8	20357.5

Note: Results from linear multilevel models. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

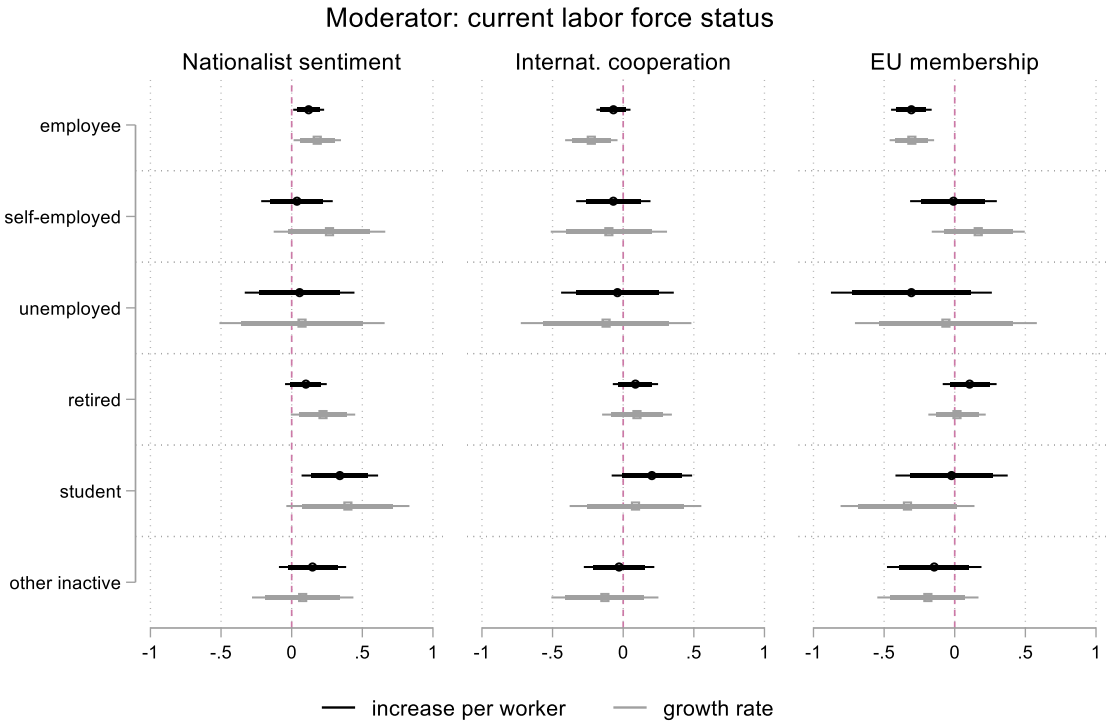
D.5 Individual heterogeneity in the nationalist backlash effect

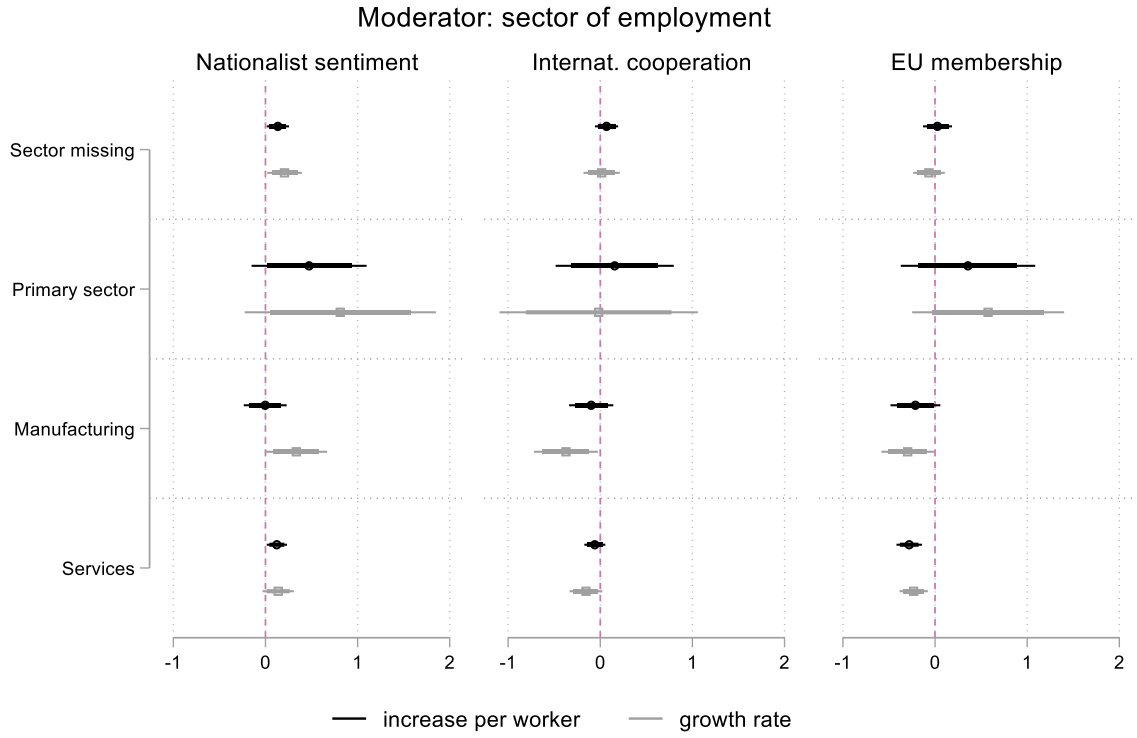
In this section, we investigate whether the marginal effect of the China shock depends on individual attributes. Such heterogeneity may arise as some individuals feel the impact of the China shock more strongly than others. First, it could be that those who are active in the labor force react more strongly to the China shock than those who are currently not in the labor force. Second, one might suspect that individuals working in manufacturing, and perhaps those working in the primary sector as well, are more directly affected and therefore react more strongly to local exposure to import competition than service workers. Third, one might expect that the low-skilled react more strongly as their labor market prospects are more directly affected by the effects of low-cost import competition compared to individuals with higher skill levels. While all these expectations may seem plausible at first sight, they are in tension with the idea of a genuinely socio-tropic reaction: If individuals' reactions are shaped by the consequences of import competition for the local economy (and it are such local effects that the import shock measures are constructed to capture), we may see little such heterogeneity.

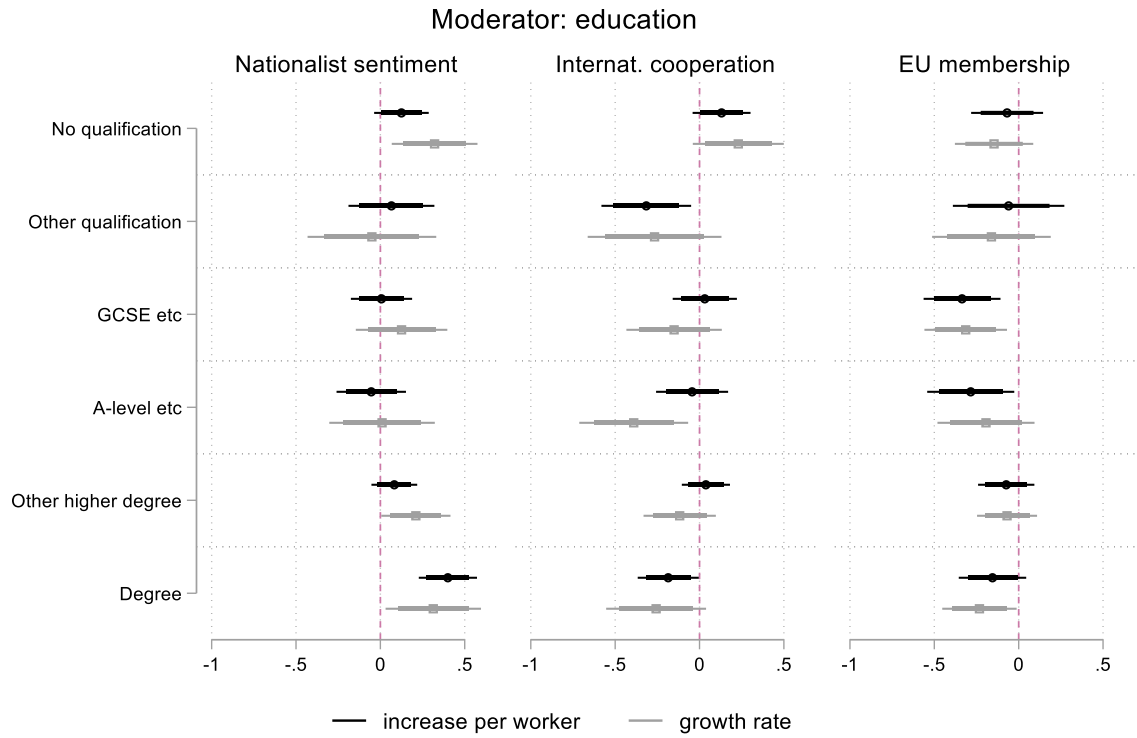
To explore this issue, we estimated a set of multilevel regressions with (cross-level) interactions between the China shock and three individual-level moderators: Current labor market status, sector of employment, and education. The results are shown as conditional effect plots in **Figure D.5.1** below. The first general observation to note is that the estimates of the conditional effects are often very noisy, especially when conditional effects for smaller groups are concerned (such as the unemployed or those working in the primary sector). This limits our ability to draw strong inferences on how effects differ across groups, as the confidence intervals often overlap substantially. Yet we can draw one key negative conclusion with reasonable certainty: There is, overall, little evidence that the strength of the effect of the China shock varies along the lines suggested above.

The strongest hints towards effect heterogeneity in the expected direction are obtained for current labor force status: The China shock indeed has the clearest effects among employees. Yet, the effects are not limited to employees, and some of the point estimates are even stronger within some of the inactive groups (such as the strong positive effect of the China shock on nationalist sentiment among students). Regarding sector of employment, we see that the China shock shows (most of) the expected effects among those working in manufacturing, but these conditional effects do not consistently stand out from the conditional effects for other groups. If any group stands out with respect to education, it is the high-skilled group of those with a tertiary degree rather than the low-skilled: Here we observe that all six coefficients run in the expected direction and are rather precisely estimated—including statistically significant negative effects on support for international cooperation for both measures of the China shock.

Figure D.5.1: Conditional effects of local Chinese import exposure







Note: Conditional marginal effects from linear multilevel models (with random intercepts and random slopes at NUTS 3-year level) with NUTS 1-year fixed effects. Moderators tested in separate models. Lines indicate 95% and 85% confidence intervals around point estimate. Non-overlapping 85% confidence intervals approximately correspond to statistical difference with $p<0.05$ (Knol et al. 2011).

Appendix E: Effects of the China shock on economic policy attitudes

Table E.1: Regressing economic policy attitudes on local Chinese import shock

	Overall factor for economic left-right ideology		Factor from all policy items		Factor from economic injustice items		Factor from state ownership items		Government's responsibility to provide a job		Strong trade unions	
	Factor built from … (with loading)		Factor built from … (with loading)		Factor built from … (with loading)		Factor built from … (with loading)		Single item		Single item	
Ordinary people get their fair share of the nation's wealth	☑ (-0.57)				☑ (-0.83)							
There is one law for the rich and one for the poor	☑ (0.63)				☑ (0.83)							
Private enterprise is the best way to solve Britain's economic problems	☑ (-0.58)		☑ (-0.61)				☑ (-0.79)					
Major public services and industries ought to be in state ownership	☑ (0.56)		☑ (0.64)				☑ (0.79)					
Government's responsibility to provide a job for everyone who wants one	☑ (0.58)		☑ (0.66)						☑			
Strong trade unions needed to protect working conditions and wages	☑ (0.60)		☑ (0.70)								☑	
Variance in items explained by factor	0.34		0.42		0.70		0.62		Single item		Single item	
	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate	Incr. p.w.	Incr. p.w.	Growth rate	Growth rate	Incr. p.w.	Growth rate	Incr. p.w.	Growth rate
Coefficient of Chinese import shock	0.013	0.050	0.011	0.054	0.019	0.036	-0.013	-0.029	0.011	0.059	-0.0085	0.071
	(0.042)	(0.055)	(0.046)	(0.060)	(0.047)	(0.061)	(0.049)	(0.063)	(0.055)	(0.071)	(0.087)	(0.10)

Note: Results for coefficient of Chinese import shock in linear multilevel models (with random intercepts at NUTS 3 level and NUTS 3-year level) with NUTS 1-year fixed effects. These regressions regress economic policy attitudes in 2007 and 2004, controlling for the respective economic policy attitudes in 2004 and 2000, respectively. Standard errors in parentheses. Significance levels: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

References

Autor, DH, Dorn D and Hanson GH (2013) The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review* **103**(6), 2121–68.

Colantone, I and Stanig P (2018a) The Trade Origins of Nationalist Protectionism: Import Competition and Voting Behavior in Western Europe. *American Journal of Political Science* **62**(4), 936-953.

Colantone, I and Stanig P (2018b) Global Competition and Brexit. *American Political Science Review* **112**(2), 201-218.

Knol, MJ, Pestman WR and Grobbee DE (2011) The (mis)use of overlap of confidence intervals to assess effect modification. *European Journal of Epidemiology*, **26**(4), 253-254.

University of Essex. Institute for Social and Economic Research. (2014) British Household Panel Survey, Waves 1-18, 1991-2009: Conditional Access, Local Authority Districts. [data collection]. 4th Edition. UK Data Service. SN: 6027, http://doi.org/10.5255/UKDA-SN-6027-2.