THE EFFECT OF TRADE ON WORKERS AND VOTERS*

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We investigate economic causes of the rising support of populist parties in industrialised countries. Looking at Germany, we find that exposure to imports from low-wage countries increases the support for nationalist parties between 1987–2009, while increasing exports have the opposite effect. The net effect translates into increasing support of the right-populist Alternative for Germany party after its emergence in 2013. Individual data from the German Socio-Economic Panel reveal that low-skilled manufacturing workers' political preferences are most responsive to trade exposure. Using a novel approach to causal mediation analysis, we identify trade-induced labour market adjustments as an economic mechanism causing the voting response to international trade.

Globalisation has contributed to the rise of populism in industrialised countries. Specifically, populist parties and candidates with a protectionist and nationalist agenda have gained support by campaigning against the international movement of goods, capital and labour. The reasons for this 'populist backlash' to globalisation are under investigation. Some argue that populism is driven by a cultural drift within Western societies, signified by a fear of losing national identity in a process of international liberalisation that is governed by elites (Fukuyama, 2018; Norris and Inglehart, 2019). Others hint at economic causes, focusing on economic uncertainty resulting from globalisation; see Margalit (2019) or Rodrik (2020) for an overview.[1] Despite this work, the specific channels through which global macro-economic developments affect individual political preferences are still not well understood.

In this paper, we identify labour market adjustments to international trade as an economic mechanism that explains the voting response to international trade. First, we show that import competition from low-wage countries increases the support of populist parties in Germany. Looking at the whole political spectrum, it is only the support of nationalist parties from the right fringe that significantly and consistently reacts to increasing international trade. The vote shares that nationalist parties receive in parliamentary elections increase with regional *import exposure*.

[1]

However, trade effects on populist support are two sided: nationalist parties lose votes in regions benefiting from *export opportunities* to new markets. This closely resembles the results of Dauth *et al.* (2014), who reported similar differential trade effects on manufacturing employment in German local labour markets. An individual-level analysis of the German Socio-Economic Panel (SOEP) provides additional indications for a link between trade-induced labour market effects and the voting response. Exposure to import competition increases individuals' intention to vote for nationalist parties. This effect is centred on low-skilled manufacturing workers—arguably, the voters most affected by labour market adjustments to trade. Still, these results are only suggestive for a labour market channel at work. This paper goes one step further and uses a new method for causal mediation analysis in IV settings, developed in Pinto *et al.* (2020), to show that labour market adjustments to trade exposure are an important economic mechanism through which trade exposure affects voting behaviour.

Our main results are obtained from looking at voting results at the level of local labour markets (*Landkreise*). In line with Autor *et al.* (2013) and Dauth *et al.* (2014), we exploit the fall of the Iron curtain in 1989 and China's accession to the WTO in 2001. as quasi-exogenous shifters to the global trading environment. Following the election cycle to the German national parliament, we organise our data as a stacked panel of two first differences for the periods 1987–1998 and 1998–2009 to ensure each period experiences a trade shock. To assess regional trade exposure, we use counties' lagged industrial composition to map sector-specific changes in trade flows with China and Eastern Europe into local labour markets as a measure of local affectedness. We employ other developed countries' trade flows with Eastern Europe and China as an instrumental variable (IV) for Germany's trade exposure to abstract from unobserved domestic influences. We first use separate two-stage least squares (2SLS) regressions to assess the causal effect of import competition on voting behaviour and on labour market outcomes. We then move on to the causal mediation analysis that uses the same IV to decompose the overall effect of trade on voting into a direct effect and an indirect effect running through observed labour market adjustments.

We report results on the effects of exposure to imports and exports separately, but focus primarily on their net difference, which we refer to as *NetExposure* to import competition. We find that a one SD increase in *NetExposure* of €1,346 per worker increases the vote share of nationalist parties by about 30% of its average decadal increase over the years 1987–2009. In absolute terms, this effect is reasonably small, given that the nationalist parties we observe during our study period were mainly extremist parties. An investigation of more recent elections reveals that the trade-induced increase in the support of nationalist parties before 2009 translates into increasing support of the less extremist (and hence more palatable), right-populist Alternative for Germany party that was founded in 2013. Thus, we cautiously interpret the effect of *NetExposure* on nationalist parties' vote share in contemporary elections as the lower bound of the actual effect of import competition on fuelling populist support. That said, our main focus is on understanding the *mechanism* underlying the observed effect on right-populist votes.

To assess the economic mechanism, we first replicate and confirm the results of Dauth *et al.* (2014) for our period of analysis: as expected, increasing *NetExposure* has adverse labour market effects. The causal mediation analysis then allows us to assess the relative importance of labour market adjustments to trade in explaining voting responses to trade. It turns out that the effect of *NetExposure* on populist support can entirely be explained by the labour market effects of *NetExposure*. Indeed, the effect of trade-induced labour market adjustments on populist support is even stronger than the overall effect of *NetExposure*. This suggests that the populist backlash to international trade would be even more pronounced if trade affected labour markets alone.

But trade—with its positive welfare effects—also has a direct impact on voting, which turns out to be politically moderating. This estimate is important to guide policymakers in designing effective responses to political populism, which needs to be centred on mitigating the adverse labour market effects of international trade.

This paper adds to the literature on the political consequences of globalisation, which has looked into international migration (e.g., Dustmann *et al.*, 2019; Steinmayr, 2021), financial crises and the austerity policies that followed (e.g., Funke *et al.*, 2018; Fetzer, 2019), and international trade in particular (Feigenbaum and Hall, 2015; Che *et al.*, 2016; Jensen *et al.*, 2017). For a comprehensive summary, we refer to Rodrik (2020). Closely related to our work is Autor *et al.* (2020) who showed that import competition from China has contributed to the polarisation of US politics. Similarly, Malgouyres (2014) showed for Barone and Kreuter (2019) and France and Caselli *et al.* (2019) for Italy that import competition from low-wage countries caused an increase in the support of populist parties. Colantone and Stanig (2018) provided supportive evidence for other European countries.

Our contribution further links the literature on the political effects of international trade to research on the labour market consequences of trade integration (Autor *et al.*, 2013; Dauth *et al.*, 2014; Pierce and Schott, 2016). We assess the political consequences of this development. Our results corroborate the rising awareness in the academic literature and popular press that the populist backlash in Western countries is closely related to the decline in manufacturing employment resulting from import competition.

The paper is organised as follows. In Section 1 we describe our empirical strategy and data. In Section 2 we present our core results documenting a causal effect of trade exposure on voting behaviour, including a micro-level analysis of workers in the SOEP. Moreover, this section provides suggestive evidence for labour market adjustments to trade being the economic channel through which international trade affects voting behaviour. In Section 3 we unpack the causal links between trade exposure, labour market adjustments and voting behaviour in a mediation analysis. This section structurally identifies and quantifies the relative importance of the labour market mechanism. In Section 4 we investigate how the original effect translates into increasing support of the populist Alternative for Germany party in more recent elections. Section 5 concludes.

1. Data

Our data are organised as a stacked panel of first differences between election dates, 1987 to 1998 and 1998 to 2009, staying as close as possible to the decadal changes commonly studied in the literature. We study German regions' exposure to trade with Eastern Europe and China, which was exogenously affected by the fall of Communism and China's WTO accession. In Germany, imports from and exports to China and Eastern Europe roughly tripled between 1987 to 1998 (from about 20 billion to about 60 billion euros each), and tripled again between 1998 and 2009.[2]

Our data are observed at the county (*Landkreis*) level, which we consider a representation of local labour markets. For the first period, we exclude the 86 East German counties from our analysis since their economic and the political environment was special after the reunification in 1990, and because we lack reliable data on the original (state-owned) industry structure. We drop the city state of Berlin, which cannot unambiguously be assigned to East or West Germany,

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[2] Throughout the paper, we report values in thousands of constant-2005 euros using the *Bundesbank*'s rates.

along with the city states of Hamburg and Bremen.[3] This leaves us with an unbalanced panel of 322×2 West-German and 86×1 East-German counties, a total of 730 observations over two periods.

In the following, we discuss the construction of the main variables as they will ultimately enter our mediation framework. Treatment T_{it} is our measure of local labour market i's *NetExposure* to imports from China and Eastern Europe in period t. Final outcome Y_{it} refers to voting outcomes. Mediators M_{it} are labour market variables that may explain the overall effect of T_{it} on Y_{it}. Finally, we use other countries' trade exposure to construct Z_{it} as an instrument for T_{it}. Conditioning variables K_{it} are discussed with the results in Section 2. Descriptive statistics can be found in Online Appendix A.

1.1. *Import Exposure (Treatment T)*

Following Autor *et al.* (2013) and Dauth *et al.* (2014), we construct our *NetExposure* measure, i.e., treatment variable T_{it}, as follows:

$$T_{it} = \sum_j \frac{L_{ijt}}{L_{jt}} \frac{\Delta \mathrm{IM}_{Gjt} - \Delta \mathrm{EX}_{Gjt}}{L_{it}}. \tag{1}$$

Here $\Delta \mathrm{IM}_{Gjt}$ denotes changes in Germany's imports in industry j in period t, and $\Delta \mathrm{EX}_{Gjt}$ refers to German exports. Local labour market i's composition of employment at the beginning of period t determines its exposure to changes in industry-specific trade flows $\Delta \mathrm{IM}_{Gjt} - \Delta \mathrm{EX}_{Gjt}$ over the ensuing decade.[4] Sector j receives more weight if region i's national share of that sector L_{ijt}/L_{jt} is high, but a lower weight if i's overall workforce L_{it} is larger.

One concern with the *NetExposure* measure in (1) is that it is a composite effect of the relative importance of trade-intensive industries *and* of manufacturing employment in a region. However, manufacturing employment might independently shape subsequent labour-market and voting changes. To account for this, we always condition on region i's initial share of manufacturing employment in all our regressions (see Autor *et al.*, 2013).

1.2. *Voting (Outcome Y)*

We focus on party votes in German federal elections (*Bundestagswahlen*) to assess the political consequences of trade exposure.[5] Because of its at-large voting system, Germany, like most continental European countries, has consistently had a multi-party system that spans the full political spectrum from far-left to far-right parties. This fact allows us to contrast the effect of import exposure on populist parties' vote shares with that of moderate parties. We label four parties that were persistently represented in parliament over the twenty-two years we study as 'established'. There are also many small parties whose vote share is usually far below the 5%

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[3] City states are special, since the administrative units of 'county' and 'state' coincide, which could influence voting decisions in federal elections. Moreover, Hamburg and Bremen are large harbour cities that strongly benefit from international trade, no matter whether this implies increasing imports or exports.

[4] The *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) reports county-level industries of employment L_{ij} according to the ISIC classification, and we link these to the UN Comtrade trade data using the crosswalk described in Dauth *et al.* (2014), which covers 157 manufacturing industries.

[5] In federal elections, German voters cast two votes on the same ballot: one for a party ('*Zweitstimme*') and one for an individual candidate in their election district ('*Erststimme*'). Since the party vote eventually determines a party's share of parliamentary seats, we follow Falck *et al.* (2014) in focusing on the party vote. Online Appendix B provides additional background on the German political system and party landscape.

threshold of party votes needed to enter the federal parliament. We collected these data to create a novel dataset of party vote shares at the county level. We follow Falck *et al.* (2014) and group the small parties into categories according to their political leaning. Altogether, *Landkreis*-level voting outcomes Y_{it} are divided into changes in the vote share of (*i*) four established parties (the centre-right CDU/CSU, the social-democrat SPD, the market-liberal FDP and the Green party), (*ii*) far-right parties, (*iii*) far-left parties, (*iv*) other small parties and (*v*) turnout.

1.3. *Labour Market Variables (Mediator M)*

We use the Historic Employment and Establishment Statistics database of the *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) to glean information on the industry of employment, occupation and place of work for all German workers subject to social insurance.[6] Individual-level data are aggregated on the *Landkreis* level to match our voting data. To identify the mechanism M_{it} that translates net import exposure T_{it} into voting behaviour Y_{it}, we consider decadal changes in (*i*) total employment, (*ii*) manufacturing employment share, (*iii*) manufacturing wages, (*iv*) non-manufacturing wages and (*v*) unemployment, with data for the last one coming from the *German Statistical Office*. Online Appendix C provides additional information on our data sources and the variable construction.

1.4. *Others' Import Exposure (Instrument Z)*

Endogeneity concerns in estimating the effect of import exposure on labour markets and voting relate to the fact that domestic demand and supply shocks may simultaneously affect *NetExposure*, local labour market outcomes and local voting behaviour.

To overcome this problem, we follow Autor *et al.* (2013) and instrument Germany's net imports from China and Eastern Europe, $\Delta(\text{IM}_{Gjt} - \text{EX}_{Gjt})$, with the average imports from (exports to) China and Eastern Europe of a similar set of high-wage economies, ΔIM_{Ojt} (ΔEX_{Ojt}), or their net value, $\Delta(\text{IM}_{Ojt} - \text{EX}_{Ojt})$:[7]

$$Z_{it}^{\text{IM}} = \sum_j \frac{L_{ijt-1}}{L_{jt-1}} \frac{\Delta\text{IM}_{Ojt}}{L_{it-1}}, \qquad Z_{it}^{\text{EX}} = \sum_j \frac{L_{ijt-1}}{L_{jt-1}} \frac{\Delta\text{EX}_{Ojt}}{L_{it-1}},$$

$$Z_{it}^{\text{NET}} = \sum_j \frac{L_{ijt-1}}{L_{jt-1}} \frac{\Delta(\text{EX}_{Ojt} - \text{IM}_{Ojt})}{L_{it-1}}.$$

In our preferred specification, we employ Z_{it}^{NET} as a single instrument, but will also report on the over-identified case employing Z_{it}^{IM} and Z_{it}^{EX} simultaneously. Finally, we lag the initial employment shares by one decade (denoted by subscript $t-1$) to rule out anticipation effects.[8]

[6] See Bender *et al.* (2000) for a detailed description of the data. Civil servants and self-employed individuals are not included in the data. Furthermore, we exclude workers younger than 18 or older than 65, and we exclude all individuals in training and in part-time jobs because their hourly wages cannot be assessed.

[7] In line with Dauth *et al.* (2014), we chose trade flows between China/Eastern Europe and Australia, Canada, Japan, Norway, New Zealand, Sweden, Singapore and the United Kingdom to construct the instruments. We deliberately exclude Eurozone countries whose demand and supply conditions are likely correlated with Germany's.

[8] As a robustness test (Online Appendix D), we use gravity residuals as exogenous measure for import competition instead of an IV. See Autor *et al.* (2013) and Dauth *et al.* (2014) for a comparison of both approaches. Our focus lies on the 2SLS results, since the mediation model introduced in Section 3.3 requires an IV.

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In the following, we use the same Z_{it} to identify three causal effects: the overall effect of T_{it} on Y_{it}, the effect of T_{it} on M_{it} and the effect of T_{it} on Y_{it} that can be explained by the effect of T_{it} on M_{it}.

2. The Effect of Import Competition on Voting

To identify the overall effect of a region i's *NetExposure* to imports from low-wage countries on voting behaviour, we rely on the standard 2SLS model:

$$T_{it} = \beta_T^Z \cdot Z_{it} + \beta_T^K \mathbf{K}_{it} + \eta_{it} \tag{2}$$

$$Y_{it} = \text{TE} \cdot T_{it} + \beta_M^K \mathbf{K}_{it} + \epsilon_{it}. \tag{3}$$

The main variables were defined in Section 1. In lieu of the mediation analysis to come, we want to point out that T_{it} measures the *total effect* (TE) of import competition on voting outcomes. In Section 3.3, we decompose TE into a *direct effect* (DE), and an *indirect effect* (IE) working through labour market adjustments to treatment T_{it}. Across columns of Table 1, we stepwise add control variables $\mathbf{K}_{it}$ observed at the start of each period as they are routinely used in the literature. Our baseline specification (column (1)) includes i's manufacturing employment share only. In column (2), we add controls for i's industry structure (employment share in the largest sector, employment share in the chemical industry).[9] In column (3), we add demographic controls (foreign-born employment share, female population share, variables capturing the age structure of the population and the qualification structure of the workforce).[10] In column (4), we add start-of-period labour market variables (logs of employment and average wages as well as unemployment rates). Finally, in column (5) we add start-of-period voting variables (turnout and party vote shares).[11] We also include a set of period-specific regional fixed effects (FEs; North, South, West and East) in all regressions.[12] SEs ϵ_{it} are clustered at the level of 93 larger economic zones defined by the Federal Office for Building and Regional Planning.

Panel A of Table 1 presents second-stage results of (3). First-stage results of (2) are reported in panel B. Each cell reports results from a different regression. First-stage results are highly significant, have the expected sign and are in line with estimates in the existing literature. While we are primarily interested in political support for populist parties, our voting data allow us to study trade effects on the entire political spectrum, i.e., changes in the vote shares of moderate, far-right, far-left and other small parties, as well as turnout. In panel A of Table 1, each row pertains to one of these different outcome variables. Columns refer to different regression specifications. In columns (1)–(5), we stepwise include control variables as described above. Column (6) repeats our preferred specification from column (5), but splits the net instrument Z_{it}^{NET} into its components

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[9] Several German regions are dominated by one specific industry. In such regions, individual firms (e.g., Daimler-Benz, Volkswagen or Bayer) are likely to have political bargaining power, and as a result, politicians may help buffer trade shocks to limit adverse employment effects. The chemical industry is spatially clustered.

[10] We consider population shares at ages 18–34 and 35–64 and retirement age, an employment share with high formal qualification, and an employment share with low formal qualification.

[11] We use the same specifications for each outcome throughout the paper. As a result, there are no efficiency gains from jointly estimating regressions for different outcomes in *seemingly unrelated regressions* (Wooldridge, 2002, pp. 143–6).

[12] These regions are comparable to US Census divisions (Dauth *et al.*, 2014). Each of Germany's thirteen states (*Bundesländer*, net of three city states) is fully contained inside one of the four regions.

Table 1. *The Effect of Trade Exposure (T) on Voting (Y).*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: second-stage results of (3) for different voting outcomes							
Δ turnout	−0.002	−0.001	0.000	0.001	0.001	0.002	0.000
	[0.377]	[0.528]	[0.968]	[0.548]	[0.687]	[0.162]	[0.996]
Established parties							
Δ vote shares of CDU, CSU	−0.146	−0.174	−0.157	−0.122	−0.154	−0.143	−0.221
	[0.373]	[0.293]	[0.310]	[0.407]	[0.272]	[0.337]	[0.143]
Δ vote shares of SPD	0.022	0.038	0.038	0.008	0.000	0.010	0.055
	[0.895]	[0.820]	[0.778]	[0.954]	[0.998]	[0.942]	[0.707]
Δ vote shares of FDP	0.228***	0.219***	0.159**	0.191**	0.211***	0.202**	0.244***
	[0.004]	[0.006]	[0.029]	[0.017]	[0.008]	[0.014]	[0.003]
Δ vote shares of Greens	−0.153***	−0.172***	−0.063	0.024	0.025	0.016	0.014
	[0.008]	[0.002]	[0.101]	[0.562]	[0.538]	[0.710]	[0.753]
Non-established parties							
Δ vote shares of far-right	0.098***	0.106***	0.078**	0.087**	0.092**	0.117***	0.112**
	[0.004]	[0.004]	[0.017]	[0.014]	[0.034]	[0.005]	[0.034]
Δ vote shares of far-left	−0.029	−0.027	−0.060	−0.204*	−0.176	−0.199*	−0.209*
	[0.822]	[0.840]	[0.587]	[0.076]	[0.136]	[0.066]	[0.091]
Δ vote shares of other small	−0.019	0.010	0.005	0.014	0.002	−0.001	0.005
	[0.689]	[0.816]	[0.902]	[0.728]	[0.963]	[0.975]	[0.904]
Panel B: first-stage results of (2)							
β_M^Z	0.248***	0.245***	0.252***	0.243***	0.243***		0.236***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]		[0.000]
β_M^{IM}						0.226***	
						[0.000]	
β_M^{EX}						−0.200***	
						[0.000]	
F-stat instruments	66.48	74.66	71.26	64.47	64.33	39.98	59.84
Specification/controls	Baseline	+ Industry	+ Demograph.	+ LM	+ Voting	∼ (5) 2 Z	∼ (5) West
Period-by-region FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	730	730	730	730	730	730	644

Notes: Panel A reports second-stage results and panel B first-stage results of 2SLS estimations. Each cell reports on a separate regression. In panel A, each line reports on a different election outcome. Columns incrementally include additional control variables. Column (1) controls only for start-of-period manufacturing. Column (2) adds controls for the regional industry structure. Column (3) adds controls for a region's demographic structure. Column (4) adds start-of-period labour market controls. Column (5) adds start-of-period voting controls. This is our preferred specification. Column (6) replicates column (5), but with two instrumental variables instead of one. Column (7) reports our preferred specification from column (5) for the West German subsample only (former FRG). All specifications include region-by-period fixed effects. Variables are observed at the *Landkreis* (county) level. The data are a stacked panel of first differences over the two periods 1987–1998 and 1998–2009. The *p*-values are reported in square brackets; SEs are clustered at the level of 93 commuting zones. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

Z_{it}^{IM} and Z_{it}^{EX}.[13] In column (7), we drop observations from East Germany, but otherwise estimate our preferred specification from column (5).

The results presented in Table 1 are broadly consistent across all specifications. Excluding East Germany in column (7) does not change the overall picture. Looking at the whole political spectrum, we observe that only two party outcomes respond significantly to increasing import competition: both the vote share of the market-liberal FDP and the vote share of far-right parties increase with *NetExposure*.[14] This hints at a polarising effect of increasing import competition, since the FDP has the most distinct stance on furthering trade liberalisation; by contrast, the

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[13] We prefer using one IV as in column (5) over using two IVs as in column (6) for two reasons. First, column (5) comes with a significantly higher *F*-statistic. Second, using one IV facilitates the interpretation of the mediation model in Section 1.4, although it is feasible to estimate the mediation model with multiple instruments; see Pinto *et al.* (2020).

[14] We present corresponding OLS estimates in Table A3 of Online Appendix E.

far-right parties have the clearest stance against globalisation and propagate a nationalist agenda instead. So it could very well be the case that the 'winners' from international trade turn to supporting the FDP, while the 'losers' of this development support nationalist parties in opposition to trade liberalisation.[15] While interesting, we do not want to put too much emphasis on the effect of import exposure on support of the market-liberal FDP, because it is not robust to model modifications. Throughout the empirical results presented in this paper, it is only the far-right parties that consistently respond to increasing trade exposure. This is why we focus our analysis on the effects of import competition on this part of the political spectrum.[16]

2.1. *Interpreting the Results*

In our preferred specification (column (5)), a one SD increase in *NetExposure* (€1,346 per worker) increases the far-right vote share by 0.12 (0.092 × 1.346) percentage points, almost 30% of the average per-decade increase of 0.43 percentage points during the 22 years we study. This effect is somewhat larger for the West-German subsample. While the effect of import competition on far-right party support is well identified, it is still small in absolute terms. This may well be country specific. The far-right parties participating in elections during our period of analysis campaigned on extreme platforms, with clear associations to fascist ideologies and neo-Nazi groups. Thus, the overall vote shares of far-right parties were relatively small. From the nationalist parties' point of view, import competition played a relevant role in securing support over our period of analysis. If there had been a party with broader appeal or a charismatic leader, like in other countries, the voting response to import competition could well have been stronger. Accordingly, the literature finds comparatively larger effects of import exposure on voting support of right-populist parties in France (Malgouyres, 2014) and Italy (Barone and Kreuter, 2019; Caselli *et al.*, 2019). In the United States, the literature also finds pronounced effects on the vote share of the Republican Party, which tacked towards protectionism after 2010 (Autor *et al.*, 2020).

The very fact that protectionist demands are captured by the far-right but not the far-left could also be country specific. In international comparison, there seems to be some ambiguity regarding which fringe of the political spectrum opposes globalisation the most. At first, one might have expected increasing demand for redistribution from the left in reaction to import exposure, instead of increasing demand for nationalism. However, political scientists argue that the political left in Europe has found it difficult to take a coherent position against globalisation over the past two decades, often hampered by internal intellectual conflicts (Arzheimer, 2009). Sommer (2008, p. 312) argued that 'in opposing globalisation, the left-wing usually criticises an unjust and profit-oriented economic world order. [It] does not reject globalisation per se but rather espouses a different sort of globalisation. In contrast, the solutions proposed by the far-right keep strictly to a national framework. Therefore, the far-right's claim that it is the only political force that opposes globalisation fundamentally [...] rings true.'[17] In line with that, we provide

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[15] Another explanation for an FDP effect would be that regions hit by a trade shock may face increasing demand for redistribution or government intervention in markets (Rodrik, 1995). Those who disapprove such policies could choose to vote for the FDP, a proponent of the lean state.

[16] For instance, estimations with gravity residuals instead of an IV confirm the causal effect of import competition on voting support of the far right, but not the FDP. The results are reported in Online Appendix D.

[17] For illustration, we excerpt from the German far-right NPD's 'candidate manual': 'Globalization is a planetary spread of the capitalist economic system under the leadership of the Great Money. Despite by its very nature being Jewish-nomadic and homeless, it has its politically and militarily protected locus mainly on the East Coast of the United States' (Grumke, 2012, p. 328).

anecdotal evidence linking local import exposure to increasing support for nationalist parties in two German regions in Online Appendix F.

2.2. *Decomposing Import and Export Exposure*

When studying labour market adjustments to international trade integration in Germany, Dauth *et al.* (2014) pointed out that trade has differential effects. Increasing import competition decreases manufacturing employment and causes labour market distress. On the contrary, manufacturing employment increases if regions benefit from export opportunities to new markets. Our assumption is that these labour market adjustments to international trade are the economic mechanism that translates *NetExposure* into far-right party support. If this assumption was correct, we should see equally differential effects of a region's exposure to imports and exports on the vote share of far-right parties.

Since we can simultaneously employ Z_{it}^{IM} and Z_{it}^{EX} as instruments, we can differentiate between import and export effects.[18] Our analysis is based on (3), or, more precisely, its specification reported in column (5) of Table 1. We just replace T_{it} measuring *NetExposure* with two variables simultaneously measuring import exposure T_{it}^{IM} based on $\Delta \mathrm{IM}_{Gjt}$ and export exposure T_{it}^{EX} based on $\Delta \mathrm{EX}_{Gjt}$.

We focus on the change in far-right party vote shares as outcome, and contrast it with labour market adjustments measured by the change in region i's log of employment. We run exactly the same regressions on both outcome variables. Detailed results along with the estimating equations are presented in Online Appendix E.2. Figure 1 summarises the 2SLS results. In the top row, we plot predicted values for far-right vote shares from the second stage on the first-stage predictions of changing import exposure T_{it}^{IM} (left) and changing export exposure T_{it}^{EX} (right). In the bottom row, we plot predicted values for log employment on the same exposure measures.[19]

Figure 1 confirms previous findings that international trade has differential effects on local labour markets. Regional exposure to increasing imports from low-wage countries leads to a decline in overall employment, while increasing exports correspond to an increasing employment share. This is mirrored in the voting response to international trade. Nationalist parties gain support in counties subject to import competition, but lose support in counties benefitting from new export opportunities. The latter moderating effect turns out to be even stronger than the former radicalising effect. The pattern depicted in Figure 1 clearly suggests a relationship between the labour market adjustments to international trade and the effect of trade exposure on voting.

2.3. *Corroborating Evidence in an Individual-Level Analysis*

An analysis of individual-level data from the German SOEP provides additional evidence for the relevance of the labour market channel. The panel structure of the data allows us to determine which type of voters actually changed their political preferences in reaction to increasing import competition. Conveniently, the SOEP collects information on individuals' party preferences

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[18] Since the instruments are not orthogonal, we cannot perfectly disentangle the effects of changing imports from and changing exports to low-wage countries, though. We nevertheless regard this exercise to be informative.

[19] Labour market outcomes, including log employment, are formally analysed in Section 3.2.
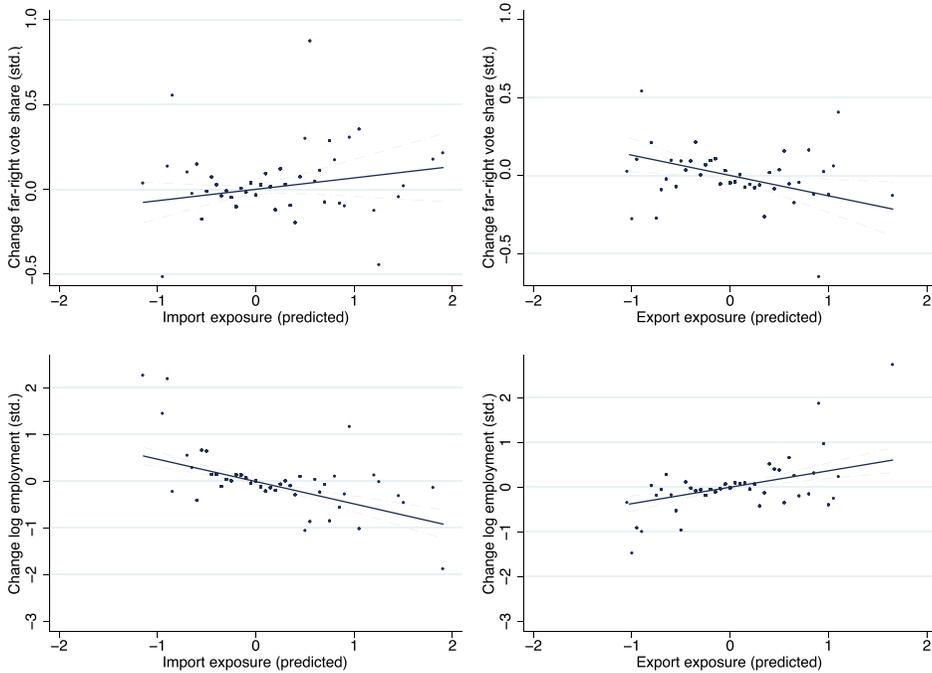
Fig. 1. *Differential Effects of Import and Export Exposure.*
Notes: The figure summarises second-stage regression results. We plot predicted values of the change in far-right votes share (upper row) and log employment (lower row) against region *i*'s predicted (by the first-stage) exposure to imports from (left) and exports to (right) Eastern Europe and China.

that allows us to replicate our previous analysis of voting responses to local labour markets' *NetExposure*.[20] For our purpose, the relevant SOEP question is: '*If there was an election today, who would you vote for?*' We translate this question into a series of dummies that reflect the full party spectrum also observed in Table 1. For each party *P*, we aggregate individuals' self-reported voting intentions into a decadal cumulative share of years in which a respondent stated she would vote for a specific party.[21] The regional identifier in the SOEP allows us to associate individual workers *w* with their local labour market *i*'s *NetExposure* (*T*), instrument *T* with *Z* as before, and add regional controls *K*. Thus, we can estimate the effect of region *i*'s import exposure T_{it} on a resident worker *w*'s reported party support. The individual-level results are reported in Table A7 of Online Appendix G. They closely mimic those in Table 1. Import competition shifts individuals' political preferences to the far right. Splitting the sample by worker types, it turns out that the effect on far-right party support is centred on low-skill workers in manufacturing sectors, i.e., those most affected by import competition from low-wage countries.

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[20] Because the SOEP only started to ask about voting intentions for the full party spectrum in 1990, we use the time windows 1990–1998 and 1998–2009, i.e., a slightly shorter period 1 compared to our main results.
[21] We explain the variable construction and empirical specification in more detail in Online Appendix G.

Table 2. *Mediation Model with an IV.*

DAG	Model equations

$$Z = \epsilon_Z, \qquad (4)$$

$$T = \beta_T^Z \cdot Z + \epsilon_T, \qquad (5)$$

$$M = \beta_M^T \cdot T + \epsilon_M, \qquad (6)$$

$$Y = \beta_Y^T \cdot T + \beta_Y^M \cdot M + \epsilon_Y, \qquad (7)$$

with error terms $\epsilon_Z, \epsilon_T, \epsilon_M, \epsilon_Y$, of variances $\sigma_{\epsilon_Z}^2, \sigma_{\epsilon_T}^2, \sigma_{\epsilon_M}^2, \sigma_{\epsilon_Y}^2$, respectively.

3. Unpacking the Effects of Trade Shocks on Labour Markets and Voters

In this section, we apply a novel methodology for causal mechanism analysis developed in Pinto *et al.* (2020) to assess whether labour market adjustments to trade are the reason for the voting response to trade, and to quantify the relative importance of the labour-market mechanism. Since this is the first time the 'partially confounded IV model' is being applied to observational data, we briefly introduce the structural model, before employing it to unpack the effects of import competition on labour markets and voting.

3.1. *Causal Mechanism Analysis with a Single IV*

We use a mediation model to assess the causal mechanisms behind the trade effect on far-right voting. Mediation models consist of a treatment variable T (in our case, an import shock), a final outcome Y (in our case, far-right party support) and a mediating variable M (in our case, measures of labour market adjustments) that represents a mechanism through which T affects Y. The mediating variable M itself is causally affected by T, and mediates part of the total causal effect of T on Y. Essentially, the model decomposes the 'total effect' of T on Y—that is, the effect we have already identified in Section 2—into a 'direct effect', and an 'indirect effect' running through M. In its most general form with arbitrary error dependence as in Table 2, an instrumental variable Z can be included to address the endogeneity of both T and M.

In our mediation analysis, the direct effect of T on Y that is independent of M is given by the coefficient DE $= \beta_Y^T$. The indirect effect running through M is given by the coefficient multiplication IE $= \beta_M^T \cdot \beta_Y^M$. Our focus is on this mechanism. The total effect can be evaluated by the sum of these two terms, TE $= \beta_Y^T + \beta_M^T \cdot \beta_Y^M$.[22]

Identification is challenging, though, due to the correlation between error terms $\epsilon_T, \epsilon_M, \epsilon_Y$.

The traditional approach to mediation analysis (see Baron and Kenny, 1986 and MacKinnon, 2008 for an overview) assumes $\epsilon_T, \epsilon_M, \epsilon_Y$ to be statistically independent, which makes T and M

[22] Note that the TE can be evaluated in two different ways: by a separate 2SLS regressions, as we did in Section 2, or by summing up DE and IE, as we will do in Section 3.3. See Online Appendix I on the equivalence of both approaches. In the just-identified case with one single IV, both approaches must lead to numerically identical results, while results may differ slightly in the over-identified case.

exogenous and allows identifying the entire model by simply estimating (6) and (7) with ordinary least squares (OLS). This assumption is unlikely to be met in our case. Alternatively, one could use two orthogonal instruments, one for each endogenous regressor, but the exclusion restrictions are much stricter than in the standard 2SLS case (Jun *et al.*, 2016; Frölich and Huber, 2017) and unlikely to be met in our application. Pinto *et al.* (2020) used both an IV and assumptions on the error structure for identification. Their model allows for $\epsilon_T \not\perp\!\!\!\perp \epsilon_M$ and for $\epsilon_M \not\perp\!\!\!\perp \epsilon_Y$, which keeps T and M endogenous. The crucial assumption is that there must be no correlation between ϵ_T and ϵ_Y, i.e., $\epsilon_T \perp\!\!\!\perp \epsilon_Y$ conditional on ϵ_M and all the observed variables. We denote this conditional independence as $\rho_{TY} = 0$. If this condition is met, one instrumental variable Z is sufficient to identify the whole model. See Online Appendix J.

The conditional independence $\rho_{TY} = 0$ plausibly holds in our application. The related literature has primarily been concerned with endogeneity in the relationship between T and M (Autor *et al.*, 2013; Dauth *et al.*, 2014; Pierce and Schott, 2016), but has not articulated separate endogeneity concerns coming from other sources when studying the relationship between T and Y (Malgouyres, 2014; Feigenbaum and Hall, 2015; Che *et al.*, 2016; Jensen *et al.*, 2017; Autor *et al.*, 2020). While unobserved variables may affect the relationship between import exposure and labour market adjustments (this is why we need an IV in the first place) as well as the relationship between labour market adjustments and voting behaviour, we have no reason to believe that there is an unobserved variable *orthogonal* to labour market developments that significantly affects both a region's import exposure and voting behaviour.

In our setup, parameter β_M^T, i.e., the effect of import competition on local labour markets, is straightforward to estimate using standard 2SLS regressions:

$$T_{it} = \beta_T^Z \cdot Z_{it} + \beta_T^K \mathbf{K}_{it} + \eta_{it} \tag{8}$$

$$M_{it} = \beta_M^T \cdot T_{it} + \beta_M^K \mathbf{K}_{it} + \epsilon_{it}. \tag{9}$$

These are (5) and (6) with control variables $\mathbf{K}_{it}$ and subscripts added. Note that we used essentially the same model to assess T's effects on voting outcomes in Section 2, (2) and (3). The first stage is identical, and the second stage only replaces Y_{it} with M_{it} as the outcome. Identification only requires Z to be a valid instrument for T.

Identification of the parameters β_Y^M, β_Y^T of (7) is more challenging. We employ the novel estimation procedure proposed by Pinto *et al.* (2020), with β_Y^M, β_Y^T being the expected values of the estimators of a 2SLS regression where Y is the dependent variable, M is the endogenous variable, Z is the instrument and, notably, T enters as a conditioning variable. Under the assumption that $\rho_{TY} = 0$, β_Y^M and β_Y^T can be identified by evaluating the following two-stage model:

$$M_{it} = \gamma_M^Z \cdot Z_{it} + \gamma_M^T \cdot T_{it} + \gamma_M^K \mathbf{K}_{it} + \mu_{it} \tag{10}$$

$$Y_{it} = \beta_Y^M \cdot M_{it} + \beta_Y^T \cdot T_{it} + \beta_Y^K \mathbf{K}_{it} + \epsilon_{it}. \tag{11}$$

Equation (11) is equivalent to (5) with control variables $\mathbf{K}_{it}$ and subscripts added. The real novelty of the 'partially confounded IV model' lies in the first-stage equation, (10), that conditions on T for identification.

To understand the logic of conditioning on T in the context studied here, consider that the endogeneity concern in the relation between T and M is that an industry-*j*-specific domestic demand shock will reduce both local import exposure (T) and local employment (M) in regions that are specialised in industry j. The solution advanced in the literature is to use other

(high-wage) countries' imports as the basis of an instrument (Z) that is orthogonal to Germany-specific demand conditions. The key intuition underlying Z's explanatory power for M, conditional on T, is that, when other countries' industry-specific imports are high relative to (i.e., conditional on) German industry-specific imports, these will partly reflect the unobserved German industry-specific demand shock, i.e., the source of the bias. So *conditional* on German imports (T), other countries' higher imports in a given sector 'cause' additional reductions in German employment, because they reflect negative German demand conditions that have lead to lower values of T.[23] The assumption that $\rho_{TY} = 0$ implies that the instrumental variable Z can be used to evaluate the causal effect of M on Y if (and only if) conditioned on T. This, in turn, is the requirement for decomposing T's total effect into DE and IE.

3.2. *The Effect of Import Exposure on Labour Markets*

We want to identify the causal chain from T over M to Y to learn about the relative importance of the labour market mechanism. The first step is to ensure that M is causally affected by T, i.e., to identify parameter β_M^T from (6) using the 2SLS model described by (8) and (9). We observe five labour market outcomes that can be used to assess labour market mechanism M: (*i*) total employment, (*ii*) manufacturing's employment share, (*iii*) manufacturing wages, (*iv*) non-manufacturing wages and (*v*) unemployment. Other papers have examined trade effects on these outcomes in detail, including Autor *et al.* (2013), whose results have already been replicated for Germany by Dauth *et al.* (2014); thus, we keep this subsection brief. Online Appendix Table A5 provides detailed regression results for all five outcomes, with specifications following those in Table 1. What we find is that *NetExposure* has a significantly negative effect on total employment and manufacturing employment, and it significantly increases the regional unemployment rate.

Each of those variables could qualify as mediator, but our empirical approach allows for identifying the mediating effect of one M per T and Z only.[24] We therefore aggregate the observed labour market variables into *principal components* and focus on the mediating effects of labour market adjustments M in the aggregate. A *principal component* analysis is attractive because it generates indices that are purely statistical measurements based on the total variation in labour market outcomes, and are orthogonal to one another by construction.[25] We label the principal components as 'labour market components' (LMCs).

One can best interpret the LMCs through their relation to the observed labour market outcomes, i.e., their factor loadings reported in Table 3. By construction, there are as many LMCs as variables but following the Kaiser–Guttman criterion, it is common to regard only principal components with an eigenvalue larger than 1. This holds for the first two LMCs. In our data, LMC_1 and LMC_2 explain about 80% of the variation in the labour market data ($0.541 + 0.256$). LMC_1 is somewhat ambiguous: it has a weak positive correlation with overall employment but a negative one with manufacturing employment. Moreover, it is positively correlated with changes in wages, but also with unemployment.[26] By contrast, LMC_2's interpretation is unambiguous: its factor loadings are strongly positive for changes in manufacturing employment and total employment,

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[23] Whether they indeed do so is a question of explanatory power, not of identification.

[24] Causally disentangling the mediating effects of different variables would require additional instruments, while omitting mediating channels from the model does not bias the estimates for M; see Pinto *et al.* (2020).

[25] By contrast, methods that take weighted averages (Kling *et al.*, 2007; Christensen and Miguel, 2018) are unattractive for creating a mediating variable index precisely because they pre-impose weights.

[26] Our interpretation of LMC_1 is that it reflects the polarisation of high-wage countries' labour markets (Goos *et al.*, 2009; 2014), associated with an expansion of services, higher wages and higher unemployment.

Table 3. *Labour Market Components' Factor Loadings.*

	(1) Δ log employment	(2) Δ share manuf. empl.	(3) Δ log manuf. wage	(4) Δ log non-manuf. wage	(5) Δ share unempl.
LMC$_1$	0.1711	-0.3632	0.5108	0.5486	0.5261
LMC$_2$	0.7625	0.6004	0.2104	0.0607	-0.1012
LMC$_3$	-0.5389	0.397	0.5311	0.3251	-0.4053

Notes: The table reports on the factor loadings of the five labour market variables on three principal components LMC$_1$, LMC$_2$ and LMC$_3$. See the discussion in the text. LMC$_1$'s eigenvalue is 2.707, explaining 54.1% of the total variation. LMC$_2$'s eigenvalue is 1.281, explaining 25.6% of the total variation. LMC$_3$'s eigenvalue is 0.509, explaining 10.2% of the total variation.

Table 4. *Effect of Trade Exposure T on Labour Market Adjustments M.*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Second-stage results of (9) for different labour market outcomes							
Labour market components							
LMC$_1$	-0.024	-0.023	0.027	0.048*	0.050*	0.037	0.056**
	[0.540]	[0.519]	[0.332]	[0.088]	[0.074]	[0.277]	[0.048]
LMC$_2$	-0.189**	-0.196**	-0.264***	-0.276***	-0.273***	-0.330***	-0.316***
	[0.044]	[0.044]	[0.001]	[0.002]	[0.001]	[0.000]	[0.001]
LMC$_3$	0.021	0.024	0.029	-0.005	-0.002	-0.063*	-0.003
	[0.626]	[0.607]	[0.509]	[0.895]	[0.960]	[0.075]	[0.937]
Single variables							
Δ log employment	-0.019**	-0.020*	-0.024***	-0.024***	-0.024***	-0.025***	-0.028***
	[0.040]	[0.051]	[0.004]	[0.006]	[0.004]	[0.000]	[0.003]
F-stat instruments	66.48	74.66	71.26	64.47	64.33	39.98	59.84
Specification/controls	Baseline	+ Industry	+ Demo-graph.	+ LM	+ Voting	$\sim$ (5) 2 Z	$\sim$ (5) West
Period-by-region FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	730	730	730	730	730	730	644

Notes: Each cell reports second-stage results from a separate 2SLS regression. First-stage results are the same as in Table 1. Each line reports on a different labour market mechanism as the outcome. Across columns (1)–(5), we successively add control variables, exactly as in Table 1. In column (6), we use two instrumental variables and column (7) considers only West Germany. All specifications include region-by-period fixed effects. The *p*-values are reported in square brackets; SEs are clustered at the level of ninety-three commuting zones. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

and negative for changes in unemployment. Thus, while LMC$_1$ appears to capture the divergence between manufacturing jobs and the rest of the labour market, LMC$_2$ captures common changes to manufacturing jobs and the overall labour market. These are the core labour market adjustments we see in reaction to import competition.

Table 4 reports on the estimation with labour market components as outcomes, i.e., we investigate the effect of *NetExposure* (T_{it}) on LMC$_1$–LMC$_3$. As expected, the effect of T_{it} is sharply concentrated on LMC$_2$. Only LMC$_2$ is significantly affected by T_{it} in all specifications. By contrast, the other LMCs are largely unaffected.[27] Therefore, we focus on LMC$_2$ as our key mechanism *M* that plausibly captures the core labour market adjustments to import competition. Below, we also report the effect on the log of employment for comparison.

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[27] These results resonate with existing evidence that import competition has had large effects on (overall and manufacturing) employment, while the polarisation of work and the rise of service jobs (i.e., our LMC$_1$) were explained by other factors, primarily automation (Autor *et al.*, 2015). While the statistical significance of trade effects on LMC$_1$ is higher in the West German subsample, its point estimates remain small.

Table 5. *Estimates of the Mediation Model.*

Mediating variables:	(1) Δ log employment	(2) LMC_2	(3) LMC_2	(4) LMC_2
Panel A: (11); outcome: far-right voting				
β_Y^M	−3.927**	−0.582**	−0.487***	−0.821***
	[0.030]	[0.025]	[0.002]	[0.001]
DE: β_Y^T	−0.002	−0.066	−0.050*	−0.148**
	[0.954]	[0.255]	[0.097]	[0.034]
Panel B: model parameters				
β_M^T (estd. in Table 4)	−0.024	−0.273	−0.330	−0.316
IE: $\beta_M^T \cdot \beta_Y^M$	0.094	0.159	0.161	0.259
TE (estd. in Table 1)	0.092	0.092	0.117	0.112
TE (calc. IE + DE)	0.092	0.093	0.111	0.111
S = IE/TE (calc.)	1.022	1.728	1.376	2.313
S = IE/TE (estd.)	1.022	1.710	1.451	2.333
Specification/controls	+ Voting	+ Voting	~ (2) 2 Z	~ (2) West
Period-by-region FEs	Yes	Yes	Yes	Yes
Observations	730	730	730	644

Notes: Panel A presents second-stage results from estimating the mediation model with different mediating variables *M*. Panel B summarises related model parameters and explains how they can be assessed. The TE can be estimated (estd.) or calculated (calc.). Differences between estd. and calc. in columns (1), (2), (4) result from rounding errors. First-stage results are reported in Table A8 (Online Appendix J). Our preferred specification in column (2) uses the aggregated labour market component LMC_2 as mediator. To ease interpretation, column (1) uses the change in log employment to assess the mediating effect of labour market adjustments instead. Columns (3) and (4) repeat the estimation of column (2), but with two instrumental variables (column (3)) and on the West-German subsample (column (4)). All specifications include the full set of control variables as in column (5) of Table 1, along with region-by-period fixed effects. The *p*-values are reported in square brackets; SEs are clustered at the level of 93 commuting zones. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

3.3. *Mediation Analysis*

We now test the assumption that labour market adjustments *M* caused by trade exposure *T* are the economic mechanism for the effect of trade exposure *T* on far-right voting *Y*. In order to decompose the total effect of *T* on *Y* (TE) into the direct effect of *T* on *Y* (DE) and *T*'s indirect effect through *M* (IE), we implement the mediation model set out in Section 3.1. Specifically, we estimate the two-stage model described in (10) and (11). Our focus is on the extent to which the effect of *NetExposure* on far-right party support (reported in Table 1) works through the effect of *NetExposure* on LMC_2 (reported in Table 4). To facilitate interpretation, we also report results for changes in total employment as mediator *M*.

In panel A of Table 5, the coefficient $\hat{\beta}_Y^M$ reports the causal effect of labour market adjustments *M* on far-right voting support *T*. The point estimate in column (1) indicates that a 1% drop in total employment increases far-right parties' vote share by 0.039 percentage points, i.e., 3.927/100. This effect compares to an average per-decade increase in the far-right vote share of 0.43 percentage points during the 22 years we study. Here *Y* is similarly responsive to the aggregate measure of labour market adjustments LMC_2.[28] The deeper importance of the point estimates $\hat{\beta}_Y^M$ is that they allow us to assess the IE of *T* on *Y*, i.e., the effect of labour market adjustments *caused by NetExposure* on far-right voting; see panel B of Table 5. The IE can be derived from multiplying $\hat{\beta}_Y^M$ reported in Table 5 with $\hat{\beta}_M^T$ reported in Table 4, i.e., IE = $\hat{\beta}_Y^M \times \hat{\beta}_M^T$. The IE of *T* running through LMC_2 is thus $-0.582 \times -0.273 = 0.159$. If *NetExposure* increases by

[28] Contrarily, LMC_1 has no significant effect on far-right voting support, as unreported regressions reveal. Moreover, no other voting outcome is significantly affected by *M*.

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€1,000 per worker, this leads to labour market adjustments that in turn increase the far-right vote share by 0.159 percentage points, ceteris paribus. Relating this to the estimated total effect of T on Y, reported in Table 1, suggests that the IE is larger than the TE by a factor S of 1.71. This implies an opposing direct effect. Indeed, the DE given by point estimate β_Y^T in Table 5 (column (2)) works in the opposite direction. While the indirect effect of trade-induced labour market adjustments radicalises voters, T's direct effect reduces far-right party support by 0.066 percentage points per €1,000/worker *NetExposure*. Note that β_Y^T and $\beta_M^T \times \beta_Y^M$ add up—net of rounding errors—to the total effect of 0.092 estimated in Table 1, i.e., DE + IE = TE.[29] Panel B presents all the parameters related to the mediation model described in Section 3, and explains where in the paper they have been estimated or how they can be calculated.[30]

The IE running through the labour market channel explains between 102% (0.094/0.092, when only changes in total employment are considered) and 173% (0.159/0.092, when overall labour market adjustments are considered) of the total effect of import competition on populist support. This means that the voting response to increasing international trade would have been even stronger if solely labour markets were affected. However, the radicalising effect is mitigated by a politically moderating direct effect. The DE captures all trade effects on populist support that are unrelated to trade's labour market effects, like increasing consumer surplus or non-pecuniary benefits of increased international exchange.

In summary, our results clearly show that the labour market responses to trade that have been reported in the literature so far do have political consequences. They increase the support for nationalist parties. Conversely, this implies that increasing import competition would have less pronounced effects on populist support if one could just mitigate the adverse labour market effects of increasing trade integration. Put differently, any effective remedy for the 'populist backlash' to trade integration has to focus on labour markets first and foremost.

4. Effects on the Rise of a Right-Populist Party

We have shown that import competition from low-wage countries increases the vote share of far-right parties and that this effect is driven by trade-induced labour market adjustments. For the German case, the estimated effects on far-right parties are comparatively small in absolute terms because the far right was mainly represented by extremist parties during our period of analysis. As discussed in Section 2.1, we believe that a right-populist party with a less extreme brand of nationalism could have been more successful in tapping into the voting potential generated by trade exposure. To substantiate this conjecture, we go beyond our sample period to consider the rise of the right-populist *Alternative für Deutschland* (AfD; Alternative for Germany). The AfD was founded in 2013. It was initially conceived as an anti-Euro party but developed into an anti-immigrant, anti-globalisation party thereafter. With this right-populist platform, the AfD quickly entered the federal parliament and all German state parliaments. As such, the AfD is today comparable to France's *National Rally*, the *Freedom Party of Austria*, the Dutch *Party for Freedom*, Italy's *Northern League* or the *UK Independence Party*.

We are interested in whether the trade-induced support of far-right parties at the end of our initial study period in 2009 translates into increasing support for the right-populist AfD from 2013 on. Figure 2 provides evidence in support of this reading: we see a tight positive relationship

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[29] This equality does not hold for the over-identified case as in column (3) where two IVs are included.
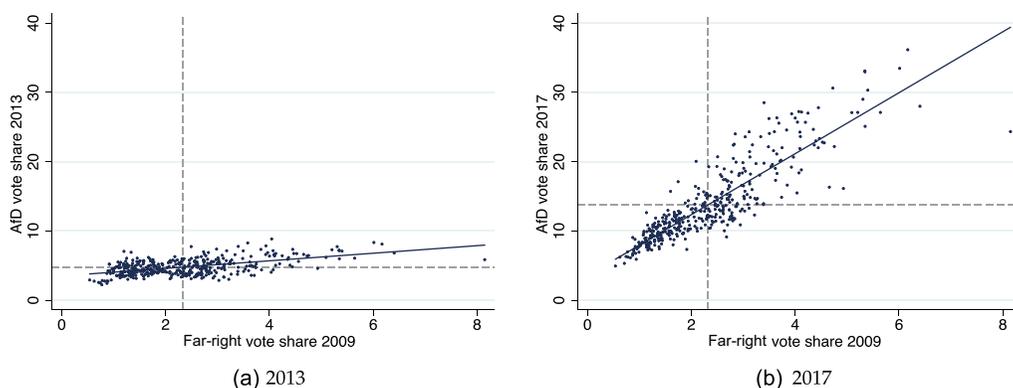[30] Online Appendix Table A8 presents the first-stage results of estimating (6).

Fig. 2. *Right Extremist Votes and AfD Votes.*

Notes: The figure shows a scatter plot between the far-right vote share in 2009 and the AfD vote share in 2013 and 2017, respectively. Grey dashed lines indicate the average vote share for both parties.

between the far-right vote share in 2009 and the AfD vote share in 2017. Importantly, we see a much less pronounced relationship between the far-right vote share in 2009 and the AfD vote share in 2013, that is, *before* the AfD had developed its distinctively populist anti-globalisation stance. In Online Appendix K, we investigate this relationship more formally and supplement the empirical analysis with additional background information on the origins of the AfD. Specifically, we regress the change in the AfD vote share across counties between the 2013 and 2017 federal election on the vote share of far-right parties in 2009. To focus on the trade-induced part of the variation in 2009 far-right support, we use our original instruments for the periods 1987–1998 and 1998–2009 in 2SLS regressions. This is a reduced-form version of our initial model described by (2) and (3). The results support the message conveyed by Figure 2. The OLS estimates show that regions tilting to the far right before the emergence of the AfD are also more likely to support the right-wing populists in recent elections. The IV estimates show that this relationship holds for far-right party support caused by import competition. Our point estimates suggest that a one-percentage-point increase in far-right vote shares caused by trade in 2009 translates into the AfD gaining two percentage points in vote share between the 2013 and 2017 elections.[31]

5. Conclusion

A substantial body of recent empirical evidence shows that in high-wage manufacturing countries, such as Germany and the United States, import exposure had detrimental effects on the labour market outcomes of manufacturing workers. In this paper, we show that import exposure has also induced voters to support protectionist, populist, and nationalist policy agendas, represented by Germany's far-right parties. This laid the ground for the electoral success of the right-populist party AfD more recently.

  Our focus is to ask whether this effect of import exposure on far-right support is mediated by trade effects on labour markets. There is good reason to believe this is the case: the estimated effects on voting and labour market outcomes complement each other, and an individual-level

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[31] In Online Appendix K we find no evidence that the relationship between far-right support in 2009 and the rise in AfD votes after 2013 was amplified by the global financial crisis.

analysis further suggests that those most vulnerable to the labour market consequences of import exposure are also those most likely to shift their support to far-right parties.

In an attempt to identify the economic mechanism linking import exposure to populist support, we face an empirical problem that is common to many research settings: we can use standard IV methods to causally identify the effect of a treatment (import competition T) on an outcome (labour market adjustments M), and causally identify the effect of the same treatment on another outcome (voting for the far right Y). But if the effect of T on Y is likely to work through M, standard IV methods will not quantify this mediation effect.

To overcome this problem, we apply a novel methodology developed by Pinto *et al.* (2020) that allows us to perform the required *mediation analysis* in an IV setting. Applying this method, we find that the effect of import competition that is mediated by labour market adjustments is larger than the total effect of import competition on far-right voting, which in turn implies that other channels that link import exposure to voting are politically moderating in the aggregate. Net of its adverse labour market effects, international trade would actually decrease the support of nationalist parties. If policymakers want to increase support of international economic integration, they should thus focus on mitigating the adverse labour market effects of international trade, which are centred on low-skill manufacturing workers.

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Additional Supporting Information may be found in the online version of this article:

Online Appendix
Replication Package

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