

# The Economic Roots of Cross-National Similarity in Voter Preferences

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## Abstract

We argue that economic and political integration lead voters' political preferences toward cross-national convergence. Analyzing data on voter preferences across 30 European democracies from 1976 to 2022, we measure the similarity of preference distributions across each pair of state-years, documenting an average increase in similarity over time. We then model these similarities statistically and find that greater similarity and complementarity in economic production, and, co-participation in the European Union and the Eurozone are associated with increasingly similar voter preferences. The argument and analyses broaden our understanding of political implications of globalization and also provide a theoretical and empirical foundation for two growing literatures: one on the cross-national diffusion of parties' strategies and one on the political implications of macroeconomic stimuli such as trade shocks or banking crises.

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## Verification Materials:

The data and materials required to verify the computational reproducibility of the results, procedures and analyses in this article are available on the American Journal of Political Science Dataverse within the Harvard Dataverse Network, at:

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# 1 Introduction

In an attempt to understand and explain significant domestic political outcomes, or public support for different political and social movements, journalists, pundits, and other commentators alike regularly relate these events to similar developments in other countries. The emergence of Green parties in the 1980s, the moderation of major left parties in the 1990s, and the recent surge in support for populist parties in various European countries, for example, are generally regarded as the result of large-scale societal changes instead of the product of isolated factors at the national level. But why do we observe these similarities in political processes and electoral outcomes across countries?

To answer this question, political scientists began to investigate the influence of cross-national, global conditions and transnational linkages among political parties on domestic policies and electoral outcomes (e.g., [De Neve, 2011](#); [O'Mahony, 2013](#); [Weyland, 2010](#); [Wolkenstein, Senninger and Bischof, 2020](#)). One strand of the scholarly literature emphasizes the effect of economic integration and macroeconomic circumstances in an increasingly globalized world (e.g., [Hellwig, 2001](#); [Kayser, 2006, 2007, 2009](#); [Weyland, 2010](#)). This line of inquiry argues that the intensified economic integration leads to the synchronization of national business cycles. Over time, increasing similarity in national economic performance causes voter preferences to shift in similar ways across countries. As a result, electoral outcomes in these countries tend to shift in the same direction as well (e.g., [Kayser, 2009](#); [Kim and Fording, 2001](#)). A second literature relates similarities in election results to an increase in political integration and the diffusion of parties' electoral strategies through different channels (e.g., [Juhl and Williams, 2021](#); [Senninger and Bischof, 2018](#); [Wolkenstein, Senninger and Bischof, 2020](#)). For example, empirical evidence suggests that parties seek to mitigate the inherent uncertainty associated with electoral contests by adopting (successful) strategies from other (similar) parties in foreign polities ([Böhmelt et al., 2016](#); [Böhmelt et al., 2017](#)). The rationale for this emulation is that the electoral fortunes of foreign counterparts allow a party to better infer the position of the domestic median voter. This, in turn, constitutes a strategic advantage that helps the party to obtain a vote-maximizing position when crafting its policy platform prior to

an election (Ezrow et al., 2019).

The crucial mechanism underlying these explanations of “electoral waves” (Caramani, 2011; Colantone and Stanig, 2018b; Kayser, 2009) across democracies and the diffusion of party strategies is the (often implicit) assumption that voter preferences are transnationally correlated as these empirical patterns can *only* occur if the electorate’s policy preferences are sufficiently aligned across countries. Yet, the extent to which voter preferences in one country are congruent with preferences in another, and the causes of this congruence, remain open questions.

Against this background, we investigate the congruence of voters’ political preferences across national borders.<sup>1</sup> Employing recent measurement advances, we provide for the first time a comprehensive dyadic mapping of voter congruence across 30 European democracies from 1976 to 2022 using data from Eurobarometer—the most comprehensive cross-national survey project including common-scale information on political preferences. We further develop a theoretical argument that identifies economic and political integration—globalization—as the main driver of the cross-national convergence in preference distributions. Specifically, we argue that similarities and differences in national preference distributions are functions of the similarity and complementarity of economic production, and, political integration. These factors increase the cross-national covariance of voters’ political economic interests and experiences, which in turn aligns their preferences on key policy issues across contexts such as trade, the size of the welfare state, and economic redistribution (Colantone and Stanig, 2018b; Hellwig, 2008b, 2014; Hiscox, 2001).

Statistical analyses show that economic similarity and complementarity, as well as political integration—operationalized as co-participation in the European Union (EU) and European Monetary Union (EMU)—are positive predictors of transnational ideological congruence. As two nations’ economies become similar, more interdependent, and more politically integrated, their voters’ preference distributions tend toward convergence. We also conduct an ancillary analysis on transnational similarities in exposure to the so-

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<sup>1</sup>The group we are concerned is the electorate, or eligible voters. We use “electorate” and “voters” interchangeably to refer to eligible voters.

called “China shock,” the rapid increase in import of goods from China following its 2001 ascension to the World Trade Organization. This analysis reveals economic similarity and complementarity, as well as political integration, are significant predictors of shock covariance, establishing the plausibility of a secondary mechanism implied by our argument—that political economic integration harmonizes exposure to urgent, global economic events, which may have a compounding effect on the cross-national convergence of political preferences. This finding is complementary to [Colantone and Stanig \(2018b,a\)](#) and others.

These analyses broaden our understanding of globalization and also provide the foundation for two growing literatures: one on the diffusion of parties’ policy positions and another on the political implications of macroeconomic events such as trade shocks or banking crises. The analysis, suggesting that economic and political integration shape cross-national preference congruence, provides an empirical justification for the assumption that similarity in preference distributions across countries is the mechanism underlying electoral waves. This, in turn, provides a demand-driven account for the diffusion of party strategies across time and space that buttresses the empirical case for past research (e.g., [Böhmelt et al., 2016](#); [Simmons and Elkins, 2004](#)), but potentially complicates proposed causal explanations—patterns of diffusion may be more parsimoniously explained by similar yet independent partisan responses to the preferences of increasingly similar electorates (see also [Juhl and Williams, 2021](#); [Volden, Ting and Carpenter, 2008](#)), rather than cross-national emulation. This provides an alternative (but not exclusive) explanation for the presence of spatial clustering in political attitudes. Instead of being the result of individuals interacting with, and changing the opinions of, individuals in proximate regions (e.g., [Czaika and Lillo, 2018](#)), individual decision-makers acting in similar political contexts respond in similar ways—but independently—to similar economic conditions across countries.

Our theoretical and empirical results also hint at larger and more complex domestic political consequences for globalization than previously understood, complementing recent research on the political implications of common cross-national economic experiences by

recent debt crises or the China shock (e.g., [Colantone and Stanig, 2018b](#); [Guiso et al., 2019](#)) which are acute, special-case effects arising from the more general patterns we document here. In expectation, increasing political-economic linkages may harmonize and deepen global business cycles while simultaneously causing policy responses to converge cross-nationally as governments are confronted with increasingly similar electorates.

## 2 Cross-national convergence in voter preferences

At least since [Inglehart \(1977\)](#) famously published a comparison of political values in several Western democracies in the aftermath of World War II, the existence and amount of some macro-level trends in voter opinion and electoral behavior received notable attention in the political science literature. Although some early research was skeptical of the existence of cross-national correlations in voting behavior (e.g., [Høst and Paldam, 1990](#)), more recent research on electoral behavior and voter preferences suggests the existence of common trends across Western democracies.

By linking party positions and aggregate voting data, [Kim and Fording \(1998, 2003\)](#), for example, develop a measure of the median ideological position of voters within countries at each national election. Their cross-country comparison reveals common trends with median voter shifts to the left in the 1960s and shifts to the right in the 1980s, indicating the existence of some general voting patterns in Western democracies. Using the same measurement strategy, [De Neve \(2011\)](#) expands the geographical and temporal scope of the analysis and confirms evidence for correlated change in voter preferences (see also [Kim, Yoo and Roh, 2015](#)). Concurrent research focused on electoral outcomes across several European countries corroborates the conclusion that waves of electoral change exist (e.g., [Caramani, 2011, 2012](#)), resulting in, for example, correlated change in support for particular party-types across countries, such as Social Democrats ([Abou-Chadi and Wagner, 2020](#)). These empirical patterns are in keeping with classic research on social or political change, arguing that (principally) economic development should trigger similar changes in social values and political preferences across time and space ([Inglehart, 1977](#)) and that these will trigger similarly correlated changes to party systems ([Lipset](#)

and Rokkan, 1967).

While the empirical evidence accumulated so far is predominantly in line with anecdotal evidence about cross-national trends in the dynamics of voter preferences, comparisons have exclusively been based on co-movements of voter preference summaries, such as the mean or median voter position—are voters, on average, moving left or right? More importantly, little is known about the underlying mechanism that causes this correlation in the “policy mood” (Stevenson, 2001) across countries and whether they drive preferences to become more *similar*, or merely move in parallel.

We argue that political preferences are, at least in part, a response to economic stimuli such that political economic connectedness—increasing similarity and complementarity of production and the adoption of common policy regimes—synchronizes cross-national distributions of voter preferences (see also Hellwig, 2014; Kayser, 2007, 2009). For example, as a country transitions from agriculture- to service-based production, the needs and wants of its voters should transition in kind, perhaps demanding fewer farm subsidies, but more investment in education. Two countries making this economic transition in tandem should, in expectation, exhibit similar changes in political preferences as well. Likewise, commonalities in trade policy subject countries to common sources of competition change leading to common domestic political implications. These may be induced by policy directly, for example, China’s entry to the World Trade Organization reduces tariffs on Chinese widgets to most-favored nation levels for all EU countries, placing similar pressures on all EU widget producers. They may also be simply harmonized by policy. Consider a technological advancement in Chinese widget production leading to cost reduction. This would similarly effect all EU widget producers because their domestic governments would be unable to erect individual trade protections. Focusing on these broader political economic factors and their transnational connectedness, we believe, allows us to learn something more general about the structure of political preference distributions and transnational similarities in those distributions across countries and over time.

To this end, our goal here is to 1) establish the degree to which the entire distribution

of voter preferences—not just summary measures such as the median voter position—in one country resemble the distribution of voter preferences in another country; 2) provide a theoretical explanation for that resemblance based on general political economic factors; and 3) estimate the empirical relationships implied by that argument. This focus on macro-level factors allows us to abstract from asking how specific shocks like sudden changes to import competition or banking crises affect voters’ preferences in different countries, to asking how general changes in economic circumstances (which may in turn expose voters in different countries to similar economic shocks) produce general changes in political preferences.

Stated differently, where, for example [Guiso et al. \(2019\)](#) and [Colantone and Stanig \(2018b\)](#) have found that the cross-national net effect of a particular economic shock was a directionally consistent change in voting behavior, at least in part by reshaping of the economic circumstances that produce political preferences (see also [Ward, Ezrow and Dorussen, 2011](#)), our focus here is on establishing the degree to which cross-national economic connectedness correlates to cross-national similarities in political preferences—a general relationship of which cross-national policy responses to banking crises or trade shocks arise as a special case. We predict, and document empirically, a *necessary condition* of this past research that lends support to some previous findings (i.e., [Colantone and Stanig, 2018b](#); [Guiso et al., 2019](#)) and perhaps calls into question the processes argued or implied in other contributions, particularly those on cross-national diffusion of party strategies. Our analyses suggest that voter preferences are linked because political economic circumstances are linked.

These findings, taken together with the understanding that globalization both increases complementarity in economic production *and* covariance in consumption, imply that international economic policy choices and domestic political outcomes are locked in a feedback loop driving transnational convergence of voters’ policy preferences.

## 2.1 Production similarity and economic integration

Our explanation relies on the assumptions that individuals' political preferences are 1) partially a function of their economic circumstances and 2) that economic circumstances shape political preferences in broadly similar ways across contexts. Meaning, for example, that if workers producing widgets are typically more likely to support greater labor protections in Germany, then they will also be more supportive of greater labor protections in Portugal. These relationships need not be precisely equivalent, merely positively correlated. The central implication is that countries with comparable economic production will have voters with more similar political preferences.

A vast literature on economic voting supports these core assumptions by demonstrating that voters around the world punish the incumbent government for faltering economic conditions on Election Day (Kayser, 2007; Lewis-Beck and Stegmaier, 2000). Another large body of literature on voters' policy preferences establishes their economic foundations (Colantone and Stanig, 2018b; Stevenson, 2001). Indeed, the originating spatial theory of party competition—upon which nearly all cross-national research on party strategy and voting is built—situates actors on a single left-right continuum according to their preferred level of government intervention in the economy (Downs, 1957). Although more recent research suggests that the popular left-right dimension is a super issue spanning multiple (economic and non-economic) subdimensions whose content and meaning varies in time and space, economic issues remain among the most important components structuring policy preferences. Further, there is sufficient research across multiple contexts to support the conjecture that these processes unfold in similar ways across countries (e.g., Camia and Caramani, 2012; Hellwig, 2008a; Meyer and Wagner, 2020).

Moreover, globalization has created numerous linkages and interdependencies among national economies ensuring that macroeconomic shocks to any sector or region are not confined to a single country but may travel around the globe. For example, the development of fracking technology to extract shale gas in the United States, and the subsequent flood of American natural gas onto the market, significantly reduced global energy prices, particularly of Arabian oil (Kilian, 2017). These cross-national dependencies have de-



creased the variance of growth rates across industrialized countries and induced noticeable co-movements of national business cycles (e.g., [Hellwig and Samuels, 2007](#); [Kose, Otrok and Whiteman, 2003](#); [Lee, 2010](#)). As [Kayser \(2009\)](#) demonstrates, the harmonization of business cycles has direct consequences for electoral outcomes, leading to the occurrence of cross-national co-movements in voting patterns (see also [Caramani, 2011, 2012](#)).

Importantly, the composition of national economies determines the degree to which business cycles covary. Countries with comparable production structures are more likely to experience similar economic patterns since sector-specific fluctuations will affect them in the same way. Consider a simple example: if widgets are produced in both Germany and Portugal, we would expect a price reduction in Chinese widgets to have a similar impact on German and Portuguese workers in that industry—decreased employment security induced by increased global competition. These economic changes may then trigger a shift in political preferences (perhaps for more redistribution or protection) among effected workers in Germany and Portugal. This is consistent with [Hiscox \(2001\)](#), among others. The implication is that countries with more similar economic structures will have voters with more similar political preferences, all else equal:

**Economic Similarity Hypothesis:** *Greater similarity of national economies increases the preference congruence of the electorates.*

Globalization also synchronizes national business cycles by promoting specialization and complementarity. By reducing tariffs and non-tariff trade barriers, markets may discover production efficiencies which increase trade and create direct linkages among national economies through which economic shocks can be transmitted from one country to another.<sup>2</sup> Returning to our example, let us now assume that widgets are *assembled* in Portugal from component parts *manufactured* in Germany.<sup>3</sup> Their respective widget sectors no longer *resemble* one another, but are now *interdependent*. Here, just as before, market entry of Chinese widgets still affects workers in Portugal and Germany

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<sup>2</sup>In fact, research shows that international trade is the most widely recognized and robust predictor of business cycle synchronization ([Chang et al., 2013](#); [De Haan, Inklaar and Jong-A-Pin, 2008](#); [Kayser, 2007](#)).

<sup>3</sup>Several important products have their production completed in Portugal using German components; for example, cameras, cars, and pharmaceuticals, among others.

similarly—decreased employment security induced by increased global competition—and should therefore trigger similar shifts in political preferences.

**Complementarity Hypothesis:** *Increasing the interdependence between national economies increases the preference congruence of the electorates.*

## 2.2 Political Integration

In addition to economic factors, we argue that the similarity of voter preferences across countries is increased by political integration—shared governance leading to common policy regimes effecting the lived experience of voters as producers and consumers across countries. These integrative processes not only subject voters to similar day-to-day policy regimes, but also harmonize domestic political responses to economic events through the establishment of common policy constraints. We study significant, discrete cases of political integration here: entry into the EU and subsequent entry into its Economic and Monetary Union (EMU), also called the “Eurozone.”

Co-participation in the European Union, which [Grossman and Sauger](#) regard as “the most ambitious effort of regional integration to date” (2019, 36), should positively shape the similarity of preference distributions across member countries. EU member states delegate several decision-making competencies to the supranational level which results in common policy regimes across countries post ascension. Of particular import here is the establishment of the common market within the EU, and a common trade policy between all EU members and rest of the world, syncing gains from access to cheaper goods and extensions of comparative advantage to new global partners, but also syncing potential losses from increased global competition. Further, coordination among EU member states has established numerous new political institutions (e.g, the many departments of the European Commission or the European Central Bank) and common domestic policy constraints, such as the well-known 3% deficit cap. Despite considerable differences in the structure of the member states’ domestic political systems, these common institutions and policies, and common constraints on domestic policymaking, make the lived experience of voters as producers and consumers substantially more similar, increasing

the convergence in their policy preferences. The EU has also created common political competition for European-level policy-making authority, resulting in further synchronization of cross-national patterns of political discourse (Caramani, 2012; Gabel, 2000; Hix and Goetz, 2000).

Against this background, the establishment of the EMU in 1992 constitutes perhaps the most important step for the further economic integration of the EU member states with far-reaching consequences for domestic politics. With the explicit aim of harmonizing national economies to promote growth, employment, and stability, Eurozone participation imposes significant constraints on member states' economic policy-making capacity (Gabel, 2000) and subjects them to common monetary and exchange-rate policies (e.g., Hix and Goetz, 2000).<sup>4</sup> Consequently, we expect a positive relationship between political integration—as manifest in EU and EMU co-membership—and similarity in domestic voter preferences.

**Political Integration Hypothesis:** *European integration increases the preference congruence of the electorates.*

We note that the effects of economic and political integration on the congruence of voter preferences across countries do not work in isolation. Political integration often increases economic integration by smoothing cross-national transaction costs, reducing barriers to the assembly of cross-national supply chains or cross-national service sales, and more. Increasing economic integration, in turn, presents domestic governments with common stimuli to which they must respond and builds cross-national linkages that may incentivize cross-national policy coordination. In other words, we understand political and economic integration as processes of mutual reinforcement. Thus, while we have identified explicit hypotheses and our estimation strategy attempts to differentiate these processes, we urge readers to consider the overarching argument as holistic, rather than segmented.

Before moving to our research design, it is important to clarify the role of economic and political integration and “shocks” in our framework. Global markets are complex,

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<sup>4</sup>However, the evidence for a synchronization of national business cycles within the EU are mixed. See De Haan, Inklaar and Jong-A-Pin (2008) for a discussion of existing empirical evidence.

interdependent networks of production and consumption in which plausibly exogenous events occur, but their effects are both *determined by* and *transmitted through* existing political economic structures. Recalling our widget example, Chinese entry into WTO affects German and Portuguese widget workers because they, too, are WTO members. And, this market entry is impactful to German and Portuguese workers to the extent that German and Portuguese employment is rooted in widget production. As such, German and Portuguese exposure to Chinese widget shock is determined by pre-existing political economic conditions—their trade policy and production structure.

While the shock may have some direct effect on policy preferences (perhaps by reducing the cost of consumer goods), its effects are largely transmitted through existing political economic factors. Thus, domestic political economic factors and shocks are interdependent. We are not the first to note this, of course, [Colantone and Stanig \(2018b\)](#) acknowledge interdependence as motivation for their research design and this fact is the central focus of [Guiso et al. \(2019\)](#). Noting this is important, however, for clarification of focus. We are interested in uncovering the roots of transnational preference convergence and our explanation is that it is driven by the cross-national similarity and complementarity of political economic structures. These structures also shape, and are shaped by, perturbations to the global market. While these perturbations *per se* are not our focus, we can analyze them in order to assess the plausibility of that mechanism: that similarity and complementarity in economic production and policy coordination drive transnational preference convergence in part by harmonizing exposure to global events.

Returning to our example, we may say that political preferences in Germany and Portugal have grown more similar because they have formed a cross-national widget-production chain that harmonizes worker reliance on widget sales. We refer to these relationships as “general effects,” the broader relationships between political economic connectedness and congruence. These preference distributions are then similarly effected (directly or indirectly) by Chinese entry into the WTO widget market as a function of their policy coordination and economic complementarity. We refer to these changes as “acute effects.” Our central analysis shows that the similarity, complementarity, and

policy coordination of a pair of countries are strong predictors of their voters’ preferential similarity—evidence of general effects. In an ancillary analysis, we also demonstrate how these factors harmonize exposure to global economic perturbations by showing that they are associated with those countries’ dosage of “China shock”—evidence for the plausibility of acute effects.

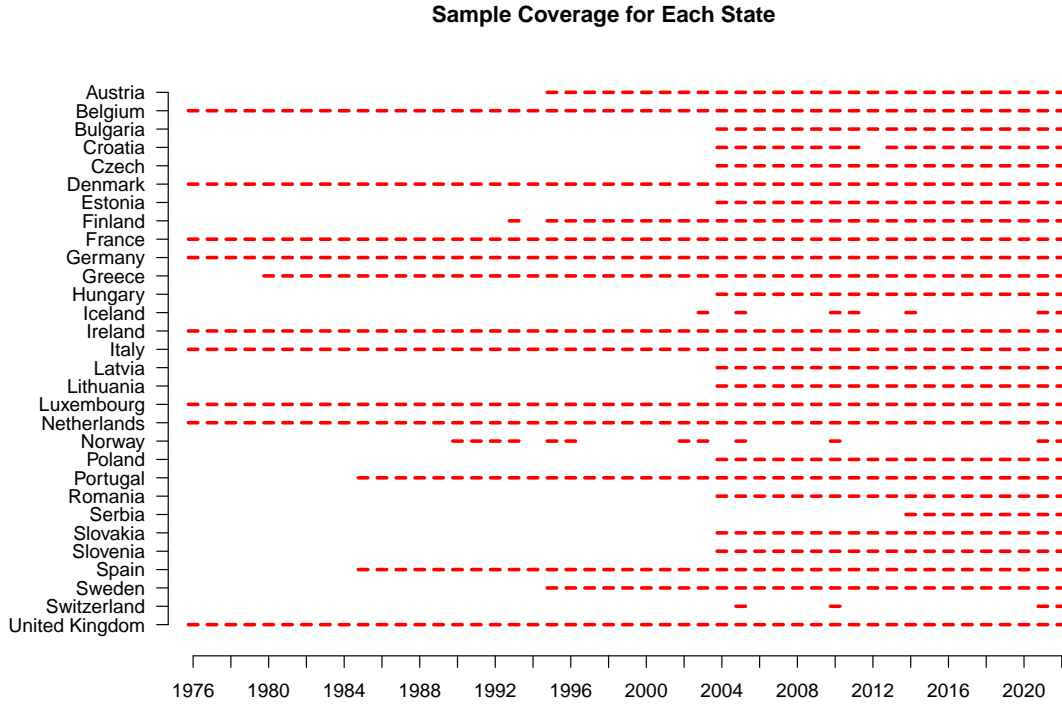
Both analyses are novel in the extant literature and both, we believe, complement existing research on cross-national political economic trends. Importantly, we view the general effects as the core contribution of our manuscript and the acute effects as providing suggestive evidence for a proposed mechanism. Though the data provides evidence for the plausibility of acute effects, their manifestation is not a necessary condition for our core argument or hypothesis tests. Instead, they should be viewed as additional piece of evidence supporting the broader theoretical argument.

### 3 Measuring Voter Congruence

Testing our hypotheses requires comparing the preference distributions of voters across countries and over time, where the unit of analysis is a given country-dyad at a given time. In other words, we want to measure, for example, how similar were the preferences of German and Portuguese voters in 2007? To map out the congruence of voter preferences across countries and test our hypotheses, we utilize data from 179 different Eurobarometer surveys of 30 European democracies between 1976 and 2022. As Figure 1 illustrates, the sample grows from nine countries in 1976 to 30 countries in 2022. At least one survey is available in each year of the investigation period and most countries are surveyed at least annually once they enter the study. Importantly, Eurobarometer uses the same question wording and response scale for political preferences in each country and each iteration of the survey. This feature, combined with the large number of countries and waves, make it the best data source for our purposes.

We create our dependent variable *congruence* using responses to the following question: “In political matters people talk of ‘the left’ and ‘the right’. How would you place your views on this scale?” with responses ranging from 1 (Left) to 10 (Right). The raw

Figure 1: Availability of data from 1976-2022



data are imputed, utilizing the information on individual demographics (gender, age, education, urban, church attendance, income quartiles, marital status, socioeconomic class, and household union membership) and country and year fixed effects.<sup>5</sup> We then calculate the proportion of the electorate at each left-right position, utilizing Eurobarometer’s respondent weights.<sup>6</sup> This vector of left-right proportions is our measure of the political preferences of an electorate for any given country-year.

These country-year preference measures are then converted into dyad-year congruence measures using the “Earth Mover’s Distance” (EMD). The EMD describes “the minimum ‘work’ required to transform two distributions so that they are identical” (Lupu, Selios and Warner, 2017, 96). For example, consider two vectors of voter placements, voter set  $x_1 = \{5, 5, 5, 5\}$  and set  $x_2 = \{0, 0, 10, 10\}$ . We may say that it would take 20 units of work to make  $x_1$  equivalent to  $x_2$ , moving four “voters” by five units each—

<sup>5</sup>We use the Amelia package in R for all imputations (Honaker, King and Blackwell, 2011). More details are in *Supplemental Information*.

<sup>6</sup>Imputation is critical to recover to these proportions as the weights are calculated to match all respondents to population. This means that listwise deletion of some respondents due to non-response would skew the weights.

$\{5 \rightarrow 0; 5 \rightarrow 0; 5 \rightarrow 10; 5 \rightarrow 10\}$ . As distributions grow in size and variability, so too does the number of possible work ‘flows,’ or, ways that one distribution may be rearranged to match another. We use the R package “emdism” (Urbanek, Rubner and Urbanek, 2015), which evaluates “all possible ‘flows’ by which data can be ‘moved’ so that the distributions match” and identifies the most efficient solution as the final EMD value (Lupu, Selios and Warner, 2017, 96). The more similar the preference distributions, the fewer moves to make the distributions identical, resulting in lower EMD scores. We calculate the EMD for each survey-dyad in each imputed dataset and then *reverse* the measure from its natural scale such that larger values indicate greater similarity. This is our *congruence* measure, where the minimum value, 0.03, indicates the least similar dyad, Belgium and Greece in 1980, and its maximum value, 1.81, indicates the most similar dyad, France and Italy in 1992.

Table 1: Documenting ten most similar, least similar, most divergent, and most convergent country dyads in our the data.

Most Similar (average congruence)			Least Similar (average congruence)			Most Divergent (first year - last year)			Most Convergent (last year - first year)		
Belgium	Switzerland	1.65	Latvia	Spain	0.68	Czech Republic	Slovenia	0.84	Belgium	Greece	1.47
Austria	Switzerland	1.64	Poland	Spain	0.70	Czech Republic	Sweden	0.81	Italy	UK	1.14
Iceland	Netherlands	1.61	Estonia	Spain	0.77	Czech Republic	Luxembourg	0.77	Italy	Netherlands	1.08
Iceland	Switzerland	1.60	Hungary	Spain	0.78	Ireland	Norway	0.74	Belgium	Italy	0.94
Iceland	Norway	1.60	Finland	Spain	0.88	Finland	Ireland	0.74	France	Netherlands	0.73
Austria	Iceland	1.60	Czech Republic	Switzerland	0.89	Ireland	Poland	0.73	Latvia	UK	0.65
Luxembourg	Switzerland	1.59	Germany	Romania	0.91	Germany	Hungary	0.72	France	UK	0.63
Netherlands	Switzerland	1.58	Czech Republic	Spain	0.92	Germany	Norway	0.67	Italy	Luxembourg	0.62
Croatia	Serbia	1.58	Germany	Poland	0.92	Czech Republic	Greece	0.66	Latvia	Spain	0.60
Austria	Belgium	1.58	Germany	Latvia	0.93	Estonia	Germany	0.65	Latvia	Portugal	0.60

Table 1 lists the ten most similar, least similar, most divergent, and most convergent country dyads in our the data. A few patterns emerge. First, among the most similar dyads, several share language or border, but none of the least similar share language and only one pair has a common border. Second, nine of the ten least similar dyads pair a Western European country with an Eastern or Central European post-communist country, but none of the most similar dyads do. Third, looking over the most convergent dyads, a theme of integrating some “new Europeans,” Britons and Latvians, seems to emerge. Importantly, the general trend within-dyads is toward congruence. On average, cross-national similarity in voter preferences increases over the sample period. The dif-

ference in magnitude between congruence changes in the most divergent and convergent dyads implies this general convergence, and estimation of a within-dyad linear regression confirms a positive time trend ( $p < 0.001$ ).<sup>7</sup>

An alternative measurement of preferential similarity is what [Lupu, Selios and Warner \(2017\)](#) call the “difference-in-means” approach, where the researcher would simply take the absolute difference of the (weighted or unweighted) mean ideological self-placement from each country-year. Indeed, the research on co-movement of voter preferences across countries we cited above nearly always uses the mean or median self-placement as a single value summary of an electorate’s political preferences. We prefer the EMD for several reasons discussed in detail in the *Supplemental Information*, but can briefly demonstrate the best reason here.

Consider our two example voter sets from above:  $x_1 = \{5, 5, 5, 5\}$  and set  $x_2 = \{0, 0, 10, 10\}$ . These sets have identical means (5), despite being fundamentally different distributions— $x_1$  is perfectly uniform, while  $x_2$  is perfectly bimodal. The EMD reflects this dissimilarity, while difference of means does not.

Figure 2 compares our EMD-based *congruence* estimate to difference-in-means for Germany and Portugal. To ease interpretation, we rescale both measures for the whole sample to be distributed standard normal. We also reverse the difference-in-means measure such that larger values indicate greater similarity. Each box-and-whisker gives the distribution of estimates from the imputed data, and the LOWESS lines summarize the overall trend. The two measures paint a very different picture, with the survey means implying stasis, while our EMD-based *congruence* implies decreasing similarity between the two states.

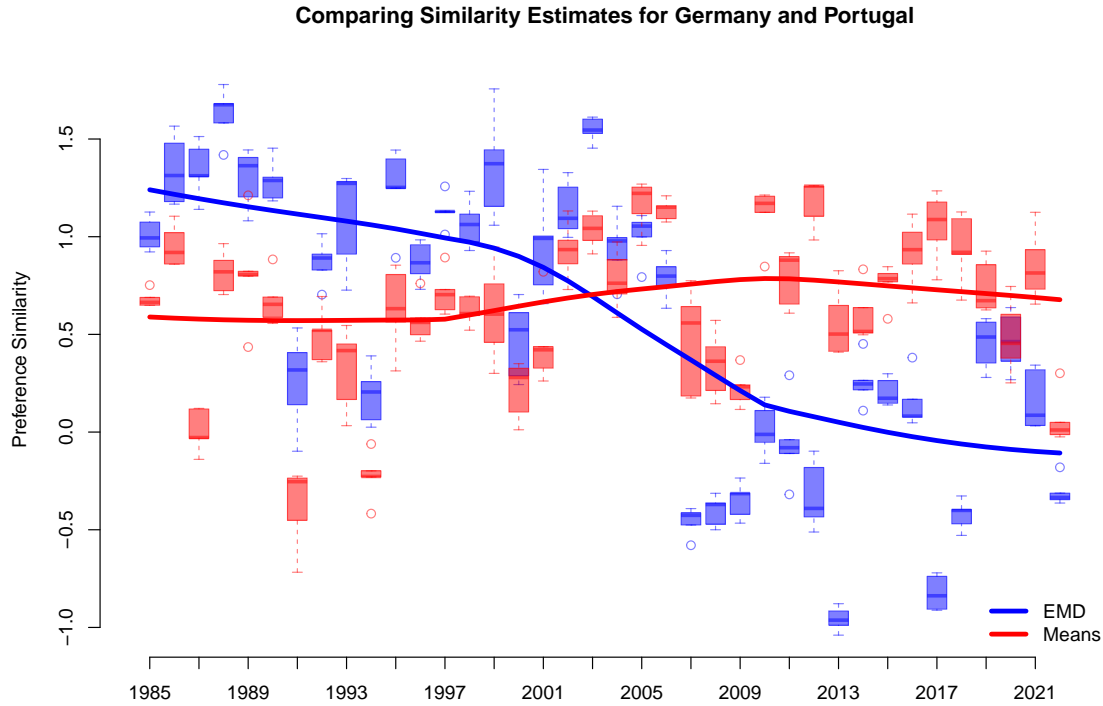
What explains the difference between the measures? Table 2, which gives the percentage of voters placing themselves at each ideological position in Germany and Portugal in 2004 and 2007, provides insight. In sum, between 2004 and 2007 both countries’ means remain fairly stable, but Germany experienced a fairly significant degree of *de*-polarization. In 2004, 58.94% of Germans placed themselves about the scale median (4, 5, or 6), but

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<sup>7</sup>Directionally, voters in our sample have moving leftward at a rate of about 0.004 units (on the 10 unit scale) per year, moving the average from 5.53 in 1980 to 5.34 in 2020.



Figure 2: Preference similarity in the Germany and Portugal from 1985-2022. Both measures are rescaled to standard normal.



this figure grew to 67.17% in 2007. Meanwhile, Portugal exhibits a small degree of polarization. In 2004, 51.07% of Portuguese placed themselves about the scale median (again, 4, 5, or 6), but by 2007 this had decreased to 48.24%.

Looking at the year preceding this period, production in Germany and Portugal start evolving differently. For example, while Germany’s manufacturing production grew (from 20% of GDP in 2003 to 21% in 2007), primarily at the expense of its services sector (falling from 63% to 62%), Portugal’s reliance on services continued to grow fairly rapidly (from 62% of GDP to 64%) at the expense of all other production types. Further, their trade reliance on one another begins to decrease as well. From 2003 to 2007, exports between the two countries basically stagnated, while each grew its reliance on imports from China and the 10 predominantly Central and Eastern European countries that joined the EU in 2004. These changes drove an 18% relative reduction in overall economic production similarity and a 27% reduction in our measure of the economic complementarity between the two countries (we define these measures below). This corresponded to similar change in

Table 2: Changes in the aggregate preference distributions in Germany and Portugal between 2004 and 2007. Each cell denotes the percentage of respondents placing themselves at the corresponding ideological position.

Sample	Left-right position										Mean
	1	2	3	4	5	6	7	8	9	10	
Germany 2004	4.03	5.41	12.14	14.35	30.94	13.65	9.34	6.44	1.92	1.77	4.97
Germany 2007	2.61	3.55	11.46	16.60	36.51	14.06	8.02	4.36	1.36	1.48	4.95
Portugal 2004	4.95	6.36	12.44	14.77	25.45	10.85	10.03	8.74	3.52	2.89	5.07
Portugal 2007	5.46	6.34	12.60	13.51	23.74	10.99	9.86	9.16	3.83	4.51	5.16

preferential similarity between the countries, with our more granular measure recording a 20% reduction over this period ( $1.58 \rightarrow 1.27$ ). To be clear, changes in political preferences of the magnitude observed in Germany over this period are rare, but it is nonetheless critical that our measurements of cross-nationally similarity are able to detect them.

### 3.1 Explaining Voter Congruence

We argue that the congruence of voter preferences across countries is a function of similarity and complementarity of economic production and political integration. To capture *economic similarity* we follow [Fortunato, Swift and Williams \(2018\)](#) and measure the similarity of economic production across sectors. First, for each country-year, we calculate the percentage of annual GDP contributed by the World Bank’s four principal sectors: agriculture (including forestry and fishing), industry (including construction), manufacturing, and services. Then, for each country dyad-year, we calculate the root mean squared-error (RMSE) of the percentage of production across these sectors and invert it, such that larger values denote more similar production and smaller values denote less similar production.<sup>8</sup>

To measure economic complementarity between two countries we use data on observed levels of bilateral trade from the International Monetary Fund (IMF). The variable *exports*

<sup>8</sup>[Fortunato, Swift and Williams \(2018\)](#) use this approach to measure the similarity of economic production across American states, finding it is highly correlated with cross-state patterns of legislative co-sponsorship in the US House of Representatives, indicating a link between economic production and political preferences complementary to our argument.

takes the average of the proportion of country A’s exports that are sent to country B and the proportion of country B’s exports that are sent to country A, such that higher values indicate a greater level of bilateral trade between the dyad, reflecting more complementary, interdependent economies.<sup>9 10</sup>

Finally, we capture political integration by measuring the dyad’s co-participation in the European Union and the Eurozone, which not only entails adoption of the common currency and the accompanying monetary policy (which importantly includes base interest rates), but also fiscal policy constraints such as debt and deficit limits set out in the Fiscal Compact. All sample countries, except Iceland, Norway, Serbia, and Switzerland participate in the EU at some point. 20% of dyads are always co-participants, 13% are never co-participants, and the remaining 67% enter or exit co-participation. We expect that dyads sharing EU and Eurozone membership (for which EU membership is necessary condition) will have more similar political preferences than dyads that do not share these memberships. Our empirical model therefore includes dichotomous variables that indicate observations where both countries are members of *Maastricht* (EU ascension) and observations where both countries are also in the *Eurozone*. The reference category are observations where at least one country is not Eurozone participant or EU member.

### 3.2 Analysis and Findings

We analyze the congruence of political preferences across countries estimating an ordinary least squares (OLS) model with two-way (dyad and year) fixed effects to account for the potential impact of unmodeled factors on outcome and predictors within dyads (e.g., unmeasured factors influencing congruence or exports between Germany and Portugal) or years (e.g., unmeasured factors influencing congruence or exports in 2007). This design holds constant potentially confounding dyadic factors, such as state contiguity, shared

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<sup>9</sup>A complication is that from 1976-1996 the IMF combines trade data for Belgium and Luxembourg. Based on the data from 1997-2022—when the two countries are separated—we assume that 95% of the total trade for Belgium/Luxembourg comes from Belgium and 5% comes from Luxembourg. We then partition the combined Belgium/Luxembourg values from 1976-1996 to reflect this 95/5% split.

<sup>10</sup>Missing values for *economic similarity* and *exports* are imputed. The imputation model (described in the *Supplemental Information*) includes dyad fixed effects, cubic polynomials for time, an alternative measure of *economic similarity* from the OECD, as well as lags and leads of each variable.

language, or common political legacies (like being part of the former Soviet Union), as well as common responses to discrete shocks at a moment in time, such as the fall of the Berlin Wall or the Brexit vote. The year fixed effects also efficiently model out cross-dyad time-trends, which are mostly positive on outcome and predictor. Importantly, [Lin and Lee \(2023\)](#) show that cross-national differential-item-functioning in left-right self placements (e.g., that a 5 in Germany is interpreted similarly to a 5 in Portugal) is not a pronounced problem, but the dyad fixed effects also help account for any manifest DIF.

An asset of this model construction, apart from its parsimony, is that it emulates an event study, or, difference-in-differences design, allowing us to extract plausibly causal estimates of the directional effects of our covariates on congruence, provided that one accepts the identifying assumptions of no reverse causality, no unmodeled time-and-unit-varying confounder, and no spillover effects. Readers concerned about potential bias resulting from persistence in outcome and predictor will be relieved to learn that this construction produces estimates that are nearly equivalent to the long-term effects derived from an autoregressive distributed lag (1;1 or 2;2) model with dyad fixed effects (results in the *Supplemental Information*).<sup>11</sup>

Before discussing the results, it is instructive to return to our working example of Germany and Portugal to examine the raw correlation between economic similarity and complementarity and congruence (the dyad are EU co-participants for nearly the entire sample). This is shown in Figure 3 where our *economic similarity* and *average export* measures are plotted on the x axes of the left and right pane, respectively, and our *congruence* measure is plotted on the y axis of both panes. The Figure reveals the hypothesized correlation is manifest in our working example dyad—*congruence* is positively associated with both *economic similarity* and *average export*.

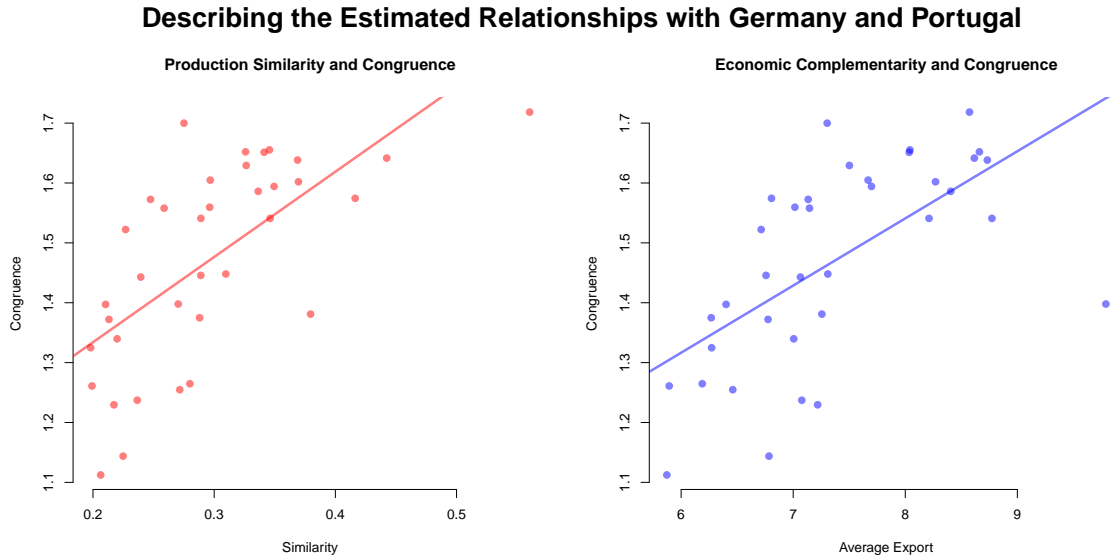
Table 3 reveals estimated relationships for our full sample, listing the point estimates and 95% confidence intervals,<sup>12</sup> which may be interpreted just as one would interpret a

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<sup>11</sup>The ADL specifications estimate long-term effects that are slightly larger (more positive) than the model we interpret here, but also less efficient. The conclusion from all hypothesis tests is the same under those specifications.

<sup>12</sup>For each set of our five imputed results, we take 200 draws from the posterior distribution with the appropriate mean and variance structure to produce 1,000 sets of coefficients. We then take the median value of the 1,000 draws for the coefficients and use the percentile method to generate confidence intervals.

Figure 3: Correlations between economic similarity and complementarity and congruence in Germany and Portugal.



typical OLS model. We note that 85% of the total explained variance in outcome can be attributed to the dyad fixed effects. Given this, we assess net effects with covariate values adjusted for dyads to get a better sense of the practical magnitude of the relationships (Mummolo and Peterson, 2018).<sup>13</sup> As such, the second column shows the change in congruence for a dyad-conditional standard deviation increase in the continuous variables.<sup>14</sup>

We test the *Economic Similarity* hypothesis with the *economic similarity* measure derived from the structure of economic production. As expected, the coefficient is positive and statistically significant, suggesting that country-pairs with similarly composed economies are much more likely to have similarly composed distributions of voter preferences, all else equal. The precision of the estimate shows that a convergence in the composition of national economies is associated with convergence in the preferences of those citizens. Increasing *economic similarity* by the average, within-dyad standard deviation (0.145) is associated with an increase of 0.006 in *congruence*. This change is equivalent to about 20% of the dyad-adjusted variance in *congruence*. In other words, though the cardinal values are small, the relative magnitude is large. Another way to look at this effect is to examine real changes in the data.

We apply the same procedure when calculating the substantive effects.

<sup>13</sup>More specifically, we use standard deviations of the covariates after residualizing by dyad.

<sup>14</sup>For the binary treatments, the within-unit interpretation is superfluous.

Table 3: OLS regression results for the relationship between voter congruence and economic similarity, bilateral trade and political integration

	$\beta$	SD( $\tilde{x}$ ) $\Delta$
	95% CI	95% CI
Similarity	0.040**	0.006**
	[0.014, 0.064]	[0.002, 0.009]
Average Export	0.011**	0.008**
	[0.006, 0.016]	[0.005, 0.012]
Maastricht (Both)	0.032**	
	[0.007, 0.055]	
Eurozone (Both)	0.044**	
	[0.027, 0.059]	
Year Fixed Effects	✓	
Dyad Fixed Effects	✓	
N	8,554	
Adjusted R <sup>2</sup>	0.474	
RMSE	0.170	
$\bar{y}$ ( $\sigma_y^2$ )	1.369 (0.055)	

*Note:* Dependent variable is the reversed EMD measure where higher values indicate country pairs with more congruent distributions of left-right preferences. Coefficients reflect median value of 1,000 simulations. 95% confidence intervals via percentile method.

Substantive effect sizes reflect dyad-adjusted standard deviation.

\* p-value < 0.10; \*\* p-value < 0.05

The data also bear support for the *Complementarity* hypothesis, as *average export* is positive and statistically significant, allowing us to reject a null of no or negative association. Again, the precision of the estimate suggests that an increase in country-pair economic complementarity, as manifest in bilateral trade, is associated with convergence in the preferences of citizens of that country-pair. Substantively, a one standard deviation increase in bilateral trade (0.809%) produces a shift in voter congruence of 0.008. This change is equivalent to 26% of the dyad-adjusted variance in congruence.

Our final expectation is that political integration, as captured by the Maastricht and Eurozone variables, will harmonize voters' preferences. Table 3 supports the *Political Integration* hypothesis, as both *Maastricht* and *Eurozone* coefficients are statistically significant and positive. When countries enter EU co-participation, we would expect their congruence to increase by 0.032 and additional political integration into the Eurozone provides a further increase in congruence of 0.044, creating an aggregate effect of 0.076.<sup>15</sup>

<sup>15</sup>Recall that being a signatory to Maastricht is a pre-condition for involvement in the Eurozone, so all

This is an effect several times larger than both the economic production similarity and economic complementarity computations. The data suggest that shared participation in Maastricht and the Eurozone, and all the attendant policy implications therein, result in a statistically significant and substantively large convergence in the structure of political preferences across countries. Before transitioning, we note that these binary relationships should be considered the total average effect of a vector of variable syncing effects. That is, EU membership combines member-stable effects—such as common a trade policy—and member-varying effects—such as net transfer benefits. It is reasonable to suspect covariance of voter preferences within EU membership is positively responsive to covariance in EU transfers or other costs and benefits of membership that are not as “flat” as the common trade policy. Decomposing all of these effects is beyond the scope of our paper, but we encourage future research to unpack this average effect.

## 4 Mechanism Assessment

The core of our argument is that mass political preferences are a function of economic circumstances, and that economic and political integration harmonize these circumstances across countries, therefore reducing cross-national variability in voter preference distributions. This may work in two complementary ways: the general effects and the acute effects described above. First, increasing common policy regimes and similarity or complementarity of economic production of a country pair should have a direct effect on the congruence of political preferences of those countries’ voters—they are subject to more similar governance, producing more similar goods, and generally more integrated, increasing the similarity of voters’ lived experience as producers and consumers. The second way political economic connectedness increases congruence is by synchronizing exposure to urgent or irregular global events, such as a banking crisis, which may then reshape voter preferences directly, perhaps by making voters more antagonistic toward laissez faire finance regulation, or indirectly, by reshaping economic policy, production, or consumption.

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Eurozone partner pairs are also Maastricht partner pairs.

We provide evidence for the plausibility of these acute effects by analyzing the similarity of China shock experience across our sample countries as a function of their political economic connectedness. Using IMF trade data, we calculate annual Chinese imports to each of our sample countries as the whole percentage of GDP. Then, for each dyad-year, we take the squared difference of these import figures and multiply by -1 such that larger values indicate more similar consumption of Chinese imports. This value is regressed on the same covariates as in the main analysis: economic similarity, trade complementarity, indicators for co-participation in the EU and EMU, and fixed effects for dyads and years.

This particular shock is a good test case for our argument due to the rather discrete nature of exposure given the timing of 1) Chinese entry to the WTO in 2001 and 2) the subsequent entry into the EU and its common trade policy of eight countries in 2004, two countries in 2007, one in 2013, and of course the UK's exit thereafter.<sup>16</sup> These common-market entries allow for clean and well-powered tests of the effect of EU co-membership on shock dosage.

Results of this analysis are given in Table 4. The most impactful, as one may have expected, is EU co-participation. Of course, this not only imposes a single trade policy regime upon the dyad, but also facilitates easier and cheaper acquisition of Chinese goods through non-domestic EU ports, meaning, for example, that land-locked Hungary could more easily import Chinese goods through the Italian Port of Trieste after entering the EU in 2004. Or, that Hungary could more easily purchase Chinese goods imported by Italian wholesalers after entering the EU in 2004. Co-participation in the Eurozone may also have a large average impact, but this estimate falls short of traditional robustness thresholds, with 6% of the distribution of parameter estimates falling below 0.

The analysis recovers robust correlations for both the similarity of production and dyadic trade density, but in opposing directions. The similarity of production, as expected, is strongly positively associated with similarity in Chinese import growth—two service-based economies will increase their consumption of Chinese goods at a more similar pace than a service economy and an agricultural economy. The dyad's trade complemen-

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<sup>16</sup>UK import of Chinese products soared following Brexit and replacement of the EU Common External Tariff with the UK Global Tariff regime coupled with new trade frictions from EU members.



Table 4: OLS regression results for the relationship between China shock congruence and economic similarity, bilateral trade and political integration

	$\beta$	SD( $\tilde{x}$ ) $\Delta$
	95% CI	95% CI
Similarity	2.393**	0.349**
	[0.626, 4.205]	[0.091, 0.609]
Average Export	-1.482**	-1.201**
	[-1.901, -1.065]	[-1.538, -0.861]
Maastricht (Both)	1.805**	
	[0.485, 3.176]	
Eurozone (Both)	0.804	
	[-0.170, 1.812]	
Year Fixed Effects	✓	
Dyad Fixed Effects	✓	
N	5,773	
Adjusted R <sup>2</sup>	0.660	
RMSE	8.121	
$\bar{y}$ ( $\sigma_y^2$ )	-5.258 (194.155)	

*Note:* Dependent variable is the similar consumption of Chinese imports. Coefficients reflect median value of 1,000 simulations. 95% confidence intervals via percentile method. Substantive effect sizes reflect dyad-adjusted standard deviation. \* p-value < 0.10; \*\* p-value < 0.05

tarity, on the other hand, is negatively correlated with Chinese-import covariance. Our speculation is that increasing trade relations between a pair of countries may, on average, mean making their third-party import needs outside of that relationship more dissimilar, particularly their production-based needs. In other words, as the complementarity of bi-lateral commerce and supply chains increases, the capital and intermediate goods that each member of the dyad are most reliant upon outside that relationship may differentiate. This is input differentiation is significant, as the World Integrated Trade Solution estimates that capital and intermediate goods represent about 144% the import volume of consumer goods to Europe in 2017 ([World Integrated Trade Solution, 2023](#)).

In sum, the case study provides additional evidence for the argument put forth here as it illustrates the plausibility and existence of acute effects. The broader political economic connectedness that drives transnational preference convergence also harmonizes exposure to urgent or irregular global economic events, perhaps creating a compounding effect on preference congruence. This holds at least in the case of the China shock, as shown here, and the recent banking crisis, as shown by [Guiso et al. \(2019\)](#). Of course, ([Colantone and](#)

Stanig, 2018a,b) and Guiso et al. (2019) have already shown that these shocks generate directionally consistent political responses across countries, so we refrain from evaluating congruence effects in the main text. In the appendix, we show that similarity in China shock dosage, the dependent variable in Table 4, decreases *congruence* in the short term (up to one year), but significantly increases convergence in the long term, even after controlling for our key covariates, reproducing the relationships we would expect from Colantone and Stanig (2018a,b).<sup>17</sup>

## 5 Conclusion

The empirical evidence presented here holds important implications for past as well as future research. The first is the novel, but common sensical finding that countries with similarly structured economies have voters with similar political preferences. This goes far beyond the observation that voters tend to punish the chief executive when employment contracts. Rather, our results show that when the structure of production in two countries moves in a particular way, for example, shifting from agriculture to manufacturing, there is a significant complementary shift in the distribution of political preferences in those two countries. Further, because we measure the similarity in the overall preference distributions, rather than just comparing the similarity of the means, our analysis is able to detect types of shifts that may otherwise be obscured by the coarsening of the data, like, for example, changes to economic profiles that result in increasing, symmetric political *polarization*. As a result, the evidence presented here increases our confidence in previous research showing broad linkages between economic processes and political processes across countries. At the same time, we reveal reasons to revisit some previous studies utilizing voter (or party) preference summaries to see if there may be more to learn about the relationship between economic structures/outcomes and voter preferences, or the interaction of voters and parties.

A second relevant point is that this study provides empirical evidence for a foun-

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<sup>17</sup>Recall that Colantone and Stanig (2018a,b) evaluate import shocks with lagged change over 2 and 5 years, respectively.

dational assumption in the growing literature on the cross-national diffusion of party strategies (e.g., [Böhmelt et al., 2016](#); [Ezrow et al., 2019](#)). As discussed above, the prevailing wisdom, in both popular press and academic research, is that parties may learn something new about their voters by observing the reaction of foreign voters to the strategies of parties in that country. For example, the Portuguese Socialist Party may learn what strategies may or may not be effective in Portugal by observing the reaction of voters in Germany to the strategies of the Social Democratic Party. This explanation relies on two (usually implicit) assumptions. The first is that voter preferences are cross-nationally correlated. The second is that there is information about the preferences of domestic voters that cannot be *observed* by domestic parties, but can be *inferred* through the observation of the strategies of foreign parties and the subsequent choices of foreign voters. Our findings here have shown that this first assumption is likely empirically valid, especially within the EU, though to differing degrees across space and time. These findings may also complicate the identification of the causal process underlying this diffusion as it raises the possibility that at least some of the observed cross-national convergence in party strategies may potentially be a function of rational, strategic choices made by parties independently in response to changes in voters' preferences that are correlated cross-nationally—i.e., that the second assumption is not necessary to explain observed outcomes. This constitutes a profound challenge for research on policy (or party strategy) diffusion as the research design needs to take into account the possibility that similar policies may occur independently from one another (see e.g., [Juhl and Williams, 2021](#)).

Relatedly, our results complement findings in the growing literature on estimating the political implications of common shocks. For example, research on reaction to the China shock has shown that it increases voting for populist parties or policies across countries ([Colantone and Stanig, 2018b,a](#)). Whereas these studies show directionally similar responses to a shared economic stimulus, our analysis here demonstrates a closer and more nuanced relationship between globalization and voters' preferences—as countries become economically and politically integrated, the entire structure of their political preference distributions grow more similar. In other words, we provide evidence for a more general

relationship between globalization and political preferences from which the China shock responses arise as a special case. The generality of this relationship will be critical for future research as scholars embrace the strategies of China shock research to investigate the political implications of other phenomena, such as shocks brought on by climate change (e.g., [Hoffmann et al., 2022](#)).

Relatedly, examining the direction of ideological movements (see e.g., [Ward, Ezrow and Dorussen, 2011](#)) and possible conditioning factors such as moderating influences of political elites, including governmental actors and media, are also promising directions for future research. In this case, individual-level analyses may be better suited to allow researchers to trace the impact of economic changes both caused or moderated (via communication strategies) by political elites. This may allow us to learn, for example, if trade-induced wage pressures trigger shifts toward populism both with and without established populist parties or established populist media.

Finally, our results show that increasing production complementarity, or trade integration, between two countries is associated with a significant increase in the congruence of political preferences between those countries. This implies that there are stark and heretofore undocumented implications of increasing globalization. It is not merely the case that we are becoming more susceptible to common economic shocks that may similarly imperil incumbent political leaders, but that increasing political economic integration, in and of itself, is driving a transnational convergence of voter preferences that may lead to increasingly similar policy outcomes. Of course, these policy similarities may then feed back into the process. There are potential costs here, as this convergence may reduce the number of applied policy tools, reducing experimentation and learning. In other words, if preferential convergence in fact leads to policy convergence, we may be losing some practical capacity for global policy innovation. We see this as an important challenge for future research.

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