


ORIGINAL ARTICLE

Economic Geography, Politics, and the World Trade Regime

Stephanie J. Rickard 

Department of Government, London School of Economics, Houghton Street, London WC2A 2AE, UK
Email: S.Rickard@lse.ac.uk

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Abstract

Although globalization and the world trade regime have reduced the significance of distance between countries, within countries geography matters now more than ever. Inside countries' borders, economic activities, such as production and employment, occur unevenly across space. As a result, international trade impacts parts of a country differently. Some areas benefit from rising trade, while others experience reductions in local wages and employment as a result of increased import competition. Because regions' experience of globalization varies, public opinion about trade differs across geographic areas within countries. Voters living in regions advantaged by trade are more likely to support economic openness, while voters living in regions negatively impacted by trade are more skeptical of the benefits of globalization. The geographic disparities in public attitudes towards trade often align with salient political cleavages. As a result, debates over trade have become increasingly polarized in many countries, which may threaten states' continued economic openness as well as their engagement with, and even support for, the world trade regime.

Keywords: Economic geography; international trade; trade politics; trade policy; globalization; WTO; local labor markets; left behind places; sub-national trade effects

1. Introduction

Many observers predicted that globalization would bring about the 'death of distance' (e.g., Cairncross, 2001). But although globalization and the world trade regime have shrunk the significance of space between countries, geography matters now more than ever *within* countries. Economic activities, such as production and employment, occur unevenly across space inside countries' borders, and as a result, international trade impacts communities in the same country differently. Some sub-national, local economies in a given country are more exposed to trade shocks than others because of their production and employment profiles. Areas dominated by import-competing, labor-intensive industries are vulnerable to rising imports from lower-cost countries. As imports rise, local wages and employment rates fall in these areas (e.g., Autorand et al., 2013; McCann, 2016; Rodríguez-Pose, 2018). In contrast, other areas in the same country experience few, if any, adverse labor market effects from increased trade. Some may, in fact, benefit from economic globalization due to the local economy's production and employment profile. Because trade has varied effects on different areas within a country, public opinion about globalization is divided.

Although trade has long divided public opinion, geographic divisions in public attitudes are increasingly salient. Voters living in areas advantaged by trade are more likely to support continued economic openness, while voters living in regions negatively impacted by trade grow

increasingly skeptical of the benefits of globalization. The geographic divisions in public opinion over trade often align with relevant political cleavages, including, for example, the division between cities and rural areas (Rodden, 2019). Because political representation is geographically based in many democracies, the disparities in public opinion over trade are often mirrored by elected representatives. As a result, debates over trade have become increasingly polarized (Dippel et al., 2015; Malgouyres, 2017; Colantone and Stanig, 2018a; Autor et al., 2020). Such polarization may threaten countries' continued economic openness and their engagement with the world trade regime.

In this article, I first describe economic geography and the varied geographic patterns of economic activities across space within countries. I then explore the consequences of economic geography for trade preferences, politics, and policy, and suggest some potential implications for the world trade regime.

2. Economic Geography

The uneven distribution of economic activities across space is one of the most striking features of 'real-world economies' (Krugman, 1991, p. 1). Economic activities, such as production and employment, are often 'lumpy' – that is they are unevenly distributed across space – both within countries and between them. Between countries, economic geography helps to explain the flows of goods and capital across borders. Within countries, patterns of economic geography shape the distributional consequences of international trade.

Economic geography refers to the distribution of production and employment across geographic space. Within countries, the geographic distribution of economic activities vary. Some sectors employ people in only a few, select locations making the sector's employment highly concentrated geographically. Extraction activities tend to be geographically concentrated because of their reliance on scarce natural resources (Shelburne and Bednarzik, 1993). The Norwegian oil industry, for example, is concentrated almost exclusively in three electoral districts (Rickard, 2018). In contrast, employment in other sectors of the economy, like agriculture, tends to be more evenly distributed across the country.

Agriculture is often topographically diffuse, however, employment in the sector typically exhibits high levels of 'relative' concentration. Relative concentration refers to the degree to which employment in a given sector is concentrated relative to the geographic distribution of aggregate employment (Shelburne and Bednarzik, 1993; Brühlhart and Traeger, 2005).¹ Agriculture activities frequently occur in areas where there are few other employment opportunities and, as a result, exhibit high levels of relative concentration. High relative concentration is one source of labor market monopsony, which occurs when a few employers dominate hiring in a local labor market. In many rural communities in the Great Plains of the United States, for example, almost everyone is either directly or indirectly employed in the agriculture sector (Krugman, 1991). When local labor markets are characterized by labor market monopsony, workers in the area are vulnerable to trade shocks because they will struggle to find an alternative source of employment when the main employer, or sector of employment, faces competition from rising imports.

Manufacturing employment tends to be less geographically concentrated than agriculture. However, geographic patterns of manufacturing vary between countries. Manufacturing employment in Sweden, for example, is 3.5 times more geographically concentrated than manufacturing employment in Denmark (Rickard, 2018). In the United States, manufacturing employment is nearly 1.5 times more concentrated than manufacturing employment in the United Kingdom (Rickard, 2018). Geographic patterns of employment also vary across manufacturing industries. For example, the US biopharmaceuticals industry is geographically clustered in a few major states

¹An industry that is spread exactly proportionally to total employment would have zero relative concentration.

(Bagchi-Sen et al., 2004), while the ready-mix cement industry is spread out across the entire country.

The need to be located close to customers typically distinguishes geographically-concentrated economic activities from geographically-diffuse activities. Many service sector activities, such as hotels, hairdressers, and restaurants, for example, tend to be geographically diffuse in order to be near local markets (Chase, 2015). In contrast, activities that do not need to be located close to their end customers, such as car manufacturing plants, tend to be geographically concentrated.

A large literature investigates why some economic activities cluster (or agglomerate) more than others. Proposed causes of agglomeration include the location of national resources, deep-water ports, path dependency, and the size of a country (e.g., Brülhart and Traeger, 2005). Firms in a given industry may cluster together geographically in order to take advantage of labor market pooling, the local availability of specialized inputs and services as well as potential knowledge spillovers (e.g., Iammarino and McCann, 2006; Faggio et al., 2017). Industries that require greater manufacturing complexity, such as of computers, tend to be geographically concentrated in more urban areas (Balland et al., 2020). In short, there are many reasons why some types of production and employment cluster geographically and this phenomena is the focus of a large and productive body of research. For the world trade regime, however, it may be the *consequences* rather than the causes of economic geography that matter most.

3. Economic Geography and Trade Shocks

Economic geography shapes the distributional consequences of international trade with implications for trade politics and the world trade regime. When industries are unevenly distributed spatially (and factors of production are imperfectly mobile), local labor markets within countries are differentially exposed to rising import competition (e.g., Autor et al., 2013; Redding, 2020). Some local labor markets will be negatively impacted by rising imports, while others will not. In this way, trade shocks are ‘local shocks’ when import-competing industries are concentrated in select geographic locations. Indeed, the ‘China shock’ – where imports from China generate negative employment and wage effects in local labor markets (Autor et al., 2013) – transpired precisely because of the uneven geographic distribution of economic activities. Different regions were more or less exposed to rising imports from China because of their production and employment profiles. Exposure to rising imports varied according to the local labor market’s reliance on labor-intensive industries, in which China has a comparative advantage (Amiti and Freund, 2010).

In local labor markets with large shares of employment concentrated in labor-intensive industries, increased imports from China put downward pressure on local wages and employment. Consider for example, Stuttgart, Arkansas – one of the areas of the United States hit hardest by rising Chinese imports (Autor et al., 2013; Davis and Hilsenrath, 2016). The footwear industry, an important source of jobs in the area, experienced one of the biggest increases in Chinese imports per worker (Autor et al., 2013; Davis and Hilsenrath, 2016). Employees in footwear industry who lost their jobs because of rising import competition struggled to find a new job locally because other employers in the area were also hit by rising imports. For example, the local Lennox Air Conditioner factory faced increased import competition from Chinese imports of refrigeration equipment. And even the area’s famed rice milling industry experienced a significant increase in competition from China.

The example of Stuttgart, Arkansas illustrates the local impacts of rising imports. When an area’s economy is dominated by import-competing, labor-intensive industries, such as footwear manufacturing and rice milling, the local labor market will be hit hard by rising imports from lower-cost economies. Increased import-competition will generate layoffs in trade exposed industries and, in turn, the local labor market will experience increased unemployment, and lower wages. Autor et al. (2013) estimate that comparing two local labor markets (i.e. commuting

zones) over the period from 2000 to 2007, one at the 25th percentile and the other at the 75th percentile of exposure to Chinese import growth, the more exposed local labor market would 'experience a differential 4.5 percent fall in the number of manufacturing employees, a 0.8 percentage point larger reduction in the employment to population rate, a 0.8 percent larger decline in mean log weekly earnings, and increases in per capita unemployment...in the order of 2 to 3.5 percent' (page 2125).

The economic effects of an import shock cascade throughout trade-exposed local labor markets. As jobs in the area become scarcer, unemployment rises and wages fall. In response, mobile inhabitants leave in search of better employment opportunities in other areas (Biscourp and Kramarz, 2007; Amity and Wei, 2009; Broz et al., 2021). As mobile inhabitants leave, property values fall and over time local-government tax revenues subsequently decline. As a result, remaining residents experience a deterioration of local public services. Feler and Senses (2017) estimate that a '\$1,000 increase in Chinese imports per worker results in a relative decline in per capita expenditures on public welfare (by 7.7 percent), on public transport (by 2.4 percent), on public housing (by 6.8 percent), and on public education 0.9 percent' (page 103). The erosion of a region's economic base and local public services may subsequently have negative social effects, including a rise in alcoholism and opioid abuse (e.g., Dean and Kimmel, 2019).

Because the impacts of import shocks reverberate throughout local economies, the distributional effects of international trade may not be fully defined by industries or production factors, as in neoclassical theories. In these models, the distributional consequences of trade occur at the national level (Jones and Marjit 1991). Owners of a particular factor of production are predicted to gain (or lose) from trade depending on the country's national factor endowments. However, the distributional effects of trade have a sub-national component because of economic geography. Sub-national labor markets differ in their exposure to rising trade because of their production and employment profiles and, as a result, some parts of a country gain from rising trade while others lose. The sub-national component of trade's distributional effects have important implications for trade politics and potentially for the world trade regime. Understanding these effects is ever more important as some economic activities increasingly cluster together geographically within countries, thereby magnifying the sub-national dimension of trade's distributional effects.

3.1 Changing Patterns of Economic Geography

Some economic activities appear to be increasingly concentrated geographically. In Europe, for example, manufacturing employment has gradually become more geographically concentrated within countries since the early 1990s (Brülhart and Traeger, 2005). Manufacturing activities have been relocating away from high-density central regions towards more peripheral regions in Europe. A similar pattern has emerged in the United States. Over 40% of local labor markets in the US experienced an increase in labor market concentration during the period from 1976 to 2015 (Rinz, 2018). The trend is particularly pronounced in small and rural markets. Levels of labor market concentration are higher, on average, in commuting zones around smaller cities and rural areas than in those around large cities. The least concentrated labor markets tend to be in urban areas (Azar et al., 2020). As manufacturing employment grows increasingly concentrated relative to the spatial spread of total employment,² People employed in manufacturing find themselves with fewer alternative employment opportunities in their local area which makes them particularly vulnerable to trade shocks.

Changing patterns of economic geography may help to explain, at least in part, the growing productivity gaps between regions. The productivity gap between the most productive 10% of regions and the bottom 75% has grown by nearly 60% over the past 20 years in developed countries (Economist, 2019). In the US, the largest metro areas (i.e., those with more than one million

²Within manufacturing, the strongest increase in relative concentration is found in textiles, clothing and footwear.

residents) have accounted for 72% of the nation's employment growth since 2008 and over three-quarters since 2015 – even though these areas accounted for just 56% of the overall population (Hendrickson et al., 2018).

However, even as regional disparities grow, people move less and less often within countries. In France, for example, the share of households that moved residence decreased by 7 percentage points from 17.8% to 10.8% over the 2006–2013 period (Bolet, 2020). In the United States, the percentage of Americans who have moved across state lines each year has fallen by 50% since the 1990s (Hendrickson et al., 2018). Today, American job seekers are much more likely to apply for vacancies closer to their homes, with only about a quarter looking outside their state of residence (Marinescu and Rathelot, 2018).³ As a result, a growing number of people remain in 'left-behind places' with fewer economic opportunities, which may help to explain the growing 'geography of discontent' (Hendrickson et al., 2018) and emerging 'politics of place' (Rogers, 2015).

4. Economic Geography and Trade Preferences

Although gravity models highlight the importance of geography for trade flows, it is often missing from theories of trade preferences, which typically assume that individuals are atomistic. Individuals' preferences over trade policy, and globalization more generally, are believed to reflect trade's impact on their own economic well-being. People are thought to prefer the trade policy that maximizes their real income. The policy that best serves this goal depends on an individual's factor endowments and role in the global economy, as indicated by their level of education or industry of employment. While studies show that education and industry of employment robustly predict individuals' preferences over trade policy (e.g., Scheve and Slaughter, 2001; Beaulieu, 2002; Mayda and Rodrik, 2005; O'Rourke and Sinnott, 2001), some research finds that individuals' expressed trade preferences are at times inconsistent with economic theory (Mansfield and Mutz, 2009; Blonigen, 2011; Rho and Tomz, 2017). Economic geography may help to explain these findings.⁴

Because some local labor markets are more exposed to rising imports and their subsequent economic effects than others, workers in a given area may hold more similar trade preferences than economic theory alone would suggest. Their shared experience of globalization may influence their trade preferences via several mechanisms, including economic self-interest, local sociotropy, and value change. I briefly explore the logic of each of these mechanisms below. These mechanisms are not mutually exclusive and, in practice, some combination may link local trade shocks to individuals' preferences over trade policy and globalization more generally.

First, individuals working in the same sub-national labor market may hold similar trade preferences because of economic self-interest. Trade shocks have deleterious effects on local wages and employment and these effects extend beyond import-competing industries. In the United States, for example, Autor et al. (2013) find that an increase in Chinese imports affects not only the industries directly exposed to rising import competition but also the local labor market; in response to rising imports, local employment rates decrease, wages fall, and per capita unemployment rises. Similarly, in the United Kingdom, Ballard-Rosa et al. (2021) show that Chinese imports have a negative effect on both manufacturing employment and average wages in local labor markets, defined by travel to work areas (TTWA). Given these local effects, people living in areas exposed to trade shocks may hold relatively more similar preferences over trade than people living in other areas.

Second, people living in the same region may hold similar preferences about trade because of local sociotropy. Local sociotropy refers to the idea that voters are concerned about the

³Reasons for falling geographic mobility include the increase in two-income families, the aging population, and skyrocketing housing costs.

⁴Other factors may also play a key role, including information. See, for example, Rho and Tomz (2017).

economic well-being of their community and not simply their own personal financial situation (e.g., Lewin, 1991; Alkon, 2017; Rickard, 2021). Research shows that voters often consider the interests of others when formulating their attitudes about economic policies and the governments responsible for them (Mansfield and Mutz, 2009; Lü et al., 2012). Individuals predominantly care about the well-being of those closest to themselves, including their family, neighbors and local community. Because individuals have a social, material, and psychological stake in their communities (Ansolabehere et al., 2014), an import shock, and its knock-on local effects, may influence peoples' trade preferences even if they themselves are not materially impacted.⁵ As a result, people living in an area exposed to rising imports may hold trade policy preferences that are more similar than economic theory alone would suggest.

Third, trade shocks may affect individuals' value orientations. Citizens' may adopt certain values in response to a local trade shock and these values may subsequently lead them to hold similar views on trade. Research shows that individuals living in regions more affected by rising imports tend to adopt more authoritarian values (Ballard-Rosa et al., 2021). Authoritarian values are understood as an individual preference for order and conformity and a belief that these outcomes should be achieved by force if necessary. These values are also systematically correlated with preferences for protectionist trade policy. In the United States, Johnston (2013) finds that authoritarian values are the most consistent indicator of individuals' support for import restrictions. In the United Kingdom, individuals with more authoritarian values were more likely to vote for the UK to leave the EU. Individuals at the lowest observed values of authoritarianism had less than a 20% likelihood of voting for Brexit, while respondents at the highest values had over a 90% likelihood of doing so (Ballard-Rosa et al., 2021). In Germany, Jedinger and Burger (2020) find that authoritarian values correlate with support for policy restrictions on foreign trade, controlling for a wide range of other factors. People living in areas exposed to rising imports may hold relatively similar trade policy preferences because they adopt certain values in response to trade shocks.

5. Economic Geography and Politics

Value adoption, local sociotropism, and economic self-interest may also explain why people in regions exposed to rising imports tend to vote differently than people in less trade-exposed regions. In the United Kingdom, for example, local trade shocks help to explain the geographic variation in votes to leave the European Union (EU). The 2016 referendum, in which citizens were asked to decide on the UK's future relationship with the European Union, represented a rare direct vote by the public on international economic integration. Fifty-two percent of voters expressed a desire for the UK to leave the European Union. At the national level, support for the Leave option was sufficiently high to carry the vote. However, Leave voters were unevenly distributed across the country. In the Lincolnshire city of Boston, three-quarters of voters chose to leave the EU. However, other regions expressed less support for leaving the EU. In some parts of London, for example, 75% of voters opted to remain in the EU.

The geographic variation in Leave votes can be explained, in part, by local trade shocks. The Leave vote share was systematically higher in parts of the UK that were more exposed to rising Chinese imports, holding all else equal (Colantone and Stanig, 2018b). The effect of import-exposure on the likelihood of an individual voting Leave was not restricted to a specific category of voters, but instead extended broadly across segments of the population. This evidence provides some support for the local sociotropism mechanism. Diverse types of voters in trade-exposed areas may have voted Leave out of a sense of 'place-based' threat arising from

⁵This is not to suggest that the informed but personally unaffected voters have a sophisticated model of the distributional impact of trade. It is simply to propose that voters typically know when their communities are doing poorly and that trade probably played some role in the problem.

globalization (Cramer, 2016; Colantone and Stanig, 2018b). More broadly, the Brexit experience suggests that exposure to local trade shocks can influence public support for international economic integration.

Although direct votes on international economic relations are uncommon, national elections provide further evidence that trade shocks impact voting behavior. Across 76 legislative elections in 15 Western European countries, import shocks are associated with higher vote shares for protectionist political parties. Following the empirical approach advanced by Autor et al. (2013), Colantone and Stanig (2018a) exploit the variation in import exposure stemming from initial differences in industry specialization and find that the electorate tilts towards political parties that support trade protection in regions more exposed to rising imports. A one standard deviation increase in import competition corresponds with a 3.7 percentage point increase in the vote share of protectionist political parties (Colantone and Stanig, 2018a, p. 945). Intriguingly, this effect is observed only for right-leaning protectionist parties and not left-leaning protectionist parties.

Using a similar empirical approach, Malgouyres (2017) finds that exposure to import shocks increased French voters' support for the party formerly known as *Front national* and now called *Rassemblement national*. Since the early 2000s, economic issues have gained more prominence in the party's discourse. The party has increasingly focused on voters' economic anxieties and explicitly identifies globalization as the main culprit behind the economic difficulties faced by workers (Swank and Betz, 2003). The party advocates policy barriers to trade in order to combat 'unfair competition' from foreign imports. In 2017, for example, the party proposed a 'social contribution on imports' that would constitute a 3% tax on the price of imported products (Rickard, 2022b). Given this, it is not surprising that, votes for the party have increased most in areas more exposed to import competition (Malgouyres, 2017).

Trade shocks also correlate with anti-incumbent voting. In Spain, citizens in municipalities that experienced an offshoring event (i.e., a plant closure to move production abroad) voted against the national incumbent government party (and regional government parties) at relatively higher rates (Rickard, 2021). In the United States, voters punished incumbent politicians for local import shocks (e.g., Che et al., 2016; Jensen et al., 2017) and trade-related job losses (Margalit, 2011).

The implications of anti-incumbent voting for the world trade regime depend, of course, on the identity of the incumbents' replacements. Some evidence suggests that replacements tend to be less moderate. Autor et al. (2020) find that trade-exposed electoral districts exhibit stronger ideological polarization in campaign contributions. Additionally, trade-exposed counties with an initial majority white population became more likely to elect a Republican conservative, while trade-exposed counties with an initial majority-minority population became more likely to elect a liberal Democrat. In both sets of counties, these gains came at the expense of moderate Democrats.

Taken together, these studies present evidence that is potentially troubling for the world trade regime. Politics appear to be increasingly polarized in some countries, including those that have led and maintained the world trade regime to date. Political parties opposed to trade, and globalization more generally, are gaining ground, particularly in areas exposed to rising imports. As a result, the political coalition needed to sustain the world trade regime may be eroding.

6. Economic Geography and Policy

In an effort to sustain public support for the world trade regime, governments may seek to reduce citizens' exposure to import competition, and its subsequent economic effects, by raising policy barriers to trade. In the United States, legislators in the House of Representatives responded to import shocks in their districts by voting for more protectionist trade legislation (Feigenbaum

and Hall, 2015). A \$1,000 increase in import competition per worker in a given district is estimated to cause between a 0.7 and 2.1 percentage-point increase in the probability that the district's representative casts a protectionist trade vote in Congress (Feigenbaum and Hall, 2015).

This example illustrates how the geography of local trade shocks may align with political boundaries to influence trade policy and a country's engagement with the global economy. When political representation is geographically based, the impacts of local trade shocks will be reflected in national politics because legislators respond to trade's impact on their own geographically-defined constituency. Because constituencies (i.e., districts) are unequally exposed to trade shocks, legislators will hold varied and often irreconcilable positions on trade, which may help to explain why trade, and globalization more generally, has become an increasingly polarizing issue in many countries.

In addition to implementing trade barriers, governments may also provide particularistic economic policies, such as subsidies, to help local businesses compete with foreign imports. Although the WTO Agreement on Subsidies and Countervailing Measures (Articles 1 through 9) stipulates rules and regulations regarding subsidies, governments' use of subsidies is rising (Hoekman and Nelson, 2020). In 2009, just 5% of world trade was affected by subsidies (excluding export subsidies). By 2019, the share of trade impacted by subsidies had grown to 25% and by the end of 2020, subsidies made up the largest share of trade-distorting measures (Hoekman and Nelson, 2020).

The rising number of subsidies may be both a cause and a consequence of changing patterns of economic geography. If governments provide subsidies conditional on a firm's location decision, subsidies themselves may influence patterns of economic geography. However, existing evidence suggests that subsidies generally have only a small impact on the geographic dispersion of economic activities (e.g., Midelfart-Knarvik and Overman, 2002; Devereux et al., 2007). In the United Kingdom, an increase in government subsidies of £100,000 is associated with a 1% increase in the probability of a firm's (re)location (Devereux et al., 2007). In Norway, civil servants responsible for the allocation of subsidies report that they have never seen a firm relocate to a different part of the country in order to win more subsidies (Rickard, 2018). In the United States, 41 out of 50 states have significant funding programs to spur development of the life sciences industry, yet the American biotechnology industry remains obdurately concentrated in just five urban centers (Rickard, 2018).

The growing number of subsidies may be a political response to rising geographic concentration. As production and employment become increasingly concentrated geographically, demands for subsidies may be more successful, particularly in political systems where elected leaders have incentives to respond to geographically-concentrated groups (Rickard, 2018). Parties and politicians competing in democratic elections may use particularistic economic policies, such as subsidies, to maximize their effective votes – that is the votes needed to win office. The efficacy of an economic policy for 'effective vote maximization' depends on the geographic distribution of its beneficiaries (Rickard, 2018). Policies whose beneficiaries are geographically concentrated provide the best opportunity for politicians to maximize their effective votes in plurality, first-past-the-post electoral systems, as in the UK and the US, where candidates need to secure votes in their own geographically-defined constituency in order to win office.

Because of these electoral incentives, subsidies for geographically-concentrated groups tend to be relatively generous in countries with plurality electoral systems (Rickard, 2018). In the United States, geographically-concentrated industries habitually win generous subsidies. Sugar cane farmers, for example, receive an extra \$369 million dollars a year from government-funded subsidies and nearly 60% of this money goes to just 17 growers in the state of Florida (Beghin et al., 2003). Cotton producers concentrated in a single electoral district (the 19th district of Texas) won \$180 million dollars in subsidies from the government in 2014 (Rickard, 2018), and the geographically concentrated producers of footwear and automobiles have long received generous government assistance.

While subsidies for geographically-concentrated industries tend to be relatively more generous in plurality systems, governments in other types of democratic systems, including those that allocate legislative seats to parties in proportion to their share of the national vote (i.e., proportional representation or PR systems), also provide lucrative subsidies to producers. In Spain, for example, the government provided generous subsidies to the Seat and Ford automotive plants in Barcelona and Valencia (Jofre-Monsenyand et al., 2018). Additionally, the multinational company Lear, who operated an electrical components plant in Cervera, Spain received various types of economic incentives from the government, including subsidies and tax allowances (Rickard, 2021).

In a very different political system, the government of China spends substantial amounts of money on subsidies. Estimates suggest that since 2001, when China joined the WTO, subsidies have financed over 20% of the expansion of the country's manufacturing capacity (Haley and Haley, 2013). Energy subsidies to Chinese steel alone totaled \$27 billion from 2000 to 2007 (Haley and Haley, 2013).⁶

The increased prevalence of subsidies in China and around the world has made them a hotly contested flash point in international trade relations. To date, the world trade regime has struggled to contain governments' use of subsidies. Ongoing disagreements persist at the WTO about the appropriate use of government subsidies and obstruct progress towards a new subsidy regime. Negotiations over fisheries subsidies, for example, have been ongoing for 20 years and WTO members have yet to reach a successful agreement (Rickard, 2022a).

Going forward, the world trade regime must grapple with the difficult issue of subsidies in order to progress trade liberalization and reduce tensions between trading states. However, the political lure of subsidies for electorally-minded politicians will remain a significant stumbling block. In this issue, both Gulotty and Bown explore the prospects for a more general subsidies agreement going forward.⁷

7. Compensation

In addition to preemptive policies like tariffs and subsidies, governments may also provide *ex-post* compensation to workers laid off because of rising import competition. The idea of providing compensation to help offset the costs of globalization is often referred to as embedded liberalism. The idea is that public support for international economic integration can be maintained by government transfers that tax the winners from globalization to fund a social safety net for the losers (e.g., Ruggie, 1982; Hays et al., 2005; Hays, 2009). The idea of embedded liberalism underpinned the post-war international order, which was designed to be multilateral in character. Governments anticipated that domestic policy could be used to minimize the socially disruptive adjustment costs that might accrue from international economic integration (Ruggie, 1982). By offsetting the costs of globalization, government-funded compensation programs may help to reduce voters' economic grievances and subsequently their opposition to trade.

Although compensation appears to have muted citizens' preferences for trade protection in the past (Hays et al., 2005), in recent years it seems to be less effective. Opposition to trade is growing and support for anti-globalization political parties is rising, particularly in regions exposed to foreign imports (Malgouyres, 2017; Colantone and Stanig, 2018a; Milner, 2021). One reason why compensation may not curb growing opposition to globalization is because trade shocks, and their subsequent labor market impacts, lower individuals' subjective social status (Gidron and Hall, 2017; Scheve and Slaughter, 2018). If compensation cannot resolve individuals' status anxiety, it may be an ineffective policy tool for sustaining public support for trade.

⁶See also Gao in this issue.

⁷Also see Hoekman and Nelson (2020), who suggest how the world trade regime might productively begin to address the difficult issue of subsidies.

Another reason why compensation programs may be less effective in reducing opposition to globalization is the changing patterns of economic geography. Because of the increased geographic concentration of certain types of economic activities within countries, trade shocks are increasingly ‘local shocks’ and their effects ripple through local labor markets. Yet, most compensation programs, including the US Trade Adjustment Assistance (TAA) program and the European Globalisation Adjustment Fund (EGF), provide assistance only to individuals directly harmed by trade. Such programs leave unaided other people indirectly hurt by the cascading local effects of trade shocks.

This observation may help to explain why individual-level compensation programs fail to significantly reduce the propensity of trade-exposed communities to oppose globalization. In France, for example, additional compensation for trade-related job losses from the European Globalisation Adjustment Fund (EGF) does not meaningfully reduce voters’ support for the protectionist political party, *Front national*, now called *Rassemblement national* (RN), in trade-exposed areas. The maximum observed value of additional compensation is estimated to reduce the RN’s vote shares by less than 1 percentage point (Rickard, 2022b). To wipe out the party’s largest regional vote gain in 2012, the government would have to spend at least 7 times more money on this trade-related compensation program (Rickard, 2022b). This finding suggests that additional compensation targeted only to individuals for direct trade-related job losses may not be an efficient way to bolster public support for globalization.

Of course, this is not to say that compensation is unimportant. On the contrary, social welfare programs play an essential role in the economic and social well-being of many citizens. Fiscal austerity and direct cuts to social programs may stimulate a backlash against mainstream political parties (e.g., Fetzer, 2019; Dal Bó et al., 2020). However, individually-targeted compensatory policies may be increasingly ineffective in sustaining public support for the global trade regime because of changing patterns in economic geography, which expose sub-national labor markets to the effects of trade.

Place-based policies that target assistance to areas hit by trade shocks may hold some promise. However, existing evidence is not encouraging. Areas of the UK that received funds from an EU program designed to improve economic conditions in laggard regions did not exhibit systematically lower levels of support for leaving the European Union in the 2016 referendum on EU membership (Becker et al., 2017). This null result suggests that perhaps even more broadly targeted programs are necessary – ones that build a lifelong ladder of opportunity to give all citizens the human capital necessary to adapt to the forces of globalization (Scheve and Slaughter, 2018).

Reassessing the most effective forms of compensation may be an important project for the world trade regime. International economic integration and domestic stability are linked to and conditioned by one another (Ruggie, 1982). As global trade increases, the compensation measures adopted to help offset the costs of globalization must keep pace – that is, they must be commensurate with the degree of economic openness. As countries’ economies become more and more integrated internationally and patterns of economic geography change, greater and perhaps different types of domestic compensation may be needed. As Ruggie (1982) concluded, ‘some manner of renegotiating the forms of domestic and international social accommodation reflected in embedded liberalism is inevitable’ (p. 413). Perhaps now is the time for such a renegotiation; it may be imperative for the future of the world trade regime.

8. Implications for the World Trade Regime

Disparities in areas’ exposure to and experience with globalization are reflected not only by voters’ expressed preferences but also by elected officials. Because political representation is geographically based in many democracies, elected officials represent areas impacted differently by globalization. As a result, globalization is an increasingly polarizing topic in many countries.

Such polarization may reduce states' engagement with the world trade regime. As Claussen notes in this issue, the United States has negotiated only one free trade agreement (FTA) since 2011 and the Biden Administration has made clear that it does not intend to conclude any FTAs in the near term. Additionally, the US has refused to allow new appointments to the WTO's Appellate Body. Without new Appellate Body members to replace those whose terms expired, the WTO's system of binding dispute settlement effectively ended in 2019, as Bown discusses in this issue.

However, perhaps all is not lost. As Claussen suggests, the next generation of trade agreements may be largely immune to domestic politics. Next generation trade agreements tend to be relatively narrow and typically 'do not require extensive political approval nor do they affect multiple broad constituencies' (Claussen, this issue). As a result, the next generation of trade agreements may circumvent the challenges posed by the changing politics of trade engendered by economic geography.

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