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Openness and the welfare state: risk and income effects in protection without protectionism ☆

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ABSTRACT

Have recent trends in globalization changed the positive link between trade openness and social insurance? The consensus view – that voters want better social insurance against income loss the more open the economy – is seemingly contested by the rise of new right-wing parties and the China shock. We present a theoretical framework of risk and income effects of globalization that captures the conventional view, but also shows when it will be modified: When the income effect is negative, the political support for social insurance can decline in spite of the risk effect. We construct an empirical measure of welfare state support across European regions and leverage the rapid integration of China into the world economy to show that higher import competition reduces the support for social insurance. Consistent with our framework, we use variations in employment losses between regions to decompose the overall effect of the shock into a (weak) positive risk effect and a (strong) negative income effect.

1. Introduction

Protection without protectionism means that governments offer social insurance for their citizens without protecting their economies from competition in the world market. Trade openness has actually fueled the generosity of welfare state arrangements as governments have sought to cushion their citizens from the economic consequences of an uncertain world economy. This *risk effect* of globalization on social policies is a well-established mechanism in economics and political science (Rodrik, 1998; Garrett, 1998; Katzenstein, 1985; Cameron, 1978).[1] After the recent integration of China into the world economy, however, many countries have rolled back the generosity of social provisions, including social insurance and other compensation policies in the welfare state (Busemeyer, 2009). Has the positive association between trade exposure and social compensation changed?

In this paper, we address this question by estimating the effect of the rise of inexpensive imports from China on the local support for the welfare state in eleven European countries.[2] To guide the empirical exploration, we first develop a theoretical social

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[1] Trade openness may have different effects from capital openness. For a good overview of this distinction and an empirical assessment, see Liberati (2007).

[2] The eleven countries are: Austria, Belgium, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom.

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insurance model of welfare state support (see e.g. Barth and Moene, 2016; Moene and Wallerstein, 2001, for applications of a similar framework in other settings). Focusing on how gains and losses from international trade can affect the political support for social insurance, we suggest a new interpretation of the link between globalization and welfare state support that highlights an income effect *in addition* to the traditional risk effect.

The risk effect in our model can be viewed as the direct impact of working under more risky globalized conditions, capturing the idea that higher risk of income loss raises the political demand for social insurance, either out of self-interest or out of solidarity towards the less fortunate. The impact of changes in income, in contrast, captures the willingness to pay the perceived individual burden to finance social protection with the incomes one receives under globalization. We argue that the generosity of the welfare state is like a normal good in the sense that given the exposed risk, the political demand for a more generous arrangement by an income group goes up with the income of the group, all else being the same. For a given risk, voters become more able and willing to insure themselves from bad states when income increases. If this is right, tax financed social insurance can become politically less attractive for voters who experience a drop in income and employment. Other needs might then be more severely felt.

Combined, the risk effect and the income effect sum up to the total effect of trade exposure on demand for welfare state support. Much of the current empirical literature, in contrast, interprets the estimated links between trade exposure and welfare support as a basic risk effect of income volatility (Rodrik, 1998). For instance, the empirical studies by Iversen and Soskice (2001), Rehm (2009) and Walter (2010) show that labor market risks and employment in industries exposed to trade (Walter, 2010, 2017) are correlated with pro-welfare state preferences.[3] The emphasis on labor market risk is important enough, but as our theoretical model makes clear, it needs to be seen in the light of changes in incomes as well.

Based on the intuition from the theoretical discussion, we estimate both the risk and income effects of trade exposure on welfare state support. Inspired by Colantone and Stanig (2018), we measure the local voter support for the welfare state by combining regional vote shares in national elections with political parties' view on the welfare state, as manifested in their electoral platforms. Our measure therefore varies with party positions and with actual vote shares, and captures to what extent voters vote for parties that run on welfare state friendly platforms.[4]

We construct this measure in a sample of 169 European labor market regions, covering 37 national elections from 1996 to 2008. This time period includes the large bulk of the rise in imports from China to Europe, which accelerated after China's entry into the WTO in 2001 and peaked before the financial crisis of 2008. This time period is therefore the most relevant to study when interested in the immediate effect of an import shock.

To motivate our approach, Fig. 1 illustrates how voters' welfare state support has taken a hit during the 2000's precisely in regions that were the most exposed to import competition from China. The figure shows the development of welfare support in election years in the top 20 percent of regions within each country in terms of exposure to import competition, compared to the development of welfare support in the remaining 80 percent of regions. Both are measured as differences from the country-specific mean in the same election year. While the less exposed regions display a somewhat increasing pattern after 2001, the import competing regions display a clear decline in relative welfare support after 2001. This is a pattern of polarization that strongly suggests that trade has been a key factor behind the recent developments in regional disparities in voter behavior.[5] Our main goal in this paper is to unpack the mechanisms behind these differential developments and to relate them to the underlying income and risk effects of globalization.

To do so, we follow the shift-share approach of Autor et al. (2013) and measure exposure to China based on initial employment compositions, instrumenting actual imports to Europe by trade flows going from China to other rich countries. This provides us with an overall estimate of the impact of trade exposure on welfare state support. Our preferred estimate suggests that a one standard deviation sized increase in import exposure lowers welfare support by 9 percent of its standard deviation.

We next decompose this overall effect into an indirect effect through changes in regional manufacturing employment, which we interpret as an income effect, and a direct effect of trade, which we interpret as a risk effect. To achieve this we use recently developed mediation methods for IV settings (Dippel et al., 2020a,b). Consistent with our theoretical argument, we find that support for welfare state expansion decreases in regions that experience manufacturing employment decline due to import competition. The result is a polarization of voters across regions. The effect, which we interpret as an income effect from realized income losses, is statistically and politically important. The direct effect of trade, which we interpret as a risk effect, is positive and significant and it therefore dampens the overall impact of import exposure of welfare state support.

We provide further support for our hypothesis by estimating a regression model with both imports and exports. In contrast to import-exposed regions, regions involved in export-lead activities are likely to receive higher incomes due to the entrance of China, as the new entrant allows firms to sell their products in larger markets. The income effect of export should therefore be the opposite of import exposure, if our hypothesis is true. This is exactly what we find.

In sum, we argue that income effects might dominate risk effects in times of rapid globalization, especially in regions that are particular exposed to import competition. A fundamental caveat for analysis like ours, however, is that political platforms are bundled: we cannot know for sure whether voters vote for welfare-friendly parties *because of* their welfare state platforms, or because of other correlated policies. We shed light on this issue by studying the impact of the China shock on other policy dimensions.

[3] Support for the compensatory response is much weaker in studies of party choice. Walter (2010) finds that Swiss voters exposed to trade or offshoring are more likely to vote for the Social Democrats, but a more frequent finding is that voters tend to punish incumbent parties for negative trade shocks (Jensen et al., 2017; Margalit, 2011).

[4] Vote shares rather than surveys are particularly relevant in our case. The European Social Survey (ESS), for instance, has a too small sample size to break it down regionally, and the repeated surveys do not include questions on social insurance, but only on income redistribution.

[5] See Autor et al. (2020) for an analysis of the US case.

Fig. 1. Average welfare state support by election year. Low- and High-import exposed regions. Difference from election mean. *Note:* Average levels of welfare state support by election year and import exposure. Import exposure is grouped with a cut-off at the 80th percentile by country of average trade exposure by regions; High = "top 20", Low = Remaining regions. Welfare support is measured as the difference from country mean in each election. The size of the circles represents the number of regions within each group in each election.

First, a basic premise of our analysis is that the welfare state variable covers insurance-like programs. Yet, welfare programs can be offered on more or less re-distributive terms in the tax system and in the design of their benefits. Pure redistributive welfare programs are likely to become less popular among groups with higher incomes, in line with standard models of redistribution, such as Meltzer and Richard (1981). Support for such programs should thus decline when individual incomes rise, and vice versa. To validate that our main outcome is a measure of support for social insurance, we therefore estimate the income effect of the trade shock on a proxy for the demand for redistribution. We find close to a zero effect, which supports our claim that welfare state expansions and contractions are driven by an insurance logic rather than a redistribution logic (Baldwin, 1990).

Second, our paper is related to a large literature on the growth of right-wing parties that campaign on issues of anti-immigration, law and order, and national sovereignty (see e.g. Guriev and Papaioannou, 2022, for a review). One concern is that our measure of parties' welfare state platforms picks up the influence of parties positions on these cultural conservative issues. This concern is stronger, the more correlated these positions are in our data. We address this issue by examining these correlations. We find that while they are correlated, the correlations are not so large that they undermine our ability to study effects on welfare state support. This view is also supported by the political science literature, which demonstrates that the welfare state policies of the new right parties are heterogeneous across time and space, in particular in their social insurance policies (Rathgeb and Busemeyer, 2022; Röth et al., 2018).

The rest of the paper is structured as follows. Section 2 provides our simple model of how globalization can effect vote shares of pro-welfare parties; Section 3 lays out the data and key variables for the empirical analysis; Section 4 discusses the empirical approach and how we identify the effects; Section 5 provides the main results; and Section 6 offers some concluding remarks.

2. Theoretical framework

In this section, we make the risk effect and the income effect distinct in a simple model of the political support for social policies, measured by the vote share of the most welfare friendly bloc of political parties. In all cases, individual incomes, risks and what we call ideological and political sympathies are distributed over individuals. We associate groups with the collective of workers, one in each local region. The groups can be hit by different globalization shocks dependent on their trade exposure.

2.1. Basics

Throughout, the welfare state is considered a provider of health care, social care, and social insurance, simply called social provisions with a generosity denoted G. The vulnerability of a group of citizens reflects their need for such provisions. The social provisions are tax financed and thus delivered on terms that are better for the poor than the rich.

In region i, each worker has disposable income $(1-t_i)w_i$, after earnings w_i are taxed with a rate t_i. The vulnerability of these citizens in region i depends on risk exposure to global shocks. We capture this with the weights that a voter is likely to put on her well-being associated with the different states of the world — states where she needs social provisions and states where she does not. These weights reflect both the likelihood of arriving in the specific state and its expected duration. The weights $(1-\gamma_i)$ and γ_i are thus individual and dependent on group belonging, social position in society, and the typical risks and social needs.

We represent the typical preferences for social provision in group i by the utility of disposable income C_i when employed, plus the utility of receiving social provision etc. represented by the disposable income B_i when out of work:

$$V_i = (1-\gamma_i)U(C_i) + \gamma_i U(B_i), \tag{1}$$

where both C_i and B_i, as we shall see, depend on G, written $C_i(G)$ and $B_i(G)$. A high risk of income loss due either to unemployment or ill health, shows up in a high value of γ_i. Whenever it cannot be misunderstood we use the short-hand $V_i = V_i(G)$.

The utility function $U(\cdot)$ in (1) is assumed to have a constant relative risk aversion:

$$U_i = \frac{1}{1-\mu}X_i^{1-\mu} \quad \text{for} \quad X_i = C_i, B_i, \tag{2}$$

where we assert $\mu > 1$ to indicate that social provision is a normal good.

We capture the support for welfare provisions by the vote share of the most welfare friendly bloc of political parties. To see how, consider the case with two blocs where the most welfare friendly bloc promises to implement G_H when elected and the other bloc promises $G_L < G_H$.

The preferences of a citizen have one systematic part, captured by $V(G_H)$ and $V(G_L)$ defined by (1). In addition comes political and ideological sentiments (values and sympathies) represented by ϵ_{ij} for voter j in region i. These sentiments can go to either bloc. Conventionally, if $\epsilon_{ij} < 0$, voter j has a net sentiment in favor of the most welfare friendly block, and if $\epsilon_{ij} > 0$, voter j has a net sentiment in opposition to this block. The distribution of the sentiments in region i has a cumulative density function $F_i[\cdot]$ and a marginal density f_i. The net gain (or loss) of voting pro-welfare is thus $V_i(G_H) - V_i(G_L) - \epsilon_{ij}$, and citizen j in region i votes for the pro-welfare party if $V_i(G_H) - V_i(G_L) > \epsilon_{ji}$. This implies that the pro-welfare vote share s_i in region i becomes:

$$s_i = F_i[V_i(G_H) - V_i(G_L)]. \tag{3}$$

2.2. The impact of risk and income on vote shares

Our prior is that there exists a clear risk effect of globalization. In our set-up, it shows up in how the pro-welfare vote share reacts to a higher risk of income loss:

$$\frac{ds_i}{d\gamma_i} = \{U(C_i(G_L)) - U(C_i(G_H))\}f_i + \{U(B_i(G_H)) - U(B_i(G_L))\}f_i. \tag{4}$$

We have a less strong prior when it comes to the generality of a potentially positive income effect. In the following, and to motivate our later empirical exploration, we emphasize theoretical examples of when a positive income effect is likely to exist.

To do this, we use the expression of $V_i(G)$ in (1) to calculate:

$$\frac{ds_i}{dw_i} = \left(\frac{dU(C_i(G_H))}{dw_i} - \frac{dU(C_i(G_L))}{dw_i}\right)(1-\gamma_i)f_i + \left(\frac{dU(B_i(G_H))}{dw_i} - \frac{dU(B_i(G_L))}{dw_i}\right)\gamma_i f_i. \tag{5}$$

The sign of this income effect, as we shall see, depends on the tax and benefit system and several other features.

A simplified case: To set the stage, we first consider the case where both the tax rate and the benefits are the same for all individuals. Accordingly, the disposable income is $C_i = w_i(1-t)$ while working, and $B_i = G$ while not working. The tax rate can be derived from the balanced budget constraint where taxing the mean income in society – that we normalize to unity – with the rate t gives a budget to finance the expected fraction of the population on welfare, $\bar{\gamma}$. Hence, we have $t = b\bar{G}$, with $b = \bar{\gamma}$. Using all this, we can write the risk and income effect as follows:

$$\frac{ds_i}{d\gamma_i} = \{U((1-bG_L)w_i) - U((1-bG_H)w_i)\}f_i + \{U(G_H) - U(G_L)\}f_i \equiv \Delta_{R_i} > 0 \tag{6}$$

$$\frac{ds_i}{dw_i} = \frac{(1-bG_H)^{1-\mu} - (1-bG_L)^{1-\mu}}{w_i^{\mu}}(1-\gamma_i)f_i \equiv \Delta_{I_i} > 0 \tag{7}$$

The sign of the risk effect in (6) is positive since voters become more attracted to the pro-welfare bloc as they are exposed to more global risks that they want insurance against. Formally, the sign follows since both curly brackets in (6) are positive for all values of the relative risk aversion coefficient μ. The sign of the income effect in (7) is also positive since voters become more attracted to the pro-welfare bloc as their utility costs of paying higher taxes for the better insurance it offers becomes lower with higher incomes. Formally, the sign follows as long as the coefficient of relative risk aversion μ is higher than unity.

We now consider some extensions to this simple case, including social insurance tied to past earnings, progressive taxes, regional redistribution, and the possibility of topping-up public welfare schemes with private alternatives.

Income-replacement programs tied to earnings: Programs, covering insurance against unemployment, health, and old age normally have benefits that are tied to earnings and past contributions. For instance, they might be designed with an income floor ξG, plus a fraction $(1-\xi)G$ of (past) earnings: $B_i = [\xi + (1-\xi)w_i]G$, where the parameter ξ is between zero and one.

Incorporating this, the risk effect becomes weaker as there are now (for $(1-\xi) > 0$) an automatic upgrading of benefits to higher incomes, implying, formally, that the second curly bracket in (6) becomes less positive. Yet, the sign of the risk effect remains positive. The income effect also becomes weaker as the automatic rise in welfare benefits with higher incomes erodes some of the pro-welfare support that otherwise would take place. Formally, compared to the expression in (7) we have $ds_i/dw_i = \Delta_{I_i} + h_i(G_H^{1-\mu} - G_L^{1-\mu}) < \Delta_{I_i}$ since $G_H^{1-\mu} < G_L^{1-\mu}$ for $\mu > 1$, and $h_i = f_i[\xi + (1-\xi)w_i]^{-\mu}(1-\xi) > 0$.

Progressive taxes: In Europe there is considerable variation – both over time and across countries – in how progressive the tax system is. In recent decades, there has been a decline in progressivity in most countries, but no country has uniform taxes on all incomes (Scheve and Stasavage, 2016). To illustrate the implications of progressive taxation, we retain $B_i = G$ and use $C_i = (1-t_i)w_i$, where $t_i(G) = t(w_i, G)$ satisfies the balanced budget constraint $\sum_i t_i w_i = \bar{\gamma} G$.

Using again (4) and (5), together with (6) and (7), we have that the risk effect becomes stronger in low-income regions as $ds_i/d\gamma > \Delta_{R_i}$ as long as $t_i(G_L) < bG_L$, but weaker in high-income regions where $t_i(G_L) > bG_L$. The income effect remains positive, but becomes weaker in all regions as now:

$$\frac{ds_i}{dw_i} = \frac{1 - t_i - wt_w}{1 - t_i}\,\Delta_{I_i}, \tag{8}$$

as progressive taxes implies $1 > t_i + wt_w > t_i$, reducing the magnitude of the income effect without eliminating it.

Regional redistribution: Central governments might try to apply regional redistribution to mitigate the implications of global income shocks. The effect is just as if authorities charge lower tax contributions from regions that happen to get low incomes. In this way, regions hit by negative income shocks would obtain lower taxes as an implicit insurance device. This case is very similar to the case of progressive taxes: Regional redistribution would reduce the magnitude of the income effect to voters – in a similar manner as progressive taxes – without eliminating it. This is so in the reasonable case where the redistribution just mitigates the income fall and does not turn it into a net income gain.

Private insurance: Options to supplement the public provision with private provision can be incorporated in a simple way — if the two are perfect substitutes (which is rarely the case). Denote the additional insurance benefit Q_i. It is paid for by a unit price p while working. The idea is that each individual optimizes her level of Q_i for the given level of G. Hence, $B_i = G + Q_i$ is the total insurance benefit in the case of loss of income, implying that disposable incomes while working can be expressed as $C_i = w_i(1 - bG) - pQ_i$. The first order condition for an optimal topping-up can then be written as:

$$V_i'(Q_i;\, w_i) \equiv -(1-\gamma_i)U'(C_i)p + \gamma_i U'(G + Q_i) \geq 0. \tag{9}$$

Clearly, the private alternative is not tempting for citizens who have low income. The income threshold $\hat{w}_i$, below which the optimal Q_i is zero, is implicitly defined by the income for which the marginal costs of buying the first unit of private insurance is equal to its marginal gain, that is by $V_i'(0, \hat{w}_i) = 0$. It is easily checked that $\hat{w}_i$ is increasing in G. Hence, in regions with low incomes ($w_i \leq \hat{w}_i$) and high public provision G, we have the same risk and income effects as discussed above.

For $w_i > \hat{w}_i$, Eq. (9) with equality implicitly defines Q_i as a function of G and w_i, where $dQ_i/dw_i > 0$ since insurance is normal good, and where $dQ_i/dG < 0$, but $d(G + Q_i)/dG > 0$. Exposed to higher risks, a voter wants to increase the total insurance benefit if she has an income higher than $\hat{w}_i$, but yet low enough taxation costs so that $w_i b < p$. In this case, she benefits from the fact that she gets the public part of the insurance benefit at a lower costs than the market price p and thus becomes more attracted to the pro-welfare bloc since it offers more of the least expensive insurance. Similarly, when $\hat{w}_i < w_i \leq b/p$ there is also a positive income effect as the voter wants higher benefits $G + Q_i$ – as insurance is a normal good – and she thus becomes more attracted to the pro-welfare bloc since it offers more of that insurance at a lower price.

In contrast, for voters with so high incomes that the tax cost of public provision is higher than the private costs, $w_i b > p$, the impact of higher risks and higher incomes on the pro-welfare vote share is reversed. For these voters the pro-welfare bloc becomes less attractive since it offers the public part of the insurance at a higher costs for them than the market price for the private alternative.

Self-insurance is another private alternative. Even though the case of private insurance on top of the public scheme resembles somewhat the case of saving for self-insurance, a full discussion of such a private savings alternative requires a dynamic set-up, which is beyond the scope of this section. The simple logic from the discussion above is still likely to apply. If this is right, the private alternatives are more profitable for high income earners than for others since the high income earners pay the highest price (in the form of taxes, $w_i b$) for the public provision. The attraction to the most pro-welfare bloc can then decline when rich voters are faced with higher risks and higher incomes. For voters with lower earnings, however, the positive risk and income effect is the most likely outcome.

In sum: We have made a case for positive risk and income effects on public social provision. Exposed to higher risk of income loss voters have reasons to support pro-welfare parties more. Similarly, we should expect that voters who obtain higher incomes should increase their support to pro-welfare blocs in elections, while voters with declining incomes should not.

As we have seen, the possibility to supplement public social provisions with voluntary private alternatives can alter this logic somewhat. This is so in particular for high income voters who may have higher tax costs of public provision than the market price for private supplements. We should observe, however, that the *reasons* that led most European countries to concentrate on public provision in the first place – including concerns for scale advantages, moral hazard, and enforcement – can also affect how the risk and income effects work out. If these reasons show up as high costs of private alternatives relative to most voters' tax costs of public provision, the fraction of voters for whom the risk and income effects turn negative should be low. This is in line with the minor role that private supplementary insurance plays in most European countries.[6]

So far we have neglected the costs of taxation. When taxation is more costly, *both* the risk effect and the income effect obviously become weaker. A deeper concern is whether these two effects of globalization may disappear simply because countries that are more exposed to international competition, and thus should experience potentially high risk and income effects, would also have systematically higher costs of taxation that might reduce these effects towards zero. If this were so, however, we should not observe the strong positive association between "the volume of trade and the scope of government" that Rodrik (1998) among others observed. Being highly integrated in the world economy, it seems, does not imply prohibitive costs of public programs.

2.3. Globalization and regional welfare support

We now consider how globalization can affect the key parameters of our model.

We let $w_i(\theta)$ indicate how the income effect depends on globalization, where θ denotes the level of globalization. We index the set of import competing regions by I, and the set of exporting regions by E. A large literature has documented that exposure to cheap imports from China had a negative impact on employment in European regions (see e.g. Barth et al., 2022; Balsvik et al., 2015; Donoso et al., 2015; Malgouyres, 2017). Clearly, the entrance of China in the world economy also created new export opportunities, and Dauth et al. (2014) document that German regions that were specialized in export-oriented industries experienced employment gains and lower unemployment. Based on this, we assert that $w'_{i\epsilon I}(\theta) \leq 0$, as more trade exposure in import competing regions weakens labor and lowers the earnings ability, while $w'_{i\epsilon E}(\theta) \geq 0$ as more trade exposure in export-oriented regions raises the earnings ability. The effect on earnings goes via the demand for labor and thus changes in employment — a decline in import competing regions and a rise in export oriented regions. The effect we explore is how the electorate changes its votes in different regions when the members perceive changes in local employment as a signal of a change in their earnings in the same direction.

The risk effect, in contrast, captures the vulnerability caused by fluctuation associated with higher levels of globalization; importing regions through higher competition for own goods and exporting regions through market extensions. We let $\gamma_i(\theta)$ indicate how the individual risk depends on globalization. Risks of own job losses – whether they have already occurred or not – make the need for social insurance benefits more immediate. Yet, both importing and exporting regions are likely to experience shocks that may occur in other countries. If this is true, it would imply: $\gamma'_{i\epsilon I \bigcup E}(\theta) \geq 0$.

We can now decompose how the pro-welfare vote share in region i, as defined by (3), depends on globalization through our two mechanisms. Using Δ_{R_i} and Δ_{I_i} as generics for the risk effect and the income effect, we have:

$$ds_i = \Delta_{R_i}\gamma'_i(\theta)\,d\theta + \Delta_{I_i}w'_i(\theta)\,d\theta. \tag{10}$$

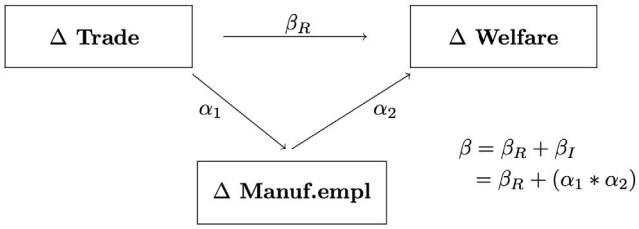
The first term of (10) captures the total risk effect, which is positive for all trade exposed regions as long as $\gamma'_{i\epsilon I \bigcup E}(\theta) > 0$. The second term captures the total income effect. The income effect has a negative impulse from employment decline in importing regions, since $w'_{i\epsilon I}(\theta) \leq 0$, and positive impulse from employment growth in exporting regions, since $w'_{i\epsilon E}(\theta) \geq 0$.

Hence, globalization has different effects on welfare state support in different regions. An import shock is likely to increase demand for welfare through the risk effect, but reduce demand for welfare through the income effect, while an export shock is likely to increase demand for welfare for both reasons. This ambiguity of import shocks may explain why we see a decline in welfare support in many places during the recent expansion of Chinese imports to Europe and the US, while at the same time small open economies are more likely to have strong support for their welfare states.

2.4. From theory to empirics

Our empirical implementation departs directly from Eq. (10). As discussed above, we use changes in labor demand as the central channel for changes in labor earnings, as the first and most significant impact of trade shocks is on regional demand for labor. Trade induced changes in local labor demand affect earnings both directly for the affected workers, and indirectly through equilibrium effects and local multipliers. The key relationships from our model may be illustrated as follows, where the income effect, denoted by β_I in the illustration below, equals the product of the effect of trade on manufacturing employment, α_1, and the effect of manufacturing employment on welfare support, α_2:

[6] The incidence is highest for health insurance, but even for health, private expenses account for 5% or less of total health spending in around half of OECD countries (see OECD, 2022).



As we discuss further below, the actual vote shares for pro-welfare parties comprise our empirical measure of welfare support. Taking the indirect effect through manufacturing employment into account, our empirical model thus takes the following form:

$$\Delta\text{Welfare}_{it} = \beta_R \Delta\text{Trade}_{it} + \alpha_1 \Delta\text{Manuf.empl.}_{it} + e_{W,it}, \tag{11}$$

$$\Delta\text{Manuf.empl.}_{it} = \alpha_2 \Delta\text{Trade}_{it} + e_{M,it}, \tag{12}$$

where the subscript it denotes region i in election year t, the e's are error terms, and Δ denotes changes. The risk effect is represented by the parameter β_R, while the indirect income effect going through manufacturing employment is equal to $\alpha_1 \times \alpha_2$. Inserting (12) into (11) gives the overall effect of trade on welfare support, $\beta = \beta_R + \alpha_1 \times \alpha_2$. The main empirical challenge arising from this simple model exercise is to estimate both the income effect, conditional on risk, and the risk effect, conditional on the income effect. We describe the identification of these parameters and how we deal with issues of endogeneity in detail below.

Is manufacturing employment a plausible mediator for our income effect? The increased trade flow of goods from China to Europe was concentrated on goods produced by the manufacturing industries. The immediate employment effects in Europe are therefore likely to be concentrated in the same industries. Moreover, negative shocks in manufacturing employment will represent negative income shocks if workers are unable to get equally well paid or better paid jobs when they lose their job. We believe that this assumption is reasonable, in particular in the short run (Couch and Placzek, 2010).

Our focus is on differential short-run responses to increased trade across regions. Still, there are possible spillover effects across regions within countries and across the entire Europe. Some of the gains from trade are typically more evenly distributed across all regions. Higher inexpensive imports from China reduce prices and increase real earnings across the entire economy, potentially affecting the political demand for welfare through the income effect. Larger export markets may increase domestic productivity through competition and scale effects. Also, some of the immediate losses are distributed across the economy, as when increased unemployment increases the unit cost of welfare generosity at the country level. Policy responses or wage coordination at the national level may also moderate the negative effects (Barth et al., 2022).

In our empirical analysis, which we explain in detail below, we estimate the models in first-differences, and thus sweep out all fixed region (and country) characteristics that may affect the level of welfare support in the region. Furthermore, we add country dummies to the equations. Since we estimate our model in first-differences, country dummies control for country specific trends in welfare support that may arise as a result of spillovers and long-run responses to increased trade.

3. Data and key variables

In this section we describe our data sources and how we construct our key variables. The analysis is based on data from 169 NUTS 2 regions in 11 European countries, covering 37 national elections over the years 1996 to 2008. This time period covers the main part of the "China shock", which accelerated after China's entry into the WTO in 2001 and peaked before the financial crisis of 2008 (see Colantone and Stanig, 2018).[7]

3.1. Support for the welfare state

We construct local measures of welfare support by combining regional election results in national elections with information on welfare state platforms in party manifestos. We derive party vote shares by NUTS 2 regions from the European NUTS-level election dataset (Schraff et al., 2022), and political parties' proposed level of welfare state expansion, as expressed in their election platforms, from the Comparative Manifesto Project (CMP) dataset (Budge et al., 2001; Volkens et al., 2017).[8]

We follow Lowe et al. (2011) and measure party p's position on welfare state generosity g, as $g_{pt} = log(\text{Expand}_{pt}+0.5) - log(\text{Limit}_{pt}+0.5)$, where Expand_{pt} is the number of positive references to welfare state expansion in election year t and Limit_{pt} is the number of

[7] Another reason for why our sample ends in 2008 is that Eurostat changed standard for their employment statistics from NACE Rev.1 to NACE Rev.2. There are no correspondence between these standards at the 2-digit level, which we use to construct our measures of trade exposure (see below). Also, the financial crises of 2008, and the sovereign debt crisis that followed, may have disrupted trends in the global economy. In Appendix F, we discuss the relationship between trade exposure and welfare state support for years after 2008 in more details.

[8] See Gethin et al. (2022) for a recent application of this data in economics.

positive references to welfare state limitation.[9] This is a well-suited measure for our purpose as the CMP variables explicitly mention social insurance programs and do not include policies that are mainly redistributive. Finally, we derive the support for the welfare state expansion across regions i over election years t as the average score of g_{pt}, weighted by vote shares s_{ipt}, as:

$$\text{Welfare}_{it} = \frac{\sum s_{ipt} g_{pt}}{\sum s_{ipt}}. \tag{13}$$

Note that we divide by $\sum s_{ipt}$ because small parties without national representation do not appear in the CMP database, which means that the sum of vote shares does not always sum to unity.

Our measure captures to what extent voters vote for parties that run on welfare state friendly platforms. It uses two sources of variation: variation in party positions and variation in vote shares. It is hard to disentangle the influence of these two sources since voters pay attention to party platforms when they decide what party to vote for, and parties pay attention to voter sentiments when they set their platforms.

3.2. Other policy dimensions

Our measure of welfare state support, described above, does not tell us whether voters vote for welfare-friendly parties *because of* their welfare state platforms. Electoral support might change because of changes in voters' demand for policies that are correlated with welfare state support, such as position on immigration policy, crime policy or environmental regulations.

We construct four additional policy measures from the CMP dataset to explore the extent of correlated political platforms. As for our proxy of welfare state support, we calculate these measures based on positive and negative references to different issues in the election platforms of political parties, weighted by local vote shares. We compute variables capturing support for *Redistribution*, *Protectionism*, *Nationalism*, and *Nationalist autarchy*. In Appendix B, we explain how these measures are constructed from the CMP data.

In Appendix Figure A1 we plot the four measures against our measure of welfare state support, for each of the 37 elections that we use in our main analysis. Unsurprisingly, the figure reveals a correlation between the different policy dimensions. In particular, political parties that are more supportive of the welfare state tend to be in favor of redistribution and protectionism, and less supportive of nationalism and nationalist autarchy. The correlations between the different measures and welfare state support are, however, not so strong that one can claim that they form one, single, political dimension. This result is in line with research in political science which shows that right-wing parties that thrive on issues of nationalism and conservative cultural values are heterogeneous in their welfare state policies platforms (Rathgeb and Busemeyer, 2022), and not necessarily retrench the welfare state if they get political influence, particularly not the social insurance programs (Röth et al., 2018).

Even though we are unable to unbundle the different policy dimensions, we believe the dimensions are sufficiently independent to be meaningfully studied in isolation. Below we furthermore present estimates of how trade exposure impacts the support for the different policy dimensions.

3.3. Trade exposure

We follow Autor et al. (2013) and others in constructing measures of trade exposure based on local employment structures prior to the China shock. Regions with a relatively large share of their employment concentrated in sectors producing the type of goods that China started to export would – according to such a measure – be more exposed than regions with employment concentrated in other sectors.

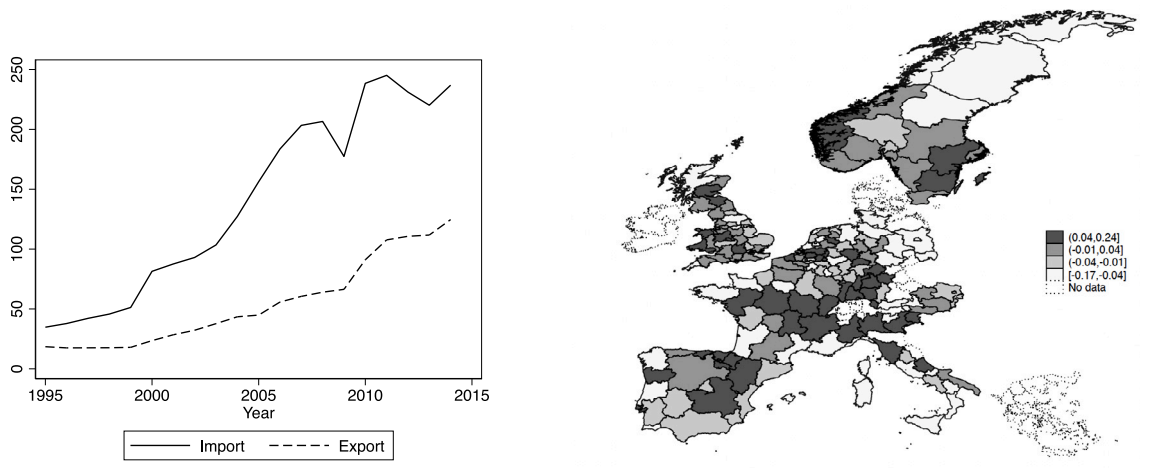
We extract detailed employment data for 14 manufacturing industries at the 2-digit NACE level from the Eurostat Regional Database. The Eurostat data is incomplete for some countries, and in these cases we supplement with national sources.[10] See Appendix A for details. In addition to the employment data, we extract information on demographics and average education attainments from the Eurostat database.

We get data on trade flows from the United Nations Commodity Trade Statistics (Comtrade). This data provides us with annual trade flows by countries, commodities and trade partners. We use the 4-digit SITC product codes, which give more than 1000 commodity groups. We then match trade of goods between China and the European countries in our study (in 2007 euros) with the employment data for different manufacturing industries, using harmonized industry and product classifications from the World Bank.[11]

[9] The respective variables in the CMP dataset (Budge et al., 2001; Volkens et al., 2017) are *per504* and *per505*. The definition of *per504* is "Favourable mentions of need to introduce, maintain or expand any public social service or social security scheme. This includes, for example, government funding of: Health care, Child care, Elder care and pensions, Social housing. Note: This category excludes education.". The definition of *per505* is "Limiting state expenditures on social services or social security. Favourable mentions of the social subsidiary principle (i.e. private care before state care)". See Horn et al. (2017) for a discussion of the welfare state variables in the Comparative Manifesto Project. They find "few miscodings and little systematic error" (pg. 12).

[10] This applies for Belgium, Norway and the UK.

[11] We unambiguously match more than 93 percent of all commodity groups to 2-digit NACE industries. The rest of the commodities are linked to more than one NACE code. For these cases we make use of the 5-digit SITC trade data and compute the share of trade by NACE codes within each 4-digit commodity group. We then choose the NACE code with the highest share, separately for import and export.



(a) Import and export over time

(b) Import exposure across European regions

Fig. 2. Trade across time and space. *Note:* The left figure presents trade flows between China and the European countries in our sample, in bn. 2007 euros. The trade figures are based on EUR/USD exchange rate from 1999 for years before the introduction of the euro. The right figure presents average changes in import exposure, after all regional covariates, as well as the time trend and the country fixed effects, are partialled out.

Based on the above data, we measure local import exposure for each region i, as:

$$\Delta\text{Import exposure}_{it} = \sum_k \frac{L_{ik,t-3}}{L_{k,t-3}} \frac{\Delta\text{Import}_{kt}}{L_{i,t-3}}, \tag{14}$$

where $\Delta Import_{kt}$ is the total change in imports from China that is allocated to industry k over the past three years before election year t. The term $L_{ik,t-3}/L_{k,t-3}$ denotes region i's share of the total employment in industry k (for all countries in our study) at the start of the period, i.e., three years prior to election year t. $L_{i,t-3}$ represents total employment in region i. The measure in (14) thus apportions imports of different commodities to regions based on their share of total employment in the 11 European countries.

Fig. 2(a) presents the development in imports *from* China and exports *to* China for the countries in our study. The flow of imports rose substantially, especially from 2004 to 2007, while the growth in exports was much weaker. Fig. 2(b) illustrates the spatial variation in the import exposure measure. As can be seen, there is large geographical variation in exposure to China.

4. Empirical approach

We first estimate the overall effect of trade exposure on the support for welfare state arrangements. Next, we decompose the overall effect into an indirect effect through changes in manufacturing employment, and a direct effect of trade, conditional on manufacturing employment. As discussed above, we interpret the indirect effect of trade through manufacturing employment as the income effect, while we interpret the conditional direct effect as the risk effect of international trade. In this section we discuss how we identify these different relationships.

4.1. Overall effect of trade exposure on welfare state support

Consider Eqs. (11) and (12). In order to estimate the overall effect of trade, β, we regress *changes* in welfare state support in region i in election year t (from the previous election), on *changes* in import exposure computed over the past three years before the election, country-level fixed effects, a common linear time trend and regional baseline controls:

$$\Delta[\text{Welfare}]_{it} = \beta\Delta[\text{Import exposure}]_{it} + d_{W,c} + \psi_W V_t + X_i'\beta_W + \epsilon_{W,it}, \tag{15}$$

where Δ denotes changes, $d_{W,c}$ denotes the fixed effect for country c, V_t denotes the time trend, while X_i' denotes the vector of regional controls measured at baseline, including the population share with secondary education, the population share with tertiary education, the population share of elderly (65 years and above), as well as the share of females of total employment.

Since we are estimating a difference equation, the fixed country effect controls for country specific trends in the level equation. Similarly, the control variables allow for differential trends in welfare support in regions with different levels of the control variables, such as the level of education in the region. As we include country-level fixed effects, our coefficient of interest, β, is identified partly through regional variation in the change in welfare state support and import exposure within countries in particular election years,

and partly through variation in the changes between election years.[12] In Appendix E.1 we show estimates with more flexible time trends, including country-year fixed effects.

In addition to potential measurement errors, Eq. (15) may contain problems of endogeneity. An unrelated local demand shock may affect both import exposure to the region and the support for welfare, inducing a correlation between import exposure and the error term of (15). To give our estimates a causal interpretation, we therefore use an instrumental variable (IV) approach similar to Autor et al. (2013). We construct the following instrument for imports to every region i:

$$\Delta[\text{Import exposure}]_{IV,it} = \sum_k \frac{L_{ik0}}{L_{k0}} \frac{\Delta[\text{Import}]_{kt}^{\text{Other}}}{L_{i0}}. \tag{16}$$

The expression differs from the import exposure measure in (14) in two ways. First, it replaces changes in actual trade flows from China to Europe with changes in trade flows from China to Australia, Canada, New Zealand and USA ($\Delta[\text{Import}]_{kt}^{\text{Other}}$).[13] Second, it replaces the start-of-period employment structure in each region with the employment structure from a year prior to our estimation period (denoted by the time subscript 0). We do this to tackle potential measurement and reverse causality if firms anticipate future trade exposure and adjust their employment accordingly. In our main empirical analysis we use employment data for manufacturing industries and regions from 1999 to construct the weights.[14]

4.2. Decomposing the effect of trade exposure

In accordance with our theoretical model, we decompose the overall effect of trade exposure, β, into a direct risk effect, β_R, and an indirect income effect, $\beta_I = \alpha_1 \times \alpha_2$. The challenge is that we have two parameters to estimate, but only one valid instrument. We proceed by using the mediator approach of Dippel et al. (2020a), using changes in manufacturing employment as a fraction of the working age population as a mediator for the income effect. Based on this, we identify the income effect by first estimating the effect of trade exposure on manufacturing employment, and second, by jointly estimating the effect of manufacturing employment and import exposure on welfare state support.

To estimate the income effect, we need to estimate the two parameters α_1 and α_2. It is straightforward to estimate the effect of import exposure on manufacturing employment, α_1, given our earlier setup. To do this, we make use of a 2SLS specification similar to (15), replacing changes in welfare state support on the left-hand side with changes in manufacturing employment as a fraction of the working age population:

$$\Delta[\text{Manuf. employment}]_{it} = \alpha_1 \Delta[\text{Import exposure}]_{it} + b_{M,c} + \psi_M V_t + X_i' \beta_M + \epsilon_{M,it}. \tag{17}$$

The main reason for using instrumental variable approaches in (15) and (17) is that changes in import are likely to be affected by unrelated local demand shocks, which could affect both employment and welfare state support. We argue that the rise in trade with China largely reflects the lower prices and productivity gains in Chinese manufacturing, which affected the whole world economy and are unrelated to local demand shocks in Europe. By using trade flows from China to non-European high-income countries we therefore isolate the exogenous part of the increased trade flows to Europe.

This intuition is also at the core of our strategy to estimate the two remaining parameters, α_2 and β_R. As suggested by Dippel et al. (2022, 2020a), we estimate these parameters from the equation:

$$\begin{aligned}\Delta[\text{Welfare}]_{it} = {} & \beta_R \Delta[\text{Import exposure}]_{it} \\ & + \alpha_2 \Delta[\text{Manuf. employment}]_{it} + d_{W,c} + \psi_W V_t + X_i' \beta_W + \epsilon_{W,it},\end{aligned} \tag{18}$$

corresponding to Eqs. (10) and (11) above. The β_R-coefficient is our estimate of the risk effect, while the α_2-coefficient times the α_1-coefficient from Eq. (17) constitutes our estimate of the indirect income effect.

Inspired by the aforementioned papers, we instrument for manufacturing employment using our instrument for trade. The key assumption is that conditional on predicted manufacturing employment, import exposure is exogenous in Eq. (18). The sources of endogeneity, such as local demand shocks that are correlated with trade, are assumed to affect welfare support only through the income effect mediated by manufacturing employment. Said differently, we allow unobserved shocks that impact import exposure to affect voting only through labor earnings as represented by manufacturing employment. Arguments that link trade to welfare state support do so through labor market effects (e.g. Walter, 2010) or through cultural changes that develop over long time periods (e.g. Coyne and Williamson, 2012). We study short term effects (through first differences), and we therefore find the assumption to be plausible. We calculate standard errors for the income effect using the delta method.

5. Empirical results

In this section we present our main empirical results. To ease interpretation, we always standardize the key variables by subtracting their mean and dividing by their standard deviation.

[12] By estimating a difference model we assume that the time between the observations are sufficient for the political effects to materialize. We think this is plausible since we estimate differences between elections and because the trade shock has substantial effects that were quickly felt in many regions.

[13] By using data from several high-income countries rather than only e.g. the US (as in Colantone and Stanig, 2018), we reduce the fear that correlated demand shocks drive our results.

[14] We are not able to go further back in time due to data constraints. The first election year for which we calculate changes in welfare state support is 2001 (Italy and UK). For this election year, we use data for 1999 also to calculate the import exposure measure in Eq. (14).

Table 1
2SLS Regression: Total effect of import exposure on welfare state support.

	Δ Welfare state support
Panel A: Second stage	
Δ Import exposure	−0.089*
	(0.047)
Panel B: First stage	
Δ Import exposure instrument	0.921***
	(0.028)
F-statistic	1117.6
Observations	357

Note: Robust standard errors clustered on NUTS 2 are shown in the parentheses. The regression includes country fixed effects, a linear time trend, and controls for initial level of education, initial female share, and initial share of elderly.
*p < 0.1.
***p < 0.01.

5.1. The effects of import exposure

In Table 1 we present estimates of the overall effect of import exposure on welfare state support, using the specification in (15). The estimates reveal a negative relationship. Since all variables are standardized, the second stage estimate implies that a standard deviation sized increase in import exposure lowers welfare support by 9 percent of its standard deviation. The effects of import exposure is thus politically important, precisely estimated (p-value = 0.060), and the first stage is strong and with expected sign.[15]

We do not know from this result to what extent the negative relationship is driven by the income effect, as we propose, or by other effects of trade exposure. What is clear, however, is that the above estimate appears to be contrary to the conventional view of e.g. Rodrik (1998), where voters' demand for welfare state protection increases with trade openness.

Our next step is to decompose the effect into the two proposed mechanisms: the risk effect and the income effect. Table 2 presents the mediator analysis. In Appendix C.2, we present a graphical illustration of the relationships. In the first column we show 2SLS estimates of the effect of import exposure on manufacturing employment, based on the specification in (17). As expected, we find a negative relationship. The estimate implies that a standard deviation sized shock in import exposure leads to a decline in manufacturing employment as a fraction of the working age population of about 0.27 of its standard deviation, which is substantial.

In the second column we present estimates of the relationship between import exposure and welfare state support, conditional on predicted manufacturing employment, as outlined in (18). Panel A presents the second stage estimates. Here the import exposure coefficient represents the direct effect of import exposure, which we interpret as a risk effect, but that may also encompass other direct influences from trade to welfare support. The coefficient is positive and quite precisely estimated (p-value = 0.066), and in line with the income volatility hypothesis.

We find a large and statistically significant effect of predicted manufacturing employment. The positive effect of manufacturing employment multiplied by the negative effect of import exposure on manufacturing from Column (1), implies that the indirect effect is negative and highly significant (p-value = 0.024), as can be seen from Panel C. Thus, in line with our argument, rapid globalization that causes manufacturing decline and realized income losses reduces support for welfare expansion.

In sum, the empirical exercise so far shows that an import shock can have a strong negative income effect that reduces the welfare state support. We also find indications of a positive risk effect that increases the welfare state support, but this effect is weaker, meaning that the overall effect of import exposure of welfare support is negative.

To give our estimates a causal interpretation we used a version of the so-called shift-share/Bartik-instrument. This method has been discussed in a number of recent papers (Adao et al., 2019; Borusyak et al., 2022; Goldsmith-Pinkham et al., 2020). In Appendix E, we discuss and address the most relevant concerns about the validity of the instrument. We also present several robustness tests, including the use of alternative measures of trade exposure, start-of-period controls, and more flexible time trends. In the latter test, we show that we retain the key results also when we add flexibility to the time trends, but in the mediator analysis the instruments lose strength the more flexibility we allow for. When adding country×year fixed effects, we do not retain sufficient variation in the instrument to estimate the mediator model. In all cases, however, the first stage F-statistics for the total effect is large and satisfactory, with total effects estimated in the range of −0.06 to −0.15, compared to −0.09 in our main specification with a linear time trend.

[15] We present the reduced-form estimate from this specification in Appendix F.

Table 2
2SLS Regressions: Mediator analysis.

	Δ Manufacturing employment (1)	Δ Welfare state support (2)
Panel A: Second stage		
Δ Import exposure	−0.273***	0.252*
	(0.062)	(0.137)
Δ Manufacturing employment		1.245***
		(0.473)
Panel B: First stage		
Δ Import exposure instrument	0.921***	−0.390***
	(0.028)	(0.116)
F-statistic	1117.6	11.3
Panel C: Parameters		
Direct effect (risk)		0.252*
		(0.137)
Indirect effect (income)		−0.341**
		(0.151)
Observations	357	357

Note: Robust standard errors clustered on NUTS 2 are shown in the parentheses. All regressions include country fixed effects, a linear time trend, and controls for initial level of education, initial female share, and initial share of elderly.
*p < 0.1.
**p < 0.05.
***p < 0.01.

5.2. The effects of export exposure

As the negative income effect associated with higher import exposure is clear, a full support for our income effect hypothesis requires a positive income effect in regions dominated by export expansion. Export exposure allows firms to sell their products in larger markets and to expand their production and employment. The consequences for welfare state support should thus be the opposite of import exposure.

In Table 3 we include export exposure and estimate separate impacts of imports and exports. To conduct the analysis we first construct measures of export exposure, corresponding to the measures of import exposure, as:

$$\Delta\text{Export exposure}_{it} = \sum_k \frac{L_{ik,t-3}}{L_{k,t-3}} \frac{\Delta\text{Export}_{kt}}{L_{i,t-3}}, \tag{19}$$

$$\Delta\text{Export exposure}_{IV,it} = \sum_k \frac{L_{ik0}}{L_{k0}} \frac{\Delta\text{Export}_{kt}^{\text{Other}}}{L_{i0}}. \tag{20}$$

We consider both import and export exposure as endogenous and jointly instrument them using (20) and the import exposure instrument from (16).

For brevity we present the first stage estimates in Appendix C.1. The second stage estimates are presented in Table 3, showing that import and export exposure have diametrically opposite effects on welfare state support. The total effect[16] of increased trade thus depends crucially on the direction of the expansion in the particular region or period of time.[17] Note that changes in import and export are highly correlated across space: the correlation between predicted imports and exports from the first-stage regression is as high as 0.77. The exact point estimates in the table should therefore be interpreted with some caution.[18] Still, the pattern of the results clearly supports our emphasis on income effects in the demand for social insurance.

5.3. The effects on other policy dimensions

As a final exercise, we estimate the effect of import exposure on the support for other policy dimensions. We start with redistribution (as proxied by statements about social justice, see Appendix B). Our theoretical claim is that support for the welfare state follows an insurance logic rather than a redistribution logic, and we interpret the welfare state variables in the CMP as reflecting

[16] Note that the direct and indirect effects do not sum to the total effect in this case since we have two endogenous variables (see Dippel et al., 2020a).

[17] This observation should also draw attention to how we measure globalization in empirical studies, as the estimated effects of globalization will vary depending on the extent to which its variation in the data arises from variations in export or imports. In Appendix E.2, we discuss estimates of total trade exposure in our data, as measured by the sum of import and export, a frequently used measure of trade openness in the literature, as in Rodrik (1998).

[18] Because of the high correlation, and because the increase of imports over our study period was much greater than the increase of exports, we do not present separate estimates for export exposure. Such a regression is likely to largely pick up the effect of imports.

Table 3
2SLS Regressions: Mediator analysis with imports and exports.

	Δ Manufacturing employment (1)	Δ Welfare state support (2)
Panel A: Second stage		
Δ Import exposure	−0.991***	0.225***
	(0.256)	(0.075)
Δ Export exposure	1.083***	−0.223***
	(0.329)	(0.073)
Δ Manufacturing share		0.392**
		(0.184)
Panel B: Parameters		
Import		
Direct effect (risk)		0.225***
		(0.075)
Indirect effect (income)		−0.389**
		(0.175)
Total effect		−0.093
		(0.174)
Export		
Direct effect (risk)		−0.223***
		(0.073)
Indirect effect (income)		0.425**
		(0.198)
Total effect		0.007
		(0.218)
Observations	357	357

Note: Robust standard errors clustered on NUTS 2 are shown in the parentheses. All regressions include country fixed effects, a linear time trend, and controls for initial level of education, initial female share, and initial share of elderly. The first stage estimates are shown in Table A3. The total effects reported in Panel B are estimated from a 2SLS specification of changes in welfare support on changes in import and export exposure. The direct and indirect effects do not sum to these total effects since we have two endogenous variables (see Dippel et al., 2020a).
**p < 0.05.
***p < 0.01.

expansion and retrenchment of social insurance policies. This is a plausible interpretation, since the main programs of the welfare state are social insurance programs. However, the welfare state also redistributes income, and we do not believe that support for policies that mainly redistribute income will decrease with manufacturing decline (see also Moene and Wallerstein, 2003). It is therefore useful to examine whether we get different effects of manufacturing decline on support for redistribution than for social insurance, as standard models of support for redistribution suggest that support increases with realized income losses (Meltzer and Richard, 1981).

Estimates are shown in the first column of Table 4. The total effect of import exposure is negative (as can be seen from the first row), but the point estimate is about half the size of the similar estimate for welfare state support and the coefficient is far from being statistically significant (p-value = 0.254). Furthermore, the coefficient for the indirect income effect is close to zero. Thus, while manufacturing decline due to trade lowers support for social insurance, it does not decrease the support for redistribution. This result supports the claim that the income effect depends on whether the welfare program is mainly social insurance or redistribution.

The rest of Table 4 presents corresponding estimates using the variables *Protectionism*, *Nationalism* and *Nationalist autarchy* as outcomes. Consistent with results in Colantone and Stanig (2018), we find that increased import exposure leads to more support for protectionist and nationalist policies (first row). However, the effects in our sample is weaker than in Colantone and Stanig (2018) and they are not precisely estimated.[19] Also, with the exception of the variable *Nationalist autarchy*, we do not find any indications of income effects going through manufacturing decline. From these results, it thus seems unlikely that our main findings on the welfare state support are driven fully by correlated policy dimensions.

6. Concluding remarks

As China entered the world market many European workers experienced a negative shift in their earnings. Lower individual incomes increase the tax burden of welfare provision, making all levels of social provision more costly for the tax payers. It is this negative income effect that can trump the traditional risk effect of international exposure. The link between globalization and

[19] Note that the sample of Colantone and Stanig (2018) covers the 1990s and it includes four countries not in our sample (Finland, Greece, Ireland and Switzerland).

Table 4
2SLS Regressions: Mediator analysis on other policy dimensions.

	Redistribution (1)	Protectionism (2)	Nationalism (3)	Nationalist autarchy (4)
Total effect	−0.055	0.084	0.017	0.021
	(0.048)	(0.066)	(0.065)	(0.053)
Direct effect (risk)	−0.042	0.168*	0.031	−0.272
	(0.059)	(0.092)	(0.089)	(0.168)
Indirect effect (income)	−0.013	−0.085	−0.014	0.293*
	(0.070)	(0.094)	(0.113)	(0.168)
Observations	357	357	357	357

Robust standard errors clustered on NUTS 2 are shown in the parentheses. The first row present the overall effect of trade exposure of welfare support. The second and third row display outcomes from the mediator analysis. The first-stage regressions are identical to those reported in Table 2. All regressions include country fixed effects, a linear time trend, and controls for initial level of education, initial female share, and initial share of elderly.
*p < 0.1.

welfare state support can therefore be at least temporarily reversed as we have seen in several regions in Europe recently where global integrations have made the welfare state less, not more, politically popular. Interpreting the China shock, we emphasize how more import competition has reduced the support of pro-welfare parties, while better export opportunities has increased the support to pro-welfare parties. We consider this dichotomy as support for our proposed income effect.

We identify this mechanism combining (i) the so-called shift-share approach to obtain exogenous variation in regional import and export exposure with (ii) changes in the regional vote shares to pro-welfare parties to measure the actual changes in welfare support, (iii) utilizing a mediation exercise to decompose the total effect of globalization into an income effect and a risk effect.

The theoretical foundation for the welfare contraction (and expansion) follows directly from the insurance logic (rather than the redistribution logic) behind the welfare state support. Our approach thus interprets the welfare state variables in the Comparative Manifesto Project as covering basically insurance-like programs. Such programs are likely to exhibit normal-goods-properties (Moene and Wallerstein, 2003). Voters demand more of them when their individual incomes rise.

Our paper adds necessary nuances to how trade exposure can influence the local welfare state support. As we have shown, the income effects can go in either direction, depending on the relative importance of imports and exports with the entrant in the local area. These effects can be strong with or without changes in non-economic political attitudes. Welfare state platforms of anti-immigration parties are not consistently right-wing across parties, space, and time (Rathgeb and Busemeyer, 2022), and we view our results as complementary to these forces.

Does our income effect *permanently* alter how trade openness is associated with generous social insurance? Most likely the answer is no. Voters may still want to be socially insured against the income risk associated with an open economy. This narrative also fits the data well: more open economies have more generous welfare state arrangements. In our empirical analysis we control for nation-wide and long term developments in welfare state support and trade when assessing our effects. Even though trade openness implies higher risks compared to protectionism, the additional risk for open economies associated with a new big competitor being established in the world economy may not be severe, if present at all.

The immediate income effect of the entrance in itself, however, can be considerable. In other words, when international competition changes dramatically, the political demand for social provisions in open economies can be strongly affected. The change in income can be important enough, but the possible negative effects for the welfare state are not likely to be permanent as re-allocation of labor over time tends to adjusts differences in pay induced by the shock. Over a longer horizon there are net gains from trade with the new entrant to be distributed.

Declaration of competing interest

We declare no conflicts of interest

Data availability

Replication material can be found online at https://data.mendeley.com/datasets/54cbw226hd/1.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.ejpoleco.2023.102405.

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