

The Backlash Against Globalization*

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Abstract

We review the literature on the globalization backlash, seen as the political shift of voters and parties in a protectionist and isolationist direction, with substantive implications on governments' leaning and enacted policies. Using newly assembled data for 23 advanced democracies, we document a protectionist and isolationist shift in electorates, legislatures, and executives from the mid-1990s onwards. We discuss the economics of the backlash. From a theoretical perspective, we show how the backlash may arise within standard trade models when taking into account the 'social footprint' of globalization. Then, we review the empirical literature on the drivers of the backlash. Two main messages emerge from our analysis: (1) globalization is a significant driver of the backlash, by means of the distributional consequences entailed by rising trade exposure; yet (2) the backlash is only partly determined by trade. Technological change, crisis-driven fiscal austerity, immigration, and cultural concerns are found to play an important role in creating politically consequential cleavages. Looking ahead, we discuss possible future developments, with specific focus on the issue of social mobility and on the implications of the COVID-19 pandemic.

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1 Introduction

“I walked down a long service road into the remains of an abandoned lace factory. The road was pocked with holes filled with fetid water. [...] The derelict complex, 288,000 square feet, consisted of two huge brick buildings connected by overhead, enclosed walkways. The towering walls of the two buildings, with the service road running between them, were covered with ivy. The windowpanes were empty or had frames jagged with shards of glass. [...] The wreckage of industrial America lay before me [...]. The Scranton Lace Company was America. [...] The factory [...] was once among the biggest producers of Nottingham lace in the world. [...] But the company gave more than a wage to the thousands of men and women who worked here. It gave the dignity, purpose, pride, a sense of place, hope, and self-esteem. All that was gone. [...] replaced in Scranton and across America by desperation, poverty, drift, a loss of identity, and a deep and crippling despair. Another age. Another time. Another country.” (Hedges, 2018, pp.1-2). The factory also generated tax revenues for the local authorities to support the supply of public goods, from education and medicine to law and order. With deindustrialization the community of Scranton, Pennsylvania, where President Joe Biden was born in 1942, went spiralling down with population dropping from its peak above 140,000 inhabitants, just before Biden was born, to its current low plateau short of 80,000 inhabitants.

How could all that happen? Nowadays the world top players in the lace market are in Mexico (Panggio), Turkey (Antik Dantel, Tugcu Home, Acar Brode, Gülhan Brode Tekstil, Motif Dantel), India (Romy Lace, Jai Durga and Co.), Portugal (Arma-Da Laces, Cotex Laces), and China (Hua Cheng Industrial Group).¹ It is a short step to entertain the possibility that globalization is the ‘source of all evil’, not only for Scranton but also for many other places of western industrialized countries that have followed similar downward spirals. It is another short step further to conclude that people’s acceptance of such possibility as more than a possibility lies behind the so-called ‘globalization backlash’. That is, the political shift of voters and parties in a protectionist and isolationist direction, with substantive implications on governments’ leaning and enacted policies.

A multilateral trade-friendly global order cannot be taken for granted today. Protectionist measures have been on steep rise since the financial crisis of 2008. Two most striking examples concern the years 2016-2020: the America First protectionist policies of the US administration under President Donald Trump and the so-called Brexit, i.e., the independentist extrusion of the UK from the European Union. A prominent victim

¹<https://www.marketreportsworld.com/>

of America First was the Transatlantic Trade and Investment Partnership (TTIP). This was a proposed trade agreement between the European Union and the United States, which could have been the largest bilateral trade initiative ever negotiated, and a model for future global agreements. The TTIP negotiations were launched in 2013 and ended without success at the end of 2016. In the same year, the referendum leading to Brexit initiated the first step back in European economic integration since the 1950s. In parallel, global multilateral cooperation within the framework of the World Trade Organization could do nothing but stall.

What do we know about the causes and the mechanisms underlying the globalization backlash? In this chapter we discuss the existing literature on these issues, drawing both from international economics and from political science. A main goal of our contribution is understanding to what extent the globalization backlash has been driven by globalization itself. To this purpose, we review the literature on the economic effects of globalization. From a theoretical perspective, we show how the backlash may arise within standard trade models when taking into account the ‘social footprint’ of globalization. With this term we refer to persistent welfare losses that arise from trade-induced factor reallocations when these are costly. Then, we discuss the studies that have investigated the link between trade exposure and voting. We conclude that the globalization backlash is (at least partly) endogenous to globalization. Globalization leaves a ‘social footprint’ insofar as the problems associated with adjusting to the new normal of a structurally changed economy have proved hard to solve. In particular, the distributional consequences of globalization have contributed to the creation of widening cleavages across social groups and regions. These dynamics have resulted in political disappointment with mainstream parties and candidates, leading to higher support for anti-establishment and anti-globalization forces. There is ample evidence of this pattern both in the US and in the European Union.

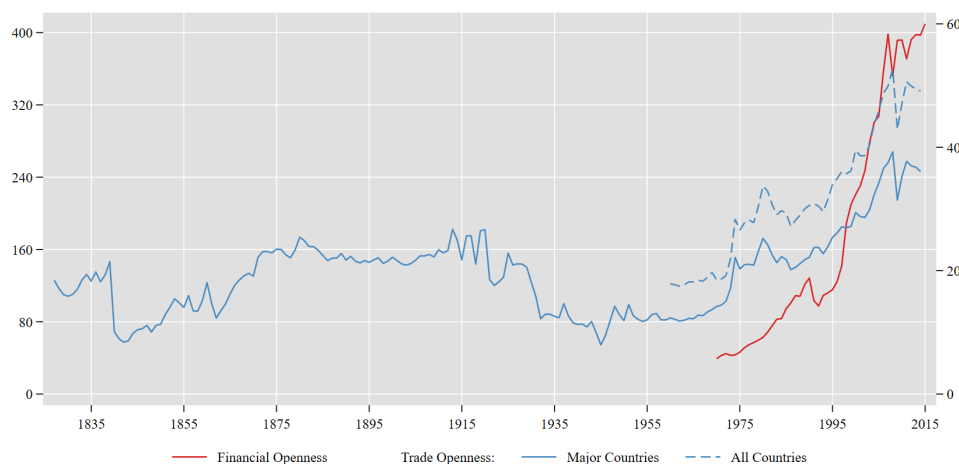
Yet, globalization is not the only driver of the backlash. For instance, trade exposure is found to raise support for protectionist and isolationist parties on the right of the political spectrum, but it does not explain the surge of left-wing anti-globalization parties, which have gained momentum especially in Europe, and especially after the financial and sovereign-debt crisis. Such left-wing backlash seems to be rather driven by exposure to fiscal austerity induced by the crisis. Moreover, technological change too seems to play an important role in driving the backlash. In particular, exposure to robotization is found to breed support for right-wing protectionist and isolationist forces. Trade and automation thus emerge as two facets of structural economic change inducing very

similar political consequences. Immigration has also been found to play an interesting role in the same direction, both as a catalyst of trade-driven economic distress, and as a determinant of isolationist reactions on its own. Overall, borrowing from the medical literature, we may describe this multi-causal nature of the phenomenon through the concept of “comorbidity”, by which different factors compound to generate the globalization backlash.

Anti-globalization forces enjoy an anti-incumbent advantage over mainstream parties, and are able to cast in their political bundles generalized promises of protection that are attractive to a wide range of economic losers. Indeed, their success is not necessarily paralleled by rising anti-globalization attitudes. Losers might not be able to identify exactly the causes of their economic distress (if identifiable at all in a precise way even by economists), and feel close to generic anti-establishment appeals to take-back-control of their countries, ensuring national self-sufficiency and security. They are also attracted by the authoritarian and nativist undertones –typical of nationalist parties– that resonate with a well-documented psychological shift in people’s attitudes driven by economic distress and a perceived decline in status. As a matter of fact, one main way in which economic shocks translate into voting behavior is by changing people’s attitudes and opinions. In this respect, economic and cultural factors are closely intertwined drivers of the globalization backlash. Overall, globalization is at stake for reasons that are not just directly related to trade. Its future depends on how successful society will be at making not only globalization, but structural change in general, more politically sustainable, by making it more inclusive.

The chapter is organized as follows. In Section 2 we discuss the economic effects of globalization in light of the existing economics literature, and develop the implications of standard trade models for the globalization backlash. Section 3 documents the backlash in terms of voting behavior, policy influence, and people’s attitudes. Section 4 discusses the connection between the economic effects of globalization and its backlash, as well as the role of other economic and cultural factors. In Section 5 we reflect on possible future developments, broadening the picture to consider the link between structural change and social mobility, as well as the possible implications of the COVID-19 pandemic. Finally, Section 6 summarizes our conclusions.

Figure 1: The second wave of globalization has outstripped the first



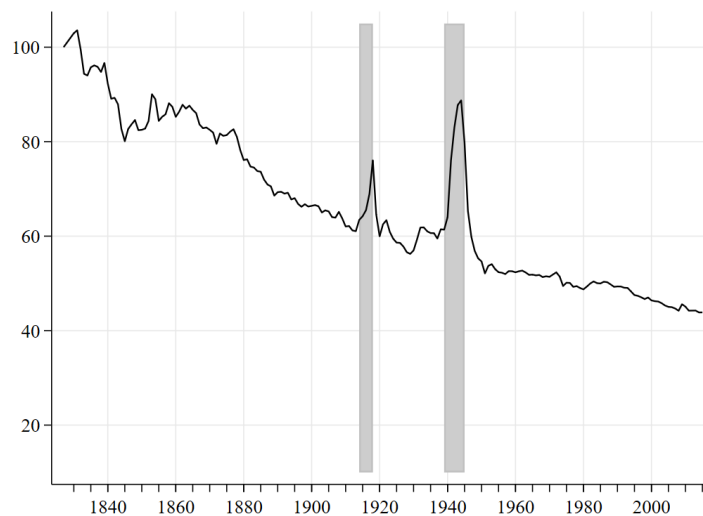
Source: BIS Annual Economic Report (2017), Fouquin and Hugot (2016b), Lane and Milesi-Ferretti (2017).
 Note: The major countries are: Brazil, Canada, China, France, Germany, India, Italy, Japan, UK, USA.

2 Economics of the backlash

From an economic point of view, globalization consists in the global blurring of national borders due to freer mobility of goods, services, people and capital resulting in the rise of the value of international transactions relative to national GDP. This is not an exclusive feature of the current situation as the history of international relations in the last two hundred years can be partitioned according to “two waves of globalization” (Baldwin and Martin, 1999). These waves are shown in Figure 1. The first went from the mid-XIX century to the eve of World War I. It roughly coincided with the second Industrial Revolution, during which new manufacturing, transportation, and communication technologies diffused from Great Britain to continental Europe and a small set of other countries worldwide. The result was the emergence of an industrialized ‘North’ exporting manufactures to a less developed and often colonized ‘South’ in exchange for raw materials and primary products. Due to North-South international specialization in production, international trade was characterized by the exchange of different goods between structurally different countries. Capital flows were dominated by foreign direct investment (Chandy and Seidel, 2016) and migration reached unprecedented and henceforth unequalled proportions, with mass migration from Europe to the US being a striking example (Ferrie and Hatton, 2015).

The second wave of globalization began to rise just after World War II, and it is still in progress despite changing moods about its merit. In this period, further techno-

Figure 2: Two spikes in trade costs



Source: Authors' replication of Fouquin and Hugot (2016a), based on CEPII TRADHIST data (Fouquin and Hugot 2016b).

Note: Chained estimates from two-year balanced samples.

logical improvements in production, transportation and communication technologies, and their steady diffusion to a growing number of countries, have brought a substantial change in international trade patterns. These are now dominated by the exchange of similar goods between structurally similar industrialized countries, sharing roughly the same technologies and relative factor endowments. Capital flows are dominated by portfolio investment and is subdued relative to the first wave by restrictive policies (Ferre and Hatton, 2015; Chandy and Seidel, 2016). The two waves are separated by two spikes in international transaction costs corresponding to the two World Wars, as shown in Figure 2 for trade flows.²

Around the turn of the current millennium the second wave may have looked unstoppable. As discussed by Obstfeld (2020a), the global economy was ruled by the Washington Consensus and stabilized by the Great Moderation. Global growth patterns showed an overall tendency towards international convergence, often associated with Consensus-inspired economic reforms in emerging and developing economies (especially in Latin America and Asia in the aftermath of the late-1990s crises). In sub-Saharan Africa average yearly GDP growth rose from 2.5% over 1992-1999 to 5.8% over 2000-2007. These patterns coincided with vibrant global credit markets and rising commodity prices. They

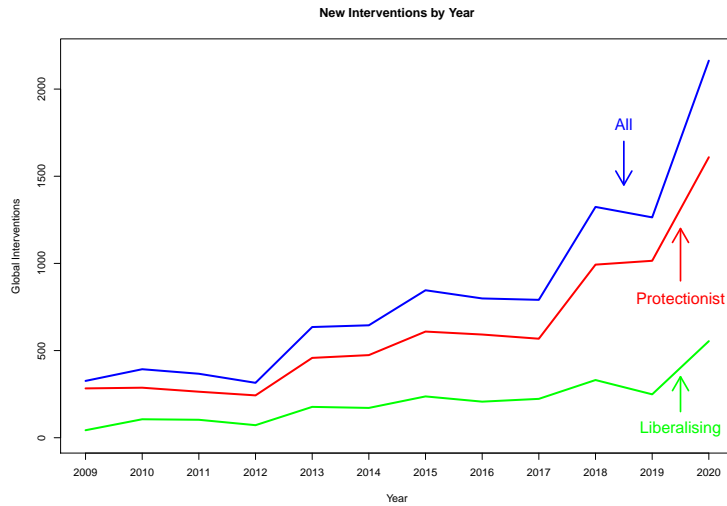
²This description of the two waves of globalization borrows from Ottaviano (2020), who provides a concise discussion of how these waves have interacted with research in international trade, and a selection of related critical writings appeared during the second wave.

also coincided with unprecedented international trade liberalization. In 1995 the Uruguay Round of multilateral trade negotiations, conducted by 123 countries within the framework of the General Agreement on Tariffs and Trade (GATT), led to the creation of the World Trade Organization (WTO), thus completing the triad of global multilateral institutions comprising also the World Bank and the International Monetary Fund. In 1994 the North American Free Trade Agreement (NAFTA), signed by Canada, Mexico, and the United States, came into force, creating a trilateral trade bloc in North America. A year before 12 European countries (Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, the Netherlands and the United Kingdom) completed major steps towards the creation of the European Single Market: one territory without any internal borders or other regulatory obstacles to the free movement of goods and services. In the following decades membership of the Single Market swelled to 28 at its peak. In 2002 the Euro was introduced as the Single Currency for 19 members of the European Single Market. In 1994 the Southern Common Market was completed in Latin America, consisting initially of Argentina, Brazil, Paraguay and Uruguay. It now includes also Venezuela as a (currently suspended) member and 7 associate countries (Bolivia, Chile, Colombia, Ecuador, Guyana, Peru and Suriname). In the 1990s the Association of Southeast Asian Nations (ASEAN) started increasing its membership from its original five founders (Indonesia, Malaysia, the Philippines, Singapore, Thailand), adding along the way five additional countries (Brunei, Cambodia, Laos, Myanmar, Vietnam).

Despite all these developments, by the end of the first decade of the current millennium the fallout from the financial crisis had shaken the foundations of the Washington Consensus. Globally coordinated policy responses avoided the mistakes that had led to the Great Depression in the 1930s, but the financial crisis ended up being a watershed in contemporary economic history as in subsequent years the initial expectations of a rapid and sustainable return to the pre-crisis normal were broken. Since then, “with slower overall economic growth unable any longer to offset underlying tensions due to structural economic change, demographics, and persistent income inequality, voters in many countries have started to turn against prevailing norms of economic policy, including those that have promoted globalization” (Obstfeld, 2020a, p.2). This backlash is substantiated in Figure 3, which documents the global rise in protectionist measures since the financial crisis, culminated in the America First policies of the US administration and the Brexit process in Europe.

In Section 4 we provide a full review of the literature investigating the drivers of the globalization backlash in western democracies. Overall, the reaction against globaliza-

Figure 3: Rise in protectionist measures since the financial crisis



Source: Authors' elaboration based on Global Trade Alert data.
 Note: The green line displays liberalizing interventions, the red line protectionist interventions, the blue line is the sum of all interventions.

tion arose for several, mutually reinforcing reasons. As a preview, one reason was that, for cash strapped national governments, the adverse effects of globalization (its ‘social footprint’) were becoming too strong to sort out. In parallel, austerity measures, enacted by many countries to comply with the requirements of global markets, constrained the very same national policies that could have alleviated the globalization’s adverse effects. According to Obstfeld (2020b), while the postwar Bretton Woods system that supervised the initial phase of the second wave of globalization struck a balanced middle ground between market forces and governments’ desires for domestic economic stability, the gradual erosion of that balance in favor of the market helped produce discontent over globalization and more nationalism in politics. The implication is that globalization inherently fosters domestic dynamics that eventually lead to backlash by expanding the need for nation-state action on the one hand, and simultaneously limiting the scope of that action on the other. “Thus, globalization may be subject to cycles, expanding when economic conditions are more vibrant and accomodative, but then contracting when adverse shocks motivate countries to deploy economic tools that are inconsistent with free and open markets” (Obstfeld, 2020a, p.11). In line with this view, the historical literature also suggests that the first globalization wave generated distributional implications that led to a nationalist backlash, ending with the start of World War I (James 2002; Franzese 2019).

In the rest of this section we provide an account of the theoretical underpinnings of these views. In particular, we offer a selected survey of arguments on the gains and losses from globalization, thereby giving substance to the ‘tensions’ globalization may create. We relate these tensions to the reallocation of productive factors associated with the structural changes that drive the gains from globalization, but can also generate problems national governments find hard to solve. We use the term ‘social footprint of globalization’, or simply ‘globalization footprint’, to refer to the fraction of reallocation-related problems that, for various reasons, linger on unsolved even in the long run (Rice and Venables, 2020). We discuss how our understanding of the dynamics of globalization is affected when the ‘globalization footprint’ is substantial, and in particular how its presence can lead to backlash and cycles. In doing so, we focus on the mechanism through which international trade determines structural change. While this neglects the other important aspects of globalization discussed above –such as international capital flows and migration– it will allow us to rely for our discussion on a class of models that is generally accepted and widely used for quantitative trade analysis. Due to space constraints, if we had addressed also those neglected aspects, we could have done so only in passing, with little benefit for the interested reader, who can nonetheless find detailed analyses of some of them in other chapters of the handbook.

2.1 Against the tide

In Chapter 26 of Volume 3 of this handbook, entitled “International trade theory: The evidence”, Leamer and Levinsohn (1995) state that “though obviously important and theoretically robust, the existence of gains from exchange is fundamentally a premise of economics, not a testable implication of a particular model” (p.1344). This statement, issued during the second wave of globalization, echoes what Jevons (1883) had written more than a century before during the first wave: “freedom of trade may be regarded as a fundamental axiom of political economy” (p.181).

That there are gains from trade is the central tenet of normative trade theory. It is based on a general revealed preferences argument (Dixit and Norman 1986). Intuitively, trade adds new opportunities without removing old opportunities. If people do not like these new opportunities, they can still rely on the old ones as these are still available. Hence, free trade cannot make them worse off. In the worst case scenario, people are left indifferent between autarky and free trade. More generally, the canonical propositions on the gains from trade are that: (a) free trade is better than autarky; (b) restricted

trade (i.e., trade restricted by trade barriers) is better than autarky; (c) for a small country (i.e., a country too small to influence world prices) free trade is better than restricted trade. For these propositions to hold, both the old and the new opportunities have to be affordable to all citizens. Unless these have the same preferences and incomes, universal affordability generally requires some form of national income redistribution, which may be hard to implement in practice. Hence, a first caveat to the unanimous desirability of trade liberalization is that redistribution must be feasible. Otherwise, even though the country as a whole is better off, some of its citizens may win while others may lose.

Beyond the feasibility of income redistribution, a second caveat to the desirability of free trade comes from the fact that the foregoing propositions are based on a number of restrictive assumptions, notably: no scale economies, no market power, no externalities, and frictionless factor markets ensuring full employment thanks to flexible prices. The canonical case for gains from trade thus fails when at least one of these assumptions is violated: the country is a large enough buyer or seller in international markets to manipulate its terms of trade through its market power (Torrens, 1844); some industries face dynamic increasing returns to scale ('learning by doing') that cripple their international competitiveness while in their infancy (Mill, 1872), or display static increasing returns to scale that remove firms' individual incentives to challenge foreign incumbents (Graham, 1923); frictions prevent the reallocation of factors (typically labor) from less to more productive industries, thus generating permanent gaps in factor prices and unemployment (Manoilescu, 1931); firms have market power –which must be the case if there are increasing returns to scale at firm level– so that trade distorting policies can be used strategically to boost their profitability vis-à-vis foreign competitors (Brander and Spencer, 1981). All these violations justify the use of trade distorting policies as long as foreign countries do not retaliate and the government has enough information to avoid misfiring or being misled by special interests. Moreover, with the exception of terms of trade manipulations, in all the other scenarios distorting trade is at best a second-best option to be exercised only if more effective targeted policies are not feasible.

The theoretical and empirical relevance of all scenarios has been repeatedly scrutinized and generally dismissed throughout the years, allowing the doctrine of free trade to endure "against the tide of abundant criticisms" (Irwin 1998a). Most recently, interest has focused on the implications of deviations from the canonical assumptions combined with new developments, such as the rise of off-shoring and cross-border production networks (Johnson and Noguera 2017). This is often considered the most salient feature of the international division of labor during the second wave of globalization

with respect to the first (Baldwin 2016). For example the terms of trade argument has been analyzed as a foundation of unilateral and multilateral trade policies with perfect and imperfect competition by, among others, Bagwell and Staiger (2011, 2012), Ossa (2011), Irwin and O'Rourke (2013), Bagwell and Staiger (2015), Blanchard et al. (2016), Baqaee and Farhi (2019), Nocco et al. (2019), Bagwell and Lee (2020), and Costinot et al. (2020). The infant industry argument by Head (1994), Irwin (1998b), Melitz (2005), Harris et al. (2015), and Juhász (2018). Scale economies at the industry level by Grossman and Rossi-Hansberg (2012). Strategic trade policy by Bagwell and Staiger (2001) and Grossman and Helpman (2020). Overall, the general conclusion drawn by Taussig (1905) in the heydays of the first wave of globalization still stands: "The essence of the doctrine of free trade is that *prima facie* international trade brings a gain and that restrictions on it presumably bring a loss. Departures from this principle, though by no means impossible of justification, need to prove their case; and if made in view of the pressure of opposing principles, they are a matter for regret. In this sense, the doctrine of free trade, however widely rejected in the word of politics, holds its own in the sphere of intellect" (p.65). This explains why also current academic debates on the gains from trade tend to focus more on their actual size than on their existence (Arkolakis et al. 2012; Melitz and Redding 2015). We will expand on the theoretical foundations of recent assessments of the gains from trade in the next section.

In the last few years labor market frictions have been mostly investigated from the perspective of their implications for the relation between globalization and inequality (Helpman 2018). From the perspective of the globalization backlash, particularly relevant are the studies on the impact of trade on the rise of within-country income inequality, observed in most western democracies since the 1990s. These studies look at how globalization affects income inequality through the rematching patterns between workers with heterogeneous skills and firms with heterogeneous occupations and technologies (Burstein et al. 2019; Lee 2020). Several studies highlight the regional dimension of within-country inequality whenever obstacles to the geographical mobility of workers compounds their difficult mobility from sectors that shrink to sectors that expand as trade barriers fall (Hanson 2007; Topalova 2010; Hakobyan and McLaren 2016; Dix-Carneiro and Kovak 2017). As the trajectory of Scranton shows, those who can they leave the areas where shrinking sectors are concentrated, those who cannot are left behind with dwindling wages, employment opportunities and an ailing community. Redistribution could compensate in principle, but it almost never actually does. This is all the more likely for sectors in which increasing returns to scale generate agglomeration ex-

ternalities (Fujita et al. 1999; Baldwin et al. 2003; Ottaviano and Thisse, 2004).

In this respect, the reallocation of productive resources, in particular labor, across different uses is the main mechanism through which the gains from trade materialize. However, anything that puts sand in the wheels of reallocation is bound to generate pains from trade. As without adequate redistribution gains and pains are unevenly distributed, globalization creates winners and losers. Agglomeration then implies that the two groups tend to be geographically segregated, which can make things a lot worse in terms of fairness. Supporting evidence is provided by Autor et al. (2013), who examine the impact of the rise of China around the turning of the new millennium on the labor market performance of US commuting zones. Their findings show that areas initially specialized in manufacturing sectors more exposed to Chinese import competition suffered more in terms of shrinking manufacturing employment, labor force participation and unemployment, with little response in terms of wages, population and employment in other sectors. Without labor market frictions and obstacles to mobility, one would expect also wages and population to fall and employment in other sectors to rise as workers leave the declining sectors in search of better opportunities elsewhere. Adjustment in local labor markets is remarkably slow, with adverse effects remaining elevated for at least a full decade after initial impact of the ‘China shock’. Similar though weaker results have been found by Dauth et al. (2014) with respect of import competition from China and Eastern Europe. The handbook chapter by Redding (2020) provides an extensive overview of the literature on the economic consequences of globalization identified through surging import competition from China, and we will come back to their political implications in Section 4. For now it suffices to note that the adverse impacts of the China shock have been found to go beyond the labor market, for instance affecting the marital status and the household structure of local young male adults (Dorn and Hanson 2019) as well as their mortality due to ‘deaths of despair’ associated with drugs or alcohol abuse (Adda e Fawaz 2020; Pierce and Schott, 2020) –which grimly resonates with our initial quote. No matter whether within or beyond the labor market, as long as the problems associated with adjusting to the new normal of a structurally changed economy are persistent, globalization leaves a toxic ‘social footprint.’

2.2 Modeling the backlash

Do trade models imply that globalization inherently fosters domestic dynamics that eventually lead to backlash? To answer this question we have to understand what the

models predict for the evolution of the gains and pains from trade and of their distribution as globalization proceeds. A backlash is likely to arise when the gains fall relative to the pains, or when their unequal distribution between few winners and many losers becomes unbearable for the latter. This may happen because the few winners are increasingly able to capture the gains from trade thanks to more effective collective action (Goldberg and Maggi 1999; Blanga-Gubbay et al. 2021), or because their number decreases relative to the losers, as the backlash is more likely when lack of compensation is compounded by lack of representation (Frieden 2019). Both aspects seem to be currently relevant (Zucman 2013).

To frame these issues, we rely on the most popular trade models that have been used to assess the gains from trade (Costinot and Rodríguez-Clare 2014). We start by characterizing the relations of trade gains and trade pains with the extent of trade freeness. In the wake of China shock studies, pains are embedded in the models in terms of a welfare reducing ‘social footprint’ that increases with the size of trade-induced reallocations. We then discuss the implications of unequally distributed pains and gains.

2.2.1 Workhorse models

In recent years the measurement of the gains from trade has been revived by the sufficient statistics approach of Arkolakis et al. (2012), who have shown how it can be consistently applied to the most popular trade models: Armington (1969), Krugman (1980), Eaton and Kortum (2002), and Melitz (2003). These models belong to a common family that, for lack of a better name, can be called ‘new quantitative trade models’ (NQTMs). All models in this family share *four primitive assumptions*: (a) Dixit-Stiglitz preferences; (b) one factor of production; (c) linear cost functions; (d) perfect or monopolistic competition. They also share *three common macro-level restrictions*: (A) trade is balanced; (B) aggregate profits are a constant share of aggregate revenues; (C) the import demand system exhibits constant elasticity of substitution (CES). Once calibrated, different versions and combinations of these models have been used to structurally quantify the general equilibrium effects of both factual and counterfactual trade-related shocks, for which standard econometric approaches are of limited use. Examples include the estimation of the trade and welfare effects of NAFTA (Caliendo and Parro, 2015), Brexit (Dhingra et al. 2017), and the China shock (Caliendo et al. 2019).

These quantitative applications are based on model versions with several locations and several sectors connected by networks of input-output relations. Their richness,

however, obfuscates some fundamental properties of NQTM. Moreover, the emphasis of Arkolakis et al. (2012) on whether ‘new’ models with monopolistic competition (Krugman 1980; Melitz 2003) generate the same ‘old’ gains as models with perfect competition (Armington 1969; Eaton and Kortum 2002) has sidelined the fact that the two types of models may sometimes lead to very different conclusions. A striking example is the unnoticed large negative correlation of welfare changes between market structures across countries implied by the results in Costinot and Rodríguez-Clare (2014, Table 4.1) for a counterfactual uniform worldwide 40% tariff.

Given that understanding the reason behind such a puzzling pattern may be important for our assessment of trade gains and pains, we strip the NQTM down to the bare bones so that we can get as far as possible without recurring to numerical analysis. The resulting workhorse models will show that different market structures indeed have very different implications for the pain-gain tradeoff. Specifically, we allow for two countries, two sectors and one factor only. The two countries are labeled H (‘home’) and F (‘foreign’) and are inhabited by fixed ‘numbers’ of consumers/workers L_H and L_F . Each worker supplies one unit of labor inelastically so that L_H and L_F are also the countries’ labor endowments. We focus on country H with symmetric expressions holding for country F . The two sectors are designed so that, in terms of national welfare, the international distribution of production is important in respect of a sector but irrelevant in respect of the other. We bring the former sector to the forefront, dubbing it ‘strategic’ for the sake of brevity.

2.2.2 Common Features

Consumer preferences are captured by the nested Cobb-Douglas CES utility function

$$U_H^c = (Q_H^c)^\alpha (O_H^c)^{1-\alpha}, \quad (1)$$

with upper-tier CES quantity index

$$Q_H^c = \left[(Q_{HH}^c)^{\frac{\sigma-1}{\sigma}} + (Q_{FH}^c)^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}, \quad (2)$$

and lower-tier CES quantity indexes

$$\begin{aligned} Q_{HH}^c &= \left[\int_0^{N_H} (q_{HH}^c(\omega))^{\frac{\sigma-1}{\sigma}} d\omega \right]^{\frac{\sigma}{\sigma-1}}, \\ Q_{FH}^c &= \left[\int_0^{N_F} (q_{FH}^c(\omega))^{\frac{\sigma-1}{\sigma}} d\omega \right]^{\frac{\sigma}{\sigma-1}}. \end{aligned} \quad (3)$$

where Q_H^c is consumption of a basket of home and foreign produced varieties of a horizontally differentiated good, Q_{HH}^c (Q_{FH}^c) is consumption of the sub-basket of N_H (N_F) home (foreign) produced varieties, and $q_{HH}^c(\omega)$ ($q_{FH}^c(\omega)$) is consumption of home (foreign) produced varieties. As for O_H^c , this is consumption of a homogeneous good ('outside good'). Parameters satisfy the restrictions $\alpha \in (0, 1)$ and $\sigma > 1$ so that varieties are more substitutable with one another than with the outside good. Different models activate different tiers.

Basket Q_H^c as well as sub-baskets Q_{HH}^c and Q_{FH}^c have associated exact price indices

$$P_H = [(P_{HH})^{1-\sigma} + (P_{FH})^{1-\sigma}]^{\frac{1}{1-\sigma}} \quad (4)$$

for the upper tier and

$$\begin{aligned} P_{HH} &= \left[\int_0^{N_H} (p_{HH}(\omega))^{1-\sigma} d\omega \right]^{\frac{1}{1-\sigma}}, \\ P_{FH} &= \left[\int_0^{N_F} (p_{FH}(\omega))^{1-\sigma} d\omega \right]^{\frac{1}{1-\sigma}}, \end{aligned} \quad (5)$$

for the lower tier, where $p_{HH}(\omega)$ and $p_{FH}(\omega)$ are the delivered prices of home and foreign produced varieties. Hence, denoting consumer expenditure by E^c , the consumer constraint is

$$P_H C_H^c + P_H^o O_H^c = P_{HH} Q_{HH}^c + P_{FH} Q_{FH}^c + P_H^o O_H^c = E^c \quad (6)$$

where P_H^o is the delivered price of the outside good.

Denoting aggregate consumption levels by $Q_{HH} = Q_{HH}^c L_H$, $Q_{FH} = Q_{FH}^c L_H$, $Q_H = Q_H^c L_H$ and $O_H = O_H^c L_H$, maximization of utility (1) subject to the budget constraint (6) implies that aggregate expenditure $E_H = E_H^c L_H$ is split between the differentiated basket and the outside good according to $\alpha E_H = P_H Q_H$ and $(1 - \alpha) E_H = P_H^o O_H^c$ respectively.

Indirect utility can then be rewritten as real consumption (or expenditure) per capita

$$V_H = \alpha^\alpha (1 - \alpha)^{1-\alpha} \frac{E_H/L_H}{(P_H)^\alpha (P_H^O)^{1-\alpha}}. \quad (7)$$

The markets for labor and the outside good are perfectly competitive while the market of the differentiated good is either perfectly or monopolistically competitive depending on the models. Free entry then implies that expenditure equals labor income:

$$E_H = w_H L_H \quad (8)$$

where w_H is the wage.

The outside good is produced employing 1 unit of labor per unit of output so that its marginal cost is equal to the wage. This good is freely traded and chosen as *numeraire*, implying that its price is same in both countries: $P_H^O = P_F^O = P^O = 1$. Moreover, as profit is maximized by marginal cost pricing ($P^O = w_H = w_F$), also wages are equalized across countries: $w_H = w_F = w = 1$. Wage equalization holds as long as both countries produce the outside good, which happens when on its own neither country can supply world demand for that good even if fully specialized in its supply. This is the case when condition

$$\alpha < \min \left[\frac{L_H}{L_H + L_F}, \frac{L_F}{L_H + L_F} \right]$$

holds, which we assume henceforth. Designing the outside good sector this way vastly simplifies the analysis. However, it also embeds the finding in Autor et al. (2013) that in US import competing sectors the labor market responses to the China shock materialized in terms of changes in employment rather than in wages.

In equilibrium, market clearing requires that a country's labor income from the differentiated varieties equals world's expenditures on those varieties

$$L_H^d = \lambda_{HH} \alpha L_H + \lambda_{HF} \alpha L_F, \quad (9)$$

where L_H^d is country H 's employment in the supply of the differentiated varieties while λ_{HH} and λ_{HF} are the shares of domestic and foreign expenditures on country H 's varieties such that

$$\lambda_{HH} = \left(\frac{P_{HH}}{P_H} \right)^{1-\sigma} \quad \text{and} \quad \lambda_{HF} = \left(\frac{P_{HF}}{P_F} \right)^{1-\sigma}.$$

Then, price and wage equalization $P_H^O = w_H = 1$ allows us to rewrite indirect utility (7)

as

$$V_H = \alpha^\alpha (1 - \alpha)^{1-\alpha} (P_{HH})^{-\alpha} (\lambda_{HH})^{-\frac{\alpha}{\sigma-1}}. \quad (10)$$

2.2.3 Exclusive features

Beyond their common features, the simplified versions of the four most popular trade models can be divided in two pairs according to their specific assumptions on the production technologies of the differentiated varieties and the corresponding market structures.

Constant returns to scale and perfect competition Constant-return technologies and perfectly competitive market structures characterize the models by Armington (1969) and Eaton and Kortum (2002). In Armington (1969) only the upper-tier basket (2) is activated, with c_H and c_F units of labor required per unit of output. International shipments incur iceberg trade costs such that $\tau > 1$ units have to be shipped for one unit to reach destination. Country H is always the lowest price supplier of the home produced sub-basket everywhere, with prices set at delivered marginal cost $P_{HH} = c_H$ and $P_{HF} = \tau P_{HH}$. Country F is always the lowest price supplier everywhere of the foreign produced sub-basket, with prices set at delivered marginal cost $P_{FF} = c_F$ and $P_{FH} = \tau P_{FF}$. Given the upper-tier CES basket (2), expenditure shares evaluate to

$$\begin{aligned} \lambda_{HH} &= \frac{(P_{HH})^{1-\sigma}}{(P_{HH})^{1-\sigma} + (P_{FH})^{1-\sigma}} = \frac{a}{a + \phi}, \\ \lambda_{HF} &= \frac{(P_{HF})^{1-\sigma}}{(P_{HF})^{1-\sigma} + (P_{FF})^{1-\sigma}} = \frac{a\phi}{1 + a\phi}, \end{aligned} \quad (11)$$

where $a = (c_F/c_H)^{\sigma-1}$ measures country H 's comparative advantage in the production of the differentiated good and $\phi = \tau^{1-\sigma} \in [0, 1]$ measures the freeness of trade, with $\phi = 0$ and $\phi = 1$ corresponding to autarky and free trade, respectively. Hence, in autarky we have $\lambda_{HH} = 1$ and $\lambda_{HF} = 0$. Together with market clearing (9) and analogous expressions for country F , shares (11) imply that equilibrium employment in 'strategic' differentiated production evaluates to

$$L_H^d = \alpha L_H - \frac{\phi}{a + \phi} \alpha (L_H - L_F) + \frac{\phi(a^2 - 1)}{(a + \phi)(1 + a\phi)} \alpha L_F. \quad (12)$$

This expression shows that in autarky ($\phi = 0$) differentiated employment equals a share α of the workforce, as the country spends a share α of its income on the differentiated basket and the basket has to be entirely supplied domestically. Otherwise ($\phi \in (0, 1]$), differentiated employment deviates from its autarkic level due to two forces: differences in market size ($L_H \neq L_F$) and comparative advantage ($a \neq 1$). In particular, we have $L_H^d > \alpha L_H$ if, relative to autarky, lost domestic demand is more than compensated by gained foreign demand, that is, if comparative advantage ($a > 1$) is strong enough or the size advantage of the foreign market (L_F/L_H) is large enough. This reveals what we may call a ‘reverse home market effect’: without comparative advantage ($a = 1$), the larger country is an importer of the differentiated basket. Sectoral specialization is always incomplete as (12) implies $L_H^d > 0$ and an analogous expression for country F implies $L_F^d > 0$. Intuitively, this derives from the fact that each country is always the lowest price supplier everywhere of its own sub-basket. Finally, larger ϕ reinforces the effects of both the market size asymmetry and comparative advantage.

Given (10), marginal cost pricing $P_{HH} = c_H$ and expenditure share (11) imply that the ratio of indirect utility with trade freeness ϕ to indirect utility with ϕ' evaluates to

$$\frac{V_H(\phi)}{V_H(\phi')} = \left(\frac{\lambda_{HH}(\phi)}{\lambda_{HH}(\phi')} \right)^{-\frac{\alpha}{\varepsilon}}, \quad (13)$$

where $\varepsilon = \sigma - 1$ is the trade elasticity, which by (11) measures the percentage fall in bilateral trade for a one percent increase in the iceberg controlling for origin and destination characteristics (Head and Mayer 2014).

Differently from Armington (1969), Eaton and Kortum (2002) activate also the lower-tier sub-baskets (3) with fixed $N_H = N_F = 1$. Moreover, which country is the lowest price supplier of either sub-basket is uncertain. Specifically, country H has probability $(c_H)^{-\theta} / \left[(c_H)^{-\theta} + (c_F)^{-\theta} \tau^{-\theta} \right]$ to be the lowest price supplier of any variety to H as delivered prices at marginal cost $P_{HH} = c_H$ and $P_{HF} = \tau P_{HH}$ are determined by a random unit labor requirement $c = 1/z$, with efficiency z drawn from a Frechet (or extreme value) distribution with cumulative density function

$$F_H(z) = e^{-(c_H z)^{-\theta}} \text{ for } z \in [0, \infty),$$

where $c_H > 0$ is the scale parameter (larger c_H shifts density towards the lower bound of the support, making higher efficiency draws less likely) and $\theta > 0$ is the shape parameter (larger θ reduces the heterogeneity of efficiency draws around the mode of the distri-

bution). Analogous expressions hold for country F . Yet, the equilibrium expenditure shares, differentiated employment and relative indirect utility are still given by (11), (12) and (13) respectively, the only difference with respect to Armington (1969) being that the trade elasticity $\varepsilon = \theta$ is now determined by the heterogeneity of efficiency draws rather than the elasticity of substitution. Specialization is always incomplete also in Eaton and Kortum (2002) as both countries have always a positive probability of being the lowest price supplier of each lower-tier sub-basket.

Monopolistic Competition and Increasing Returns to Scale Increasing-return technologies and monopolistically competitive market structure characterize the models by Krugman (1980) and Melitz (2003). As in Eaton and Kortum (2002), but differently from Armington (1980), both models activate also the lower-tier sub-baskets (3). However, differently from Eaton and Kortum (2002), the numbers of varieties N_H and N_F are endogenous due to free entry, and each variety is produced by a monopolistically competitive firm under increasing returns to scale rather than by a mass of perfectly competitive firms under constant returns to scale. Moreover, while in Krugman (1980), as in Armington (1969), there is no ex-ante uncertainty about efficiency in production, in Melitz (2003), as in Eaton and Kortum (2002), uncertainty is there.

In Krugman (1980) increasing returns at the firm level derive from the presence of a fixed labor requirement for production. Specifically, supplying q units of output requires $\ell_H(q) = f + c_H q$ units of labor. International shipments of the differentiated varieties again incur iceberg trade costs such that $\tau > 1$ units have to be shipped for one unit to reach destination. Varieties are priced at constant markup $\sigma/(\sigma - 1)$ over delivered marginal cost ('mill pricing'). Using \tilde{p}_{HH} to denote the mill price, we have $\tilde{p}_{HH} = c_H \sigma / (\sigma - 1)$ and $\tilde{p}_{HF} = \tau \tilde{p}_{HH}$. Zero profit due to free entry then implies that all firms operate at the same scale $q_H = f(\sigma - 1)/c_H$ so that they also share the same employment level $\ell_H = f\sigma$. The number of firms is therefore a linear function of total employment in the differentiated good sector: $N_H = L_H^d / (f\sigma)$. Hence, given sub-baskets (2) and (3), expenditure shares evaluate to:

$$\begin{aligned} \lambda_{HH} &= \frac{N_H (\tilde{p}_{HH})^{1-\sigma}}{N_H (\tilde{p}_{HH})^{1-\sigma} + N_F (\tilde{p}_{FH})^{1-\sigma}} = \frac{aL_H^d}{aL_H^d + \phi L_F^d}, \\ \lambda_{HF} &= \frac{N_H (\tilde{p}_{HF})^{1-\sigma}}{N_H (\tilde{p}_{HF})^{1-\sigma} + N_F (\tilde{p}_{FF})^{1-\sigma}} = \frac{\phi aL_H^d}{\phi aL_H^d + L_F^d}, \end{aligned} \quad (14)$$

as we have $(P_{HH})^{1-\sigma} = N_H (\tilde{p}_{HH})^{1-\sigma}$ and $(P_{HF})^{1-\sigma} = N_F (\tilde{p}_{FH})^{1-\sigma}$. Together with market clearing (9) and analogous expressions for country F , shares (14) imply that equilibrium employment in ‘strategic’ differentiated production equals:

$$L_H^d = \alpha L_H + \frac{a\phi}{1-a\phi} \alpha (L_H - L_F) + \frac{\phi(a^2 - 1)}{(a - \phi)(1 - a\phi)} \alpha L_F \quad (15)$$

This expression shows that in autarky ($\phi = 0$) differentiated employment is again equal to a share α of the workforce. Otherwise ($\phi \in (0, 1]$), as in the case of perfect competition, differentiated employment deviates from its autarkic level due to two forces: differences in market size ($L_H \neq L_F$) and comparative advantage ($a \neq 1$). In particular, we have $L_H^d > \alpha L_H$ if, relative to autarky, domestic demand grows relative to foreign demand, which happens if the domestic price index falls more than the foreign one, that is, if comparative advantage ($a > 1$) is strong enough or the home market (L_H/L_F) is large enough. Differently from the case of perfect competition, there is what Krugman (1980) calls a ‘home market effect’: without comparative advantage ($a = 1$), the larger country is an importer of the differentiated basket. Incomplete sectoral specialization requires $L_H^d > 0$ and $L_F^d > 0$, which is the case if asymmetries between countries in technology as well as market size are not too large and the degree of trade freeness is not too high:

$$\phi \frac{1 - a\phi}{a - \phi} < \frac{L_H}{L_F} < \frac{1}{\phi} \frac{1 - a\phi}{a - \phi}, \quad (16)$$

with necessary condition $(1 - a\phi)/(a - \phi) > 0$, that is, $\phi < a < 1/a$ if $a < 1$ and $\phi < 1/a < a$ if $a > 1$. Finally, when (16) holds, (15) also shows that, as with perfect competition, larger ϕ reinforces the effects of both market size and technology asymmetries. However, compared with perfect competition, reinforcement is stronger in the case of comparative advantage, and also in the case of size asymmetries provided for $a > (1 - \phi)/(1 + \phi)$.

Together with analogous expressions for country F , $\tilde{p}_{HH} = c_H \sigma / (\sigma - 1)$, $\tilde{p}_{HF} = \tau \tilde{p}_{HH}$, $N_H = L_H^d / (f\sigma)$, (5) and (15) allow us to write the ratio of indirect utility with trade freeness ϕ to indirect utility with trade freeness ϕ' as

$$\frac{V_H(\phi)}{V_H(\phi')} = \left(\frac{L_H^d(\phi')}{L_H^d(\phi)} \frac{\lambda_{HH}(\phi)}{\lambda_{HH}(\phi')} \right)^{-\frac{\alpha}{\varepsilon}}, \quad (17)$$

where $\varepsilon = \sigma - 1$ is again the trade elasticity. Comparing (17) with (13) shows that, unlike with perfect competition, with monopolistic competition employment in the strategic

sector matters for indirect utility beyond its implicit relevance through the domestic expenditure share. This, together with the different behavior of L_H^d as a function of ϕ in (12) and (15), points to the source of the negative correlation of welfare changes between market structures across countries in Costinot and Rodríguez-Clare (2014, Table 4.1).

Differently from Krugman (1980), in Melitz (2003) firms enter the market under a veil of ignorance about their efficiency. They are thus ex-ante identical but ex-post heterogeneous as in Eaton and Kortum (2002). However, while in Eaton and Kortum (2002) many firms with the same efficiency supply any given variety, in Melitz (2003) as in Krugman (1980) only one firm supplies such variety. Specifically, in Melitz (2003) a firm incurs a sunk labor requirement f_e to enter the market. By hiring f_e workers the firm invents its own variety and discovers its efficiency $z = 1/c$ in supplying it. Production of q units of output then requires $f + cq$ units of labor as in Krugman (1980). Efficiency z is unknown to the firm before paying f_e and, upon entry, it is drawn from a Pareto distribution with scale parameter $1/c_H$ and shape parameter $\theta \geq 1$. This implies that the unit labor requirement c is itself determined as the realization of a random variable with cumulative density function

$$G_H(c) = \left(\frac{c}{c_H}\right)^\theta \text{ for } c \in [0, c_H]. \quad (18)$$

While larger c_H makes higher efficiency draws less likely, larger θ reduces the heterogeneity of efficiency draws away from the mode c_H . Exporting incurs not only an iceberg trade cost $\tau > 1$ but also a fixed export cost $f_x = f$.

Ex ante an entrant expects to sell a variety in the domestic and foreign markets with probabilities $(c_{HH}/c_H)^\theta$ and $\tau^{-\theta} (c_{FF}/c_H)^\theta$ respectively. Ex post these probabilities translate into the fractions of entrants that produce and of entrants that export. This is due to the law of large numbers and holds for the ex-ante expected and ex-post average values of all variables. Varieties produced are priced on average at constant markup over expected delivered marginal costs $\tilde{p}_{HH} = \frac{\sigma}{\sigma-1} \tilde{c}_H$ and $\tilde{p}_{HF} = \tau \tilde{c}_H$ with

$$\tilde{c}_H = \left[\int_0^{c_{HH}} c^{1-\sigma} d\left(\frac{c}{c_{HH}}\right)^\theta \right]^{\frac{1}{1-\sigma}} = \frac{\theta}{\theta - \sigma + 1} c_{HH}, \quad (19)$$

where c_{HH} is the domestic cutoff marginal cost corresponding to zero domestic demand

$$c_{HH} = \left[\frac{f_e \theta - \sigma + 1}{f} \frac{1 - \phi \left(\frac{c_F}{c_H} \right)^\theta}{1 - \phi^2} \right]^{\frac{1}{\theta}} c_H, \quad (20)$$

as firms drawing $c > c_{HH}$ are too inefficient to generate the operating profit needed to cover the fixed cost of production and thus choose not to produce. Analogously, due to the fixed cost of export, there is also a cutoff marginal cost for zero foreign demand, which is related to the domestic cutoff in the destination market by $c_{HF} = c_{FF}/\tau$. As analogous expressions hold also for country F , that implies $\tilde{p}_{HH} = \tilde{p}_{FH}$ so that the expected price of varieties in the destination market does not depend on where they are sourced from.

Given free entry, an entrant's expected profit is zero, which together with markup pricing determines the entrant's expected employment $\tilde{\ell}_H = f_e \theta \sigma / (\sigma - 1)$. This is inclusive of labor hired for production and for the sunk labor requirement. As a result, the number of entrants is proportionate to differentiated employment: $N_H^e = [L_H^d / (f_e \theta)] [(\sigma - 1) / \sigma]$. However, the number of entrants that eventually produce is smaller: $N_H = (c_{HH}/c_H)^\theta N_H^e$ where, given (18), $(c_{HH}/c_H)^\theta$ is the probability that an entrant draws a marginal cost below the cutoff (20). Accordingly, given baskets (2) and (3), the equilibrium expenditure shares, differentiated employment and relative indirect utility are still given by (14), (15) and (17) respectively, the only difference being that the trade elasticity $\varepsilon = \theta$ is determined by the heterogeneity of efficiency draws rather than the elasticity of substitution. In this respect, the model by Melitz (2003) is a stochastic version of the model by Krugman (1980) as the model of Eaton and Kortum (2002) is a stochastic version of the model by Armington (1969).

2.3 Trade gains and trade pains

We can use our workhorse models to define the gains and pains from trade, and study in detail how these evolve with import penetration.

2.3.1 Gains from trade

Following Arkolakis et al. (2012) let us define a country's 'gains from trade' as the loss in indirect utility that would occur if the country went from the current situation to a

counterfactual autarkic situation. In the workhorse models this exercise can be readily performed by evaluating (13) and (17) at current trade freeness ($\phi > 0$) and autarkic trade freeness ($\phi' = 0$) given equilibrium expenditures shares (11) and (14), plus differentiated employment (15) in the case of monopolistic competition. Accordingly, for perfect competition (*PC*) and monopolistic competition (*MC*) respectively, the gains from trade amount to

$$GFT_H^{PC}(\phi) = \frac{V_H^{PC}(\phi)}{V_H^{PC}(0)} = \left(1 + \frac{\phi}{a}\right)^{\frac{\alpha}{\varepsilon}} \quad (21)$$

and

$$GFT_H^{MC}(\phi) = \frac{V_H^{MC}(\phi)}{V_H^{MC}(0)} = \left(1 + \phi \frac{a - \phi}{1 - a\phi}\right)^{\frac{\alpha}{\varepsilon}}, \quad (22)$$

with $(1 - a\phi)/(a - \phi) > 0$ as long as the necessary condition for incomplete specialization is met. As both (21) and (22) are larger than 1, trade improves indirect utility relative to autarky independently of market structure, and the improvement is an increasing function of trade freeness (provided that specialization is incomplete with monopolistic competition). However, gains from trade are larger when in the strategic sector the country has a comparative disadvantage ($a < 1$) under perfect competition and a comparative advantage ($a > 1$) under monopolistic competition, whence the source of the negative correlation of welfare changes between market structures across countries in Costinot and Rodríguez-Clare (2014, Table 4.1).³ Moreover, while with perfect competition the gains from trade are a concave increasing function of trade freeness, with monopolistic competition they are either a concave function of freeness, if $a < 1$ holds, or a convex increasing function of freeness, if $a > 1$ holds, as long as specialization is incomplete. Without comparative advantage ($a = 1$) the two market structures deliver the same gains from trade.

How are the gains from trade related to import penetration? Import penetration in the strategic industry means that country *H*'s import expenditure share λ_{FH} rises, or equivalently its domestic expenditure share λ_{HH} falls. When we consider the latter relative to autarky, we have: $\lambda_{HH}(\phi)/\lambda_{HH}(0) = \lambda_{HH}(\phi)$. Then, with perfect competition import penetration cannot damage the national economy as (13) implies that, as ϕ rises, the increase in the gains from trade is proportionate to the decrease in the domestic expenditure share: a 1% fall in this share is necessarily associated with a 1% increase in

³Costinot and Rodríguez-Clare (2014, Table 4.1) normalize the size of all countries to one so that the home market effect with monopolistic competition and its reverse with perfect competition are neutralized.

indirect utility. This is due to the fact that the international distribution of employment in the strategic industry is immaterial for indirect utility beyond its effect through the domestic expenditure share.

Things turn out to be quite different with monopolistic competition because, as shown in (17), employment in the strategic industry does matter for indirect utility beyond its effect through the domestic expenditure share. In this case, the domestic expenditure share still falls (eventually going to zero) as ϕ rises as long as country H has a comparative disadvantage in the strategic industry and this disadvantage is not more than offset by a parallel market size advantage, or country H has a market size disadvantage and this disadvantage is not more than offset by a parallel comparative advantage in the strategic industry. Otherwise, if country H has a net advantage in the strategic industry, the domestic expenditure share initially falls as ϕ rises from its autarkic zero value. However, as ϕ keeps rising, magnification of the country's net advantage makes the domestic expenditure share rise again until it gets back to one with complete specialization. Accordingly, the increasing monotonic relation between trade liberalization and import penetration holds only if country H has a net disadvantage in the strategic industry. When this holds, gradually raising ϕ leads to more import penetration, and this comes together with higher indirect utility. In contrast, if country H has a net advantage in the strategic industry, the increasing monotonic relation between trade liberalization and import penetration breaks down, and the same happens also to the increasing monotonic relation between import penetration and indirect utility.

2.3.2 Pains from trade

The workhorse models imply that import penetration in the strategic industry cannot be detrimental to a country's indirect utility independently from market structure. So far, however, we have assumed that the intersectoral labor force reallocation driving the gains from trade is frictionless. Things may look quite different if it is not.

Let us focus on a situation in which import penetration in the strategic industry is associated with a loss of employment in that industry with respect to autarky so that we have $L_H^d(\phi) < L_H^d(0)$: in country H the strategic industry declines. This is the case with both market structures as long as country H has a comparative disadvantage in the strategic industry and such disadvantage is not more than offset by a market size advantage, or country H has a market size disadvantage and such disadvantage is not more than offset by a comparative advantage in the strategic industry. The formal condition

is

$$a \frac{a - \phi}{1 - a\phi} < \frac{L_F}{L_H} < \frac{1}{a} \frac{1 + a\phi}{a + \phi}.$$

Define the ‘pains from trade’ as the welfare loss from all unsolved social problems associated with reduced employment in the strategic sector with respect to autarky:

$$PFT_H(\phi) = \left(\frac{L_H^d(0)}{L_H^d(\phi)} \right)^\gamma > 1$$

where $\gamma > 0$ is the rate at which the decline of the strategic industry translates into social damage. Accordingly, globalization leaves a ‘social footprint’ with incidence measured by γ . Unsolved social problems may relate to the obstacles labor reallocation faces due to labor market frictions, capital market friction, moving costs, reskilling costs, retooling costs, lock-in effects in the presence of external economies (e.g. agglomeration economies). They may also arise from the unfair distribution of the pros and cons of structural change across households due to limited redistribution, inequality and social immobility. Finally, they may stem from the non-economic strains that structural change puts on workers’ identity and culture as well as on their “dignity, purpose, pride, [...] sense of place, hope, and self-esteem” as highlighted in the initial quote. In the next sections we will study situations in which incidence γ corresponds alternatively to the evaluation of a benevolent government (Sections 2.4.1 and 2.4.2) or to the evaluation of a politically biased government (Section 2.4.3).

Recalling (12), (13), (15) and (17), the pains from trade evaluate to

$$PFT_H^{PC}(\phi) = (GFT_H^{PC}(\phi))^{\gamma \frac{\varepsilon}{\alpha}} \left(1 + \frac{a + \phi}{1 + a\phi} \frac{L_F}{L_H} \right)^{-\gamma} \quad (23)$$

with perfect competition and

$$PFT_H^{MC}(\phi) = (GFT_H(\phi))^{-\frac{\varepsilon}{\alpha} \gamma} \left(1 - \phi \frac{L_F(1 - a\phi) - \phi L_H(a - \phi)}{L_H(1 - \phi^2)(a - \phi)} \right)^{-\gamma} \quad (24)$$

with monopolistic competition, where in (24) the ratio within parentheses is positive as long as specialization is incomplete. Hence, the pains to be suffered in order to enjoy any given gains are a decreasing function of trade freeness with perfect competition, and an increasing function of trade freeness with monopolistic competition as long as specialization is incomplete.

In Armington (1969), Krugman (1980), Eaton and Kortum (2002) and Melitz (2003),

globalization leaves no footprint ($\gamma = 0$). We now show how letting globalization leave a footprint allows us to use our workhorse models to discuss the backlash of globalization.

2.4 Backlash dynamics

Consider the problem of country H 's benevolent government optimally choosing its future trade liberalization time path by weighting the gains and pains from globalization from some initial, historically inherited degree of trade freeness with corresponding globalization footprint. For simplicity, assume that country F 's is passive despite trade liberalization being bilateral and that there is no intertemporal trade. The latter assumption implies that all income is spent on consumption during the period in which it is generated.

Specifically, the government chooses the evolution of trade freeness $\{\phi_s\}_{s=t, \dots, T}$ from its historically inherited initial value $\phi_t \in [0, 1]$ that maximizes the present discounted value of national welfare defined as

$$\int_t^\infty \left(W_H(\phi_s) - \frac{\eta}{2} (\dot{\phi}_s)^2 \right) e^{-\rho(s-t)} ds, \quad (25)$$

where $\rho \in (0, \infty)$ is the social rate of time preference and $W_H(\phi_s) = \ln(GFT_H(\phi_s)/PFT_H(\phi_s))$ with

$$\begin{aligned} W_H^{PC}(\phi_s) &= \left(\frac{\alpha}{\varepsilon} - \gamma \right) \ln \left(1 + \frac{\phi_s}{a} \right) + \gamma \ln \left(1 + \frac{a + \phi_s}{1 + a\phi_s} \frac{L_F}{L_H} \right), \\ W_H^{MC}(\phi_s) &= \left(\frac{\alpha}{\varepsilon} + \gamma \right) \ln \left(1 + \phi \frac{a - \phi}{1 - a\phi} \right) + \gamma \ln \left(1 - \phi \frac{(1 - a\phi)^{\frac{1}{s}} - \phi(a - \phi)}{(1 - \phi^2)(a - \phi)} \right), \end{aligned} \quad (26)$$

is instantaneous national welfare under the two alternative market structures obtained from (21), (22), (23) and (24). Problem (25) is defined by the trade-off between the gains and pains from trade as well as by a quadratic cost $\eta (\dot{\phi}_s)^2 / 2$ of adjusting the trade-supporting physical and institutional infrastructure with adjustment cost parameter $\eta > 0$. It can be solved through standard optimal control methods with state variable ϕ_s and control variable $u_s = \dot{\phi}_s$. In particular, the current-value Hamiltonian is

$$H_s = W_H(\phi_s) - \frac{\eta}{2} (u_s)^2 + v_s u_s,$$

where v_s is the costate variable, that is, the shadow value of infrastructural adjustment.

Then, the optimality conditions $\partial H_s/\partial u_s = 0$ and $\partial H_s/\partial \tau_s = -\dot{v}_s + \rho v_s$ imply that optimal trade liberalization follows a path satisfying a two-dimensional dynamic system consisting of the law of motion of the state variable

$$\dot{\phi}_s = \frac{v_s}{\eta} \quad (27)$$

and the law of motion of the costate variable

$$\dot{v}_s = \rho v_s - W'_H(\phi_s), \quad (28)$$

with endpoint condition $v_T = 0$ if the system reaches a steady state in finite time T , or transversality condition

$$\lim_{T \rightarrow \infty} v_T e^{-\rho(T-t)} = 0$$

if the system reaches a steady state in the limit as time goes to infinity ($T \rightarrow \infty$).

2.4.1 Optimal liberalization

The characterization of optimal path for trade liberalization requires assessing the existence and the stability properties of steady states. A steady state is a pair of values (ϕ^*, v^*) for the state and constate variables such that for $\phi_s = \phi^*$ and $v_s = v^*$ we have $\dot{\phi}_s = 0$ and $\dot{v}_s = 0$, with $v_T = 0$ for an interior steady state or $\lim_{T \rightarrow \infty} v_T e^{-\rho(T-t)} = 0$ for a corner steady state. Recall that with perfect competition feasible values of trade freeness satisfy $\phi \in [0, 1]$, whereas with monopolistic competition the boundaries of its feasibility interval are constrained by the incomplete specialization condition (16). While in a corner steady state we have $W'_H(\phi^*) < 0$ for $\phi^* = 0$ and $W'_H(\phi^*) > 0$ for $\phi^* = 1$, in an interior steady state $W'_H(\phi^*) = 0$ must hold. Given (26), we always have either $W''_H(\phi_s) < 0$ or $W''_H(\phi_s) > 0$ for all $\phi_s \in [0, 1]$. Hence, (27) and (28) admit at least one steady state. If the globalization footprint is deep enough (large γ), the only steady state is autarky ($\phi^* = 0$). If it is shallow enough (small γ), the only steady state is free trade ($\phi^* = 1$). If it is neither deep or shallow enough, there exists a unique interior steady state ($\phi^* \in (0, 1)$), which may or may not coexist with additional corner steady states.

The local stability analysis of the interior steady state $(\phi^*, 0)$ requires looking at the eigenvalues of the Jacobian matrix of the linearized system (27) and (28) around that

steady state:

$$e_{1,2} = \frac{\rho \pm \sqrt{\rho^2 - \frac{4}{\eta} W''(\phi^*)}}{2}. \quad (29)$$

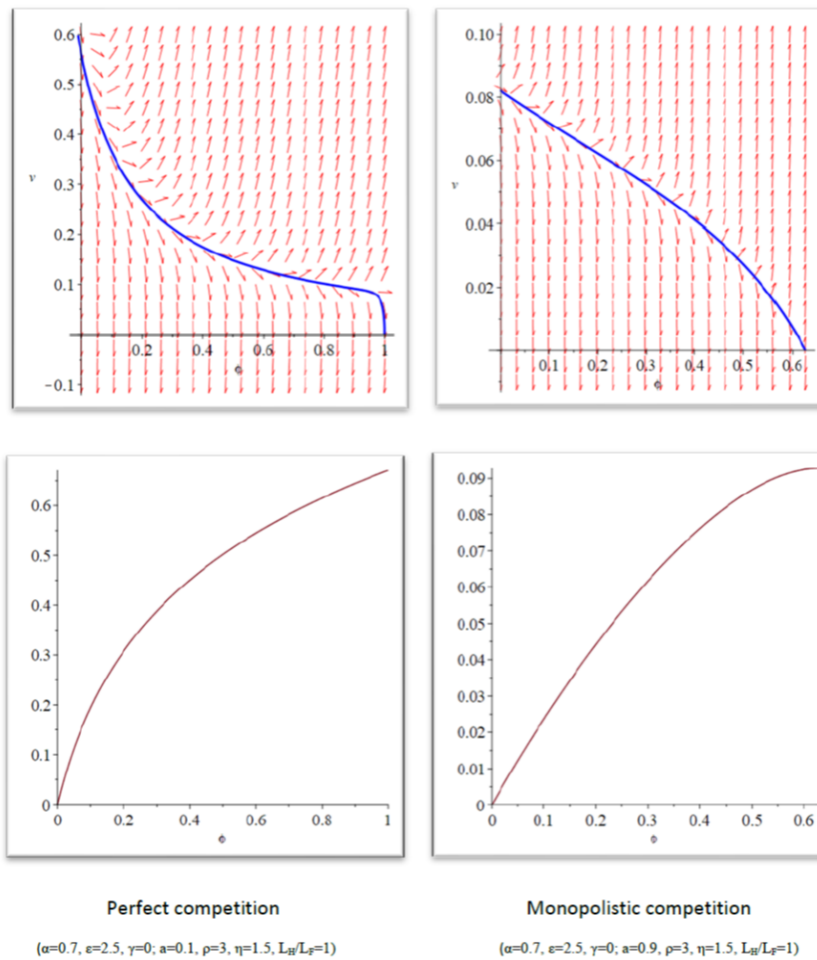
With $W''(\phi^*) > 0$, if $\rho^2 - \frac{4}{\eta} W''(\phi^*) > 0$ holds, then the two eigenvalues are real and positive. The steady state is therefore a source and the system diverges from it without oscillations. Differently, if $\rho^2 - \frac{4}{\eta} W''(\phi^*) < 0$ holds, the two eigenvalues are complex with positive real part. The steady state is a spiral source and the system diverges from it in expanding oscillations. In both cases, the system eventually hits either boundary of the feasible values of trade freeness in finite time T so that $\phi_a^* = 0$ or $\phi_b^* = 1$ are corner steady states with endpoint condition $v(T) = 0$. For given $W''(\phi^*) > 0$, the source scenario is supported by a high rate of time preference ρ and a large adjustment cost η . Vice versa, the spiral source scenario is supported by a low rate of time preference ρ and a small adjustment cost η . With $W''(\phi^*) < 0$, an eigenvalue is positive and real whereas the other is negative and real. The steady state is thus a saddle and the system converges to it along the saddle paths. As it is both locally and globally stable, interior steady state is the only steady state. It is reached only in the limit as time goes to infinity so that the transversality condition must hold. Finally, as there never can be two negative real roots or two complex roots with negative real part, the steady state cannot be a sink or a spiral sink.

2.4.2 Traps and cycles

Given expressions (26), market structure has strong implications for the number and stability of steady states. The top panels of Figure 4 show the phase portraits of system (27) and (28) for $\gamma = 0$ with state variable ϕ_s and costate variable v_s on the horizontal and vertical axes, respectively. In this scenario there is no globalization footprint so that the unique steady state involves free trade ($\phi^* = 1$) with both perfect competition (top left panel) and monopolistic competition (top right panel). From any initial trade freeness ϕ_t free trade is reached in finite time. The lower panels of Figure 4 show how instantaneous welfare $W_H(\phi_s)$ changes with trade freeness with perfect competition (bottom left panel) and monopolistic competition (bottom right panel). They highlight that the optimal trajectory leads to a steady state in which instantaneous welfare and, therefore, its present discounted value from T onwards are maximized.

Figures 5 and 6 show the phase portraits when globalization leaves a footprint ($\gamma > 0$) that is deep enough to destroy the uniqueness of the free trade steady state but not deep enough to make autarky the unique steady state. The figures are organized as Figure 4,

Figure 4: Trade freeness paths with no globalization footprint



with the top panels showing the phase portraits and the bottom panel the corresponding instantaneous welfare levels. With perfect competition an interior steady state makes its appearance due to the fact that the pains from trade dominate the gains from trade for small values of trade freeness while the reverse holds for larger values. The interior steady state is a source or a spiral source depending on parameters. With monopolistic competition an interior steady state also appears but it is a saddle due to the fact that the pains from trade are dominated by the gains from trade for small values of trade freeness while the reverse holds for larger values. The reverse dominance of pains and gains when trade freeness falls under the two market structures derives from the fact that, as discussed above, the pains to be suffered in order to enjoy any given gains are a decreasing function of trade freeness with perfect competition, and an increasing function of trade freeness with monopolistic competition.

In Figure 5 the rate of time preference ρ and the adjustment cost η are large so that welfare maximization (25) gives much more weight to what happens in the near than in the far future. Whatever its initial level ϕ_t , with monopolistic competition trade freeness evolves monotonically towards the interior steady state as this is a saddle. Differently, as with perfect competition the interior steady state is a source, both autarky and free trade are stable steady states that can be reached depending on initial trade freeness ϕ_t . For $\phi_t > \phi^*$ the optimal trajectory entails additional liberalization until free trade is reached. This can also happen when, for large enough (but not too large) γ , instantaneous welfare is higher with autarky than with free trade. If that is the case, the country is caught in a ‘globalization trap’, which can be destroyed only if the government reduces the globalization footprint (lower γ). Differently, for $\phi_t < \phi^*$ (hence also for initial autarky $\phi_t = 0$) the optimal trajectory requires moving in the opposite direction with falling trade freeness until autarky is reached. This can also happen when, for small enough (but not too small) γ , steady state welfare is higher with free trade than with autarky. If that is the case, the country is caught in an ‘isolation trap’, from which it can escape only if the government reduces the globalization footprint (lower γ).

In Figure 6 the rate of time preference ρ and the adjustment cost η are small so that more weight is given to the far future. The steady states are the same as in Figure 5, but phase portraits are somewhat different. With monopolistic competition the system converges to the interior steady state faster than in Figure 5. With perfect competition the interior steady state is now a spiral source. This implies that around the interior steady state there is now an interval (‘overlap’) of initial values of trade freeness for which alternative trajectories are feasible. In particular, initial values of trade freeness (ϕ_t) inside

Figure 5: Trade freeness paths with globalization footprint: globalization and isolation traps

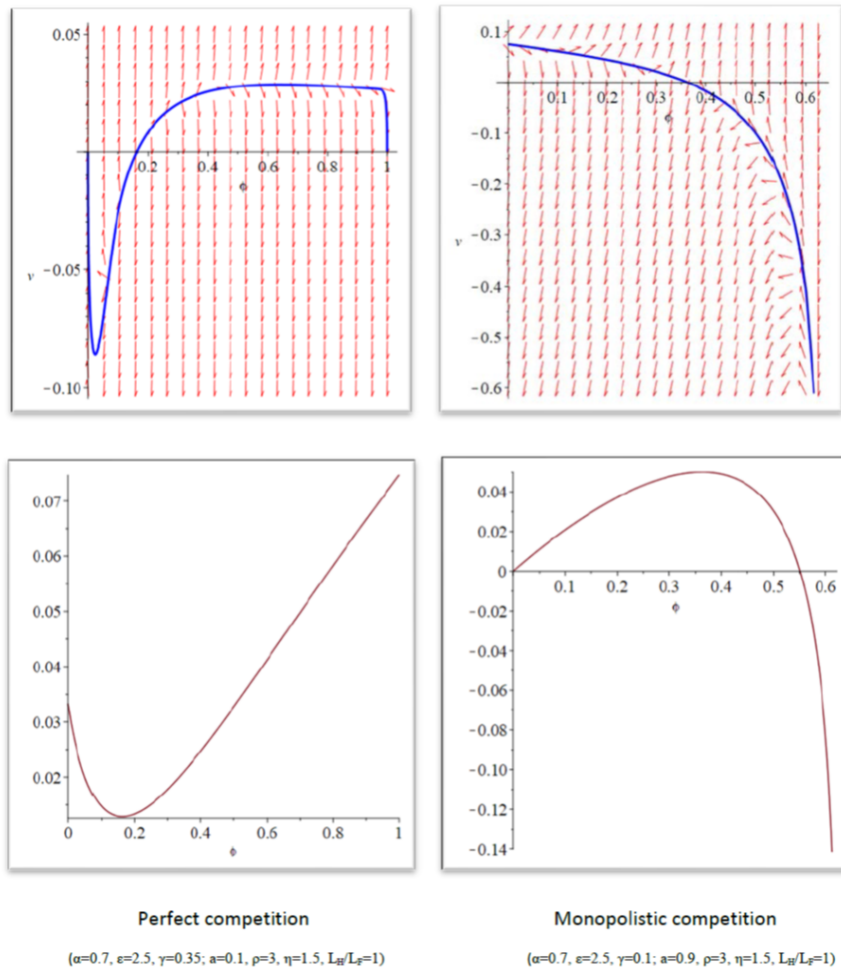
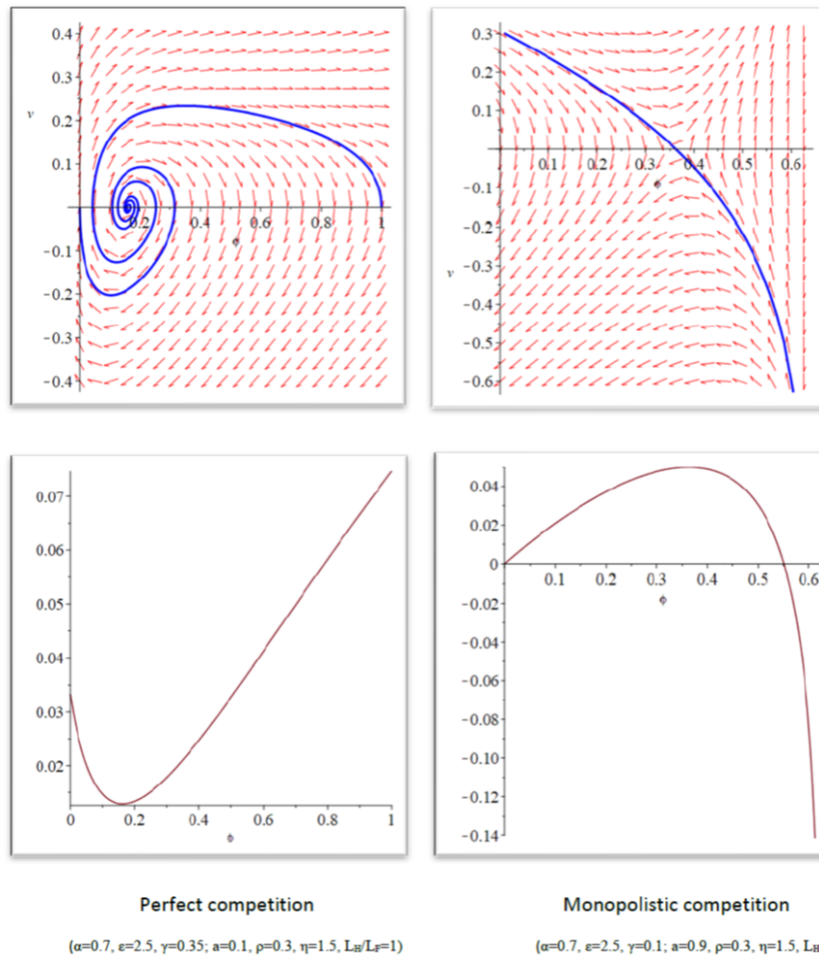


Figure 6: Trade freeness paths with globalization footprint: globalization cycles



the overlap are compatible with two alternative trajectories leading to either free trade or autarky. By choosing the corresponding endpoint, the government can thus select either steady state as the final outcome. Yet, convergence to the chosen outcome may involve a bumpy ride with alternating periods of trade liberalization and trade restriction ('globalization cycles'). In contrast, initial values of trade freeness (ϕ_t) outside the overlap lead to autarky if they fall to the left of the overlap or to free trade if they fall to its right, with possible isolation or globalization traps respectively.

2.4.3 Values and Views

Introducing a social footprint of globalization in our workhorse models shows that, even though there are always gains from trade, free trade is not the necessary outcome of national welfare maximization by a benevolent government. It is still true that, if the globalization footprint is shallow, the benevolent government leads the country towards free trade whatever the social rate of time preference and the cost of infrastructural adjustment. However, if the globalization footprint is deep enough, things change substantially.

With perfect competition, if the social rate of time preference and the adjustment cost are high, the government's choice is dictated by the historically inherited degree of trade freeness ϕ_t . It targets free trade if ϕ_t is large enough and autarky otherwise. This may happen even when the targeted outcome entails lower instantaneous welfare than the alternative outcome. High social rate of time preference and adjustment cost can trap the country in autarky or in free trade because in this case future payoffs from reversing to the alternative outcome do not matter that much. The deeper (shallower) the globalization footprint –i.e., the larger (smaller) the incidence γ – the larger (smaller) the set of initial values of trade freeness that lead to autarky (free trade) and the higher the likelihood that autarky (free trade) maximizes steady state instantaneous welfare. In contrast, if globalization leaves a footprint and the social rate of time preference is low, the benevolent government is not constrained by history unless the country is already close enough to autarky or free trade. When this does not apply, the government can therefore freely choose either autarky or free trade as final outcome, but the chosen outcome may be reached through cycles of globalization and deglobalization. The deeper (shallower) the globalization footprint, the larger (smaller) the set of initial values of trade freeness that lead to autarky (free trade) and the higher the likelihood that autarky (free trade) maximizes steady state welfare. The lower the social rate of time

preference and the infrastructural adjustment cost, the larger the set of initial values for which history is not a constraint. Differently, with monopolistic competition, the benevolent government targets a restricted degree of trade freeness whatever its initial level ϕ_t may be. The deeper (shallower) the globalization footprint, the more (less) restricted is the targeted degree of trade freeness. There are no traps and no cycles.

Against this backdrop, we can finally discuss what the workhorse models entail in terms of the backlash of globalization. We have defined this backlash as a political shift of voters and parties in a protectionist and isolationist direction, with substantive implications on governments' leaning and enacted policies. Within the framework of our workhorse models, the backlash corresponds, in reduced form, to a push towards the reduction of the historically inherited degree of trade freeness. As we have just seen, its occurrence depends on parameter values. In particular, with perfect competition deglobalization may arise endogenously from a benevolent government's choice when the social rate of time preference and the cost of infrastructural adjustment are low. This happens when the government changes trajectory because it changes its mind about its final target between two equally feasible endpoints (from free trade to autarky). It can also happen when the government is fully committed to reaching either endpoint without changing trajectory, but getting there involves globalization cycles. In contrast, changes in trajectories or cycles cannot happen with perfect competition when the social rate of time preference and the cost of infrastructural adjustment are high, and they never happen with monopolistic competition. In these cases, deglobalization could arise in the following scenarios: the historically inherited trade freeness is to the left (right) of the interior steady state with perfect (monopolistic) competition.

In addition, deglobalization could also arise for political economy reasons when people have different views on the globalization footprint and enacted liberalization is not based on a 'fair' aggregation of those views. Assume different individuals have different attitudes towards globalization due to different perceived incidence γ , deriving, for example, from divergent assessments of well-being due the uneven distribution of the material and psychosocial components of the pains from trade (Grossman and Helpman 2018). With perfect competition, individuals with high perceived incidence may prefer autarky to free trade whereas the reverse may hold for individuals with low perceived incidence. With monopolistic competition the former may prefer a lower level of trade freeness than the latter. Let $g = 1, \dots, G$ index the different attitudes present in the population and use δ^g , with $\sum_{g=1}^G \delta^g = 1$, to denote the share of population with attitude $\gamma^g > 0$. Giving proportionate weights to all attitudes, the benevolent government re-

lies on average perceived incidence $\gamma = \sum_{g=1}^G \delta^g \gamma^g$ for its evaluation of the globalization footprint. By contrast, a politically biased government would instead evaluate the globalization footprint using incidence $\gamma^\pi = \sum_{g=1}^G \pi^g \gamma^g$, where π^g , with $\sum_{g=1}^G \pi^g = 1$, is the political weight of attitude g . As long as π^g differs from δ^g and thus $\gamma^\pi \neq \gamma$ holds, political economy factors determine an ‘unfair’ aggregation of attitudes into policy outcomes (Grossman and Helpman 2001). In particular, the government exhibits political bias in favor of globalization for $\gamma^\pi < \gamma$. Then, if γ is much larger than γ^π and so large that Figure does not 4 apply, the politically biased government may target free trade and thus increase trade freeness whereas the benevolent government would target autarky and thus decrease trade freeness. On the other hand, if γ is not that large and also not much larger than γ^π , when the social rate of time preference and the adjustment cost are so high that Figure 5 applies, with perfect competition the politically biased interior steady state lies to the left of the benevolent one. The politically biased government then entertains globalization for a larger set of initial values of trade freeness than the benevolent government would do. For initial values between the politically biased interior steady state and the socially optimal one, the former government opts for more trade freeness whereas the benevolent government would opt for less trade freeness. Differently, with monopolistic competition the politically biased interior steady state lies to the right of the socially optimal one, entailing a less restricted freeness target. When the social rate of time preference and the cost of infrastructural adjustment are so low that Figure 6 applies, with monopolistic competition the situation is still qualitatively the same. With perfect competition there is a politically biased overlap of initial trade freeness values for which multiple trajectories exist and this overlap is more skewed to the left than the benevolent one. This implies that the set of initial values from which there exist globalization trajectories leading to free trade rather than autarky, is larger for the politically biased than the benevolent governments.

To summarize, from a political economy point of view, a globalization backlash may arise in our workhorse models when the government underestimates the globalization footprint due to an unfair aggregation of people’s attitudes. This happens for $\gamma^\pi < \gamma$. Whether or not this condition holds depends on multiple sources of variation: attitudes towards globalization (γ^c), their political representation (π^c), the gap between attitudes’ political representation and their popularity (δ^c), the correlations among all these features. In particular, $\gamma^\pi < \gamma$ may hold in the case of few (small δ^c) underrepresented (small π^c) big losers (large γ^c), or many (large δ^c) underrepresented (small π^c) small losers (small γ^c).

To summarize, we have modeled the globalization backlash as a situation in which a government decides to reduce a historically inherited degree of trade freeness ('de-globalization'). We have argued that fundamental economic forces at work in generally accepted trade models can lead to this outcome whenever globalization leaves a 'social footprint' in terms of reallocation-related problems that, for various reasons, remain unsolved in the foreseeable future. This can happen no matter whether the government is benevolent or politically biased, and it is all the more likely the deeper the social footprint is. Hence, even a benevolent government may end up opting for protectionism. Nonetheless, protection represents only a second-best solution as the first-best option is to find ways to reduce the incidence of the unsolved social problems, which can be achieved by directly targeting: (1) the sources of challenging reallocation, from labor and capital market frictions to moving, reskilling and retooling costs, as well as lock-in effects in the presence of external economies; (2) the scourges of limited redistribution, inequality and social immobility underpinning the unfair distribution of the pros and cons of structural change; (3) the non-economic strains that structural change puts on people's identity and culture.

2.4.4 A quantitative example

The political economy aspects interact with the way trade liberalization affects the gains from trade and the corresponding reallocations. To go beyond workhorse models that are very stylized by design, for proof of concept Figures 7 and 8 illustrate simulated results from the calibrated models in Costinot and Rodríguez-Clare (2014) for a simple multilateral trade liberalization counterfactual. Differently from the workhorse models, the calibrated models feature several sectors and countries, also allowing for a worldwide network of exchanges and global patterns of comparative advantages. Moreover, wages can diverge across countries as there is no outside good. The illustrated results are based on the same parametrizations as in Figure 4.1 of Costinot and Rodríguez-Clare (2014), in which market size is normalized to one in all countries and there is no trade in intermediates.

The different panels of Figure 7 provide a key to the interpretation of the actual results in Figure 8 simulated for the G7 countries plus China. Both figures show the relation between what we may call the 'pain gain elasticity' (*PGE*) on the vertical axis and decreasing ad-valorem tariff levels on the horizontal axis. This elasticity is defined as the percentage reallocation (relative to autarky) needed to obtain a one percent gain from

trade (relative to autarky): $PGE_H(\phi) = \gamma^{-1} d \ln(PFT_H(\phi)) / d \ln(GFT_H(\phi))$.⁴ Given instantaneous welfare $W_H(\phi) = \ln(GFT_H(\phi) / PFT_H(\phi))$, we have $W'_H(\phi) = 0$ if and only if $PGE_H(\phi) = \gamma^{-1}$. This implies that an interior steady state degree of trade freeness ϕ^* satisfies $PGE_H(\phi^*) = \gamma^{-1}$, and it maximizes (minimizes) steady state welfare if $PGE'_H(\phi^*) > 0$ ($PGE'_H(\phi^*) < 0$).

Accordingly, panel (a) of Figure 7 describes a situation where there exists a unique interior steady state freeness ϕ^*_{\max} , which maximizes steady state welfare. Vice versa, panel (c) describes a situation where there exists a unique interior steady state freeness ϕ^*_{\min} , which maximizes steady state welfare and is dominated by free trade ($\phi = 1$). In panel (b) both restricted freeness ϕ^*_{\max} and free trade ($\phi = 1$) maximize welfare locally whereas restricted freeness $\phi^*_{\min} \in (\phi^*_{\max}, 1)$ minimizes it. Vice versa, in panel (d) both autarky ($\phi = 0$) and restricted freeness ϕ^*_{\max} maximize welfare locally whereas restricted freeness $\phi^*_{\min} \in (0, \phi^*_{\max})$ minimizes it. By comparing the taxonomy in Figure 7 with the simulated PGE 's in Figure 8, we see that China is compatible with panel (a), Canada and the United States are broadly compatible with panel (b), Italy and Japan with panel (c), France, Germany and the United Kingdom with panel (d).

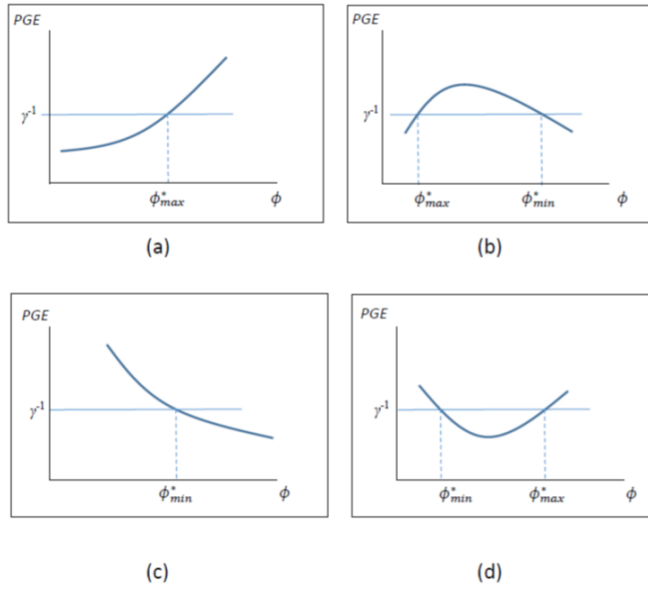
3 Documenting the globalization backlash

In this section, we present a novel body of descriptive evidence on the globalization backlash. We characterize the backlash along three key dimensions: (1) voting behavior; (2) policy influence, evaluated in terms of the composition of legislatures and executives; and (3) individual citizens' attitudes. Our analysis focuses on the period 1980-2019, and covers 23 industrialized, advanced democracies. These span Europe, North America, and Asia.⁵

⁴For each country the labor reallocations used to evaluate the pains from trade are computed as the sum across sectors of all the positive values of the difference between sectoral employment for a given degree of trade freeness and sectoral employment in autarky. Due to full employment, that sum is also equal to the sum of the absolute values of all the negative differences between sectoral employment for a given degree of trade freeness and sectoral employment in autarky. Hence, the sum gives the total number of workers separated from their autarkic jobs. As total employment is normalized to 1, the labor reallocations are expressed as percentage changes.

⁵Sample countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, South Korea, Spain, Sweden, Switzerland, United Kingdom, United States.

Figure 7: Optimal steady state trade freeness with globalization footprint: taxonomy

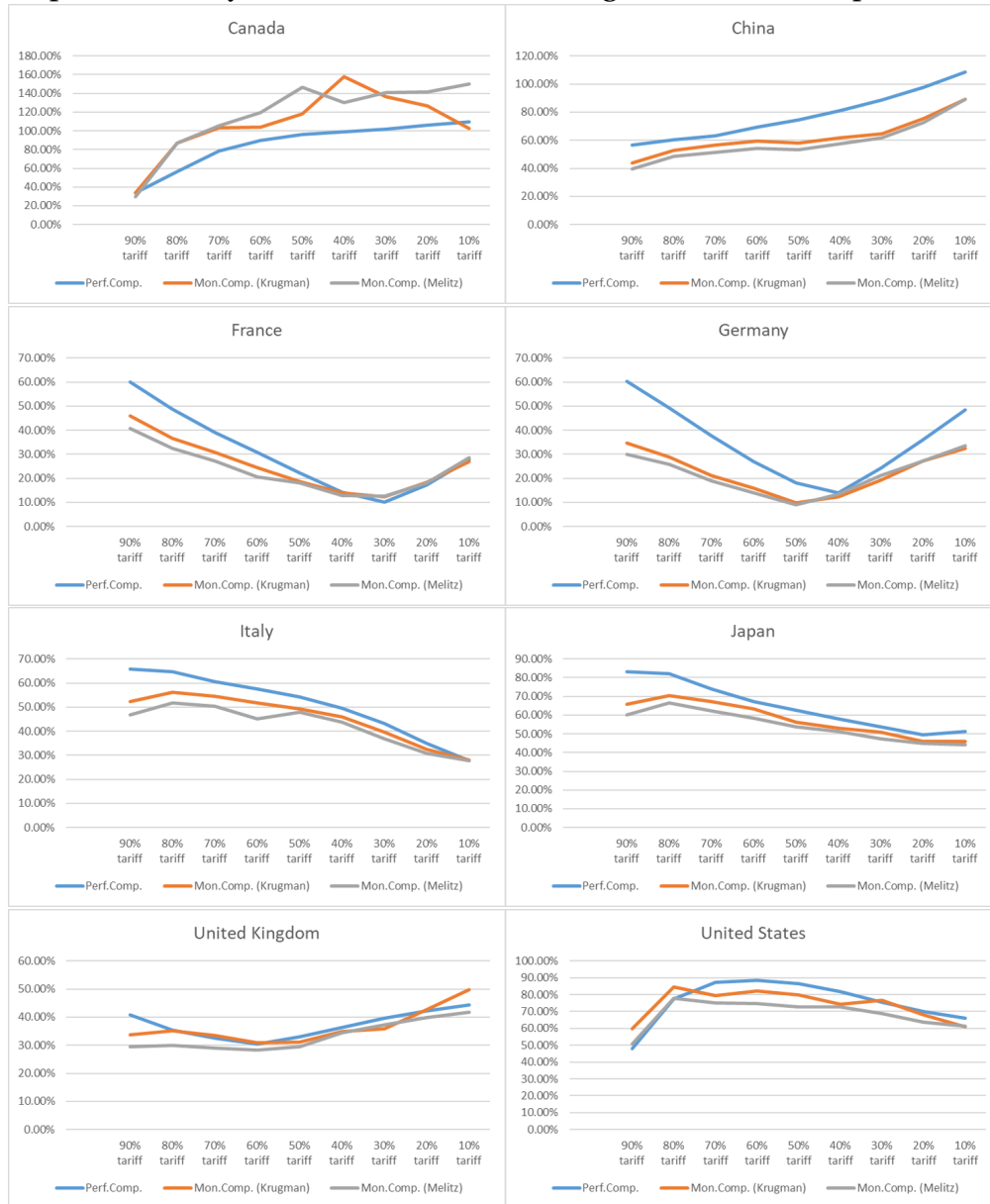


3.1 Voting behavior

We begin by documenting the globalization backlash in terms of voting behavior. In particular, we provide evidence on the evolution of electorates' ideological leaning with respect to globalization over the past 40 years. This analysis relies on two ingredients: (1) the vote share of each party in each national election; and (2) an ideology score reflecting the positioning of each party (in each election) along the isolationist vs. globalist spectrum. For both pieces of information we rely on data from the Manifesto Project (Volkens et al., 2020). This source is widely used in the literature to characterize party platforms, as it provides human-coded counts of the statements made by parties in their electoral programs on a comprehensive range of issues, including international trade and multilateralism.

Specifically, in line with earlier work by Burgoon (2008) and Colantone and Stanig (2018a, 2019), we measure parties' positioning on globalization through the *Net Autarky Score*. This is computed for each party p , in country c and year of election t , according to the method proposed by Lowe et al. (2011):

Figure 8: Optimal steady state trade freeness with globalization footprint: simulations



$$\text{NetAutarkyScore}_{pct} = \log(.5 + z_{pct}^+) - \log(.5 + z_{pct}^-), \quad (30)$$

where z_{pct}^+ is the number of claims in the party manifesto in a protectionist/isolationist direction, and z_{pct}^- is the number of claims in the opposite direction.⁶ Higher scores thus denote more protectionist and isolationist positions. Importantly, the net autarky score takes into account not only parties' stances on narrow trade policy issues such as tariffs and export subsidies, but also their broader views on sovereignty, multilateral relations, and the role of international organizations such as the WTO and the European Union. This richer characterization allows us to explore more thoroughly different important facets of the globalization backlash. This involves not only the success of plain protectionist platforms but also, in more general terms, stronger emphasis on national self-sufficiency and security, paralleled by growing skepticism with regard to supranational institutions and multilateral cooperation.

We combine the net autarky scores and the party vote shares in order to compute nation-specific summaries reflecting the political orientation of each country in each election. Specifically, we compute the electorate center of gravity (COG) as the average of the policy positions of the parties competing in the election, weighted by their vote shares. This is obtained as in Colantone and Stanig (2018a) according to the following formula:

⁶Specifically, z_{lct}^+ contains the number of claims coded in categories: *406 - Protectionism Positive*, including favorable mentions of extending or maintaining the protection of internal markets, by the manifesto or other countries, through measures that may include tariffs, quota restrictions, export subsidies; *109 - Internationalism Negative*, including negative references to international co-operation, favorable mentions of national independence and sovereignty with regard to the manifesto country's foreign policy, isolation and/or unilateralism as opposed to internationalism; and *110 - European Community/Union Negative*, including negative references to the European Community/Union, such as opposition to specific European policies which are preferred by European authorities, or opposition to the net-contribution of the manifesto country to the EU budget.

z_{lct}^- refers to codes: *407 - Protectionism Negative*, including support for the concept of free trade and open markets, calls for abolishing all means of market protection, in the manifesto or any other country; *107 - Internationalism Positive*, including the need for international co-operation and co-operation with specific countries, and references to the need for aid to developing countries, need for world planning of resources, support for global governance, need for international courts, support for UN or other international organizations; and *108 - European Community/Union Positive*, including favorable mentions of European Community/Union in general, such as references to the desirability of the manifesto country joining (or remaining a member), desirability of expanding the European Community/Union, desirability of increasing the ECs/EUs competences; desirability of expanding the competences of the European Parliament.

$$COG_{ct} = \frac{\sum_{p=1}^n w_{pct} * \text{NetAutarkyScore}_{pct}}{\sum_{p=1}^n w_{pct}}, \quad (31)$$

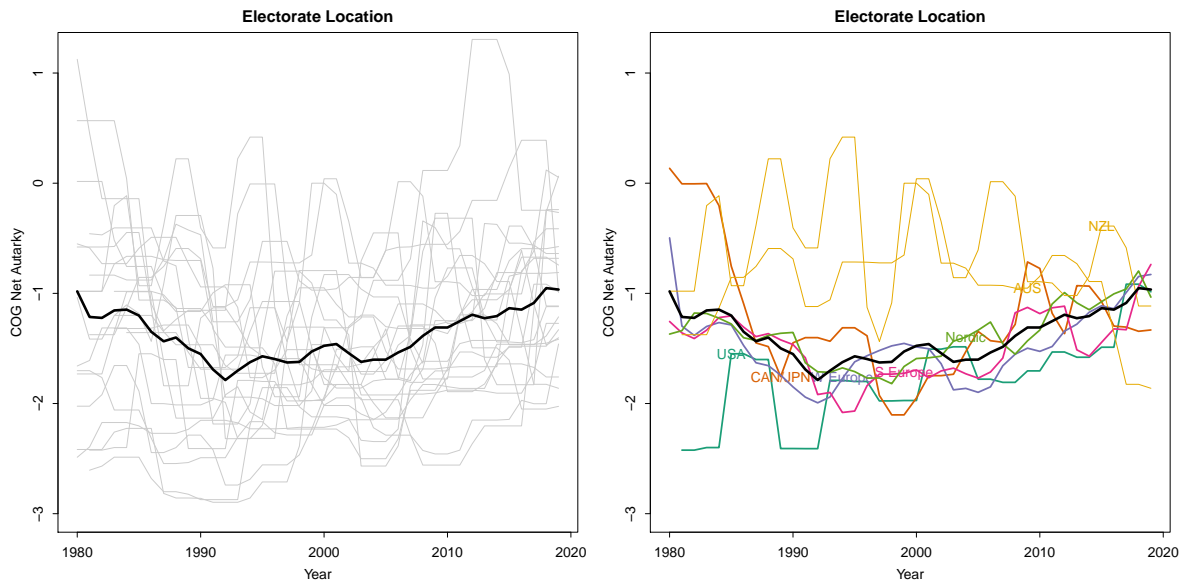
where p indexes parties, c countries, and t election years. The $\text{NetAutarkyScore}_{pct}$ is the ideology score of party p based on its manifesto of year t , and w_{pct} is its vote share at the national level for the election of the legislative lower house. The normalization at the denominator is needed as ideology scores are not available for some minor parties. Reassuringly, though, excluded parties account on average for only about 3.5 percent of total votes cast.⁷

Figure 9 shows the evolution of electorate location from 1980 until 2019. In the left panel, the light grey lines refer to each single country, while the black line is the year-specific average across countries. In the right panel, along with the cross-country average, we highlight specific countries, such as the US, or groups of countries, such as southern, western, and northern Europe.

When considering the average across countries, there is a visible decline in net autarky from the beginning of the 1980s until the early 1990s. This globalist wave is then followed by an isolationist shift in electorate location from the mid-1990s onwards. This evidence suggests that the globalization backlash in terms of voting behavior is not just a recent phenomenon, but has been mounting over the past three decades. In addition, the right panel shows how similar patterns emerge when considering different countries and groups of countries. The only relevant exceptions are Australia and New Zealand, whose historically higher levels of net autarky scores have been actually declining, on average, over the same period. Arguably, this may be related to the fact that these economies are strong in commodities' exports. They have thus mostly benefited from the sharp growth of China (and other emerging economies) through what has been called the "commodity super cycle" of the 2000s, while at the same time the US and Europe were severely hit by the China shock in manufacturing.

⁷All the evidence presented in this section remains substantially unchanged when using the median voter score as a summary instead of the center of gravity. As explained in Colantone and Stanig (2018a), the median voter score is the ideological position of the (weighted) median party in the country. It is thus meant to capture shifts at the center of the electorate. In practice, parties are sorted from least- to most-protectionist/isolationist, and the cumulative vote share is calculated. The median voter score is the ideology of the party at which cumulative vote share reaches 50%: in substantive terms, the party chosen by a (sincere, proximity-driven) median voter if the only policy dimension were autarky vs. openness, or in a unidimensional vote choice model where autarky is the only policy issue.

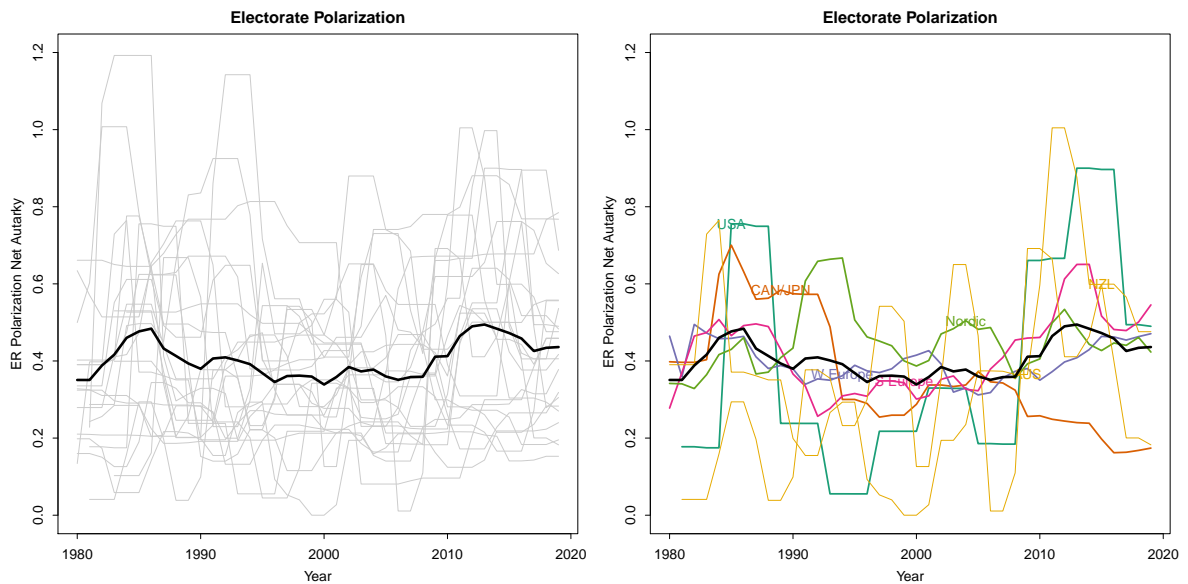
Figure 9: Electorate Location



Source: Authors' elaboration based on Manifesto Project data (Volkens et al. 2020).

Note: Both panels report figures referring to the electorate center of gravity in terms of net autarky scores. In the left panel, the light grey lines refer to each single sample country; the black line is the cross-country average. In the right panel, we display separately specific countries and groups of countries in different colors; the black line is the cross-country average.

Figure 10: Electorate Polarization



Source: Authors' elaboration based on Manifesto Project data (Volkens et al. 2020).

Note: Both panels report figures referring to electorate polarization in terms of net autarky scores. In the left panel, the light grey lines refer to each single sample country; the black line is the cross-country average. In the right panel, we display separately specific countries and groups of countries in different colors; the black line is the cross-country average.

As complementary evidence, Figure 10 shows how the anti-globalization shift in electorate location has also been accompanied by a rise in polarization from the early 2000s onwards, with a sharp increase especially around the financial crisis and in subsequent years. This is particularly visible, for instance, in the US. Polarization is measured as proposed by Esteban and Ray (1994), according to the following formula: $\sum_j \sum_l w_j^{1+\alpha} w_l |x_j - x_l|$, where j and l index parties, w_j and w_l are their vote shares, x_j and x_l are their net autarky scores, and $\alpha = 0.5$. Rising polarization is a dangerous development as it raises the risk of social conflict. As explained by Esteban and Ray (1994), conflict might be driven more by the existence of homogenous groups that are “distant” from each other, rather than simply by the spread of a given trait (e.g., ideological positions).

To characterize further the anti-globalization shift in electorate location presented in Figure 13, with the exception of Australia and New Zealand, we next ask what type of parties are driving it. Is the backlash driven by increasing support for left-wing protectionist parties? Or rather by right-wing nationalists? Or by a combination of both? We address these questions in Figures 11 and 12.

Figure 11 displays the location of all parties according to their policy platforms in a two-dimensional ideological space. This is an extension to more countries and years of a similar analysis conducted in Colantone and Stanig (2018a, 2019), always based on Manifesto Project data. Each point in the graph corresponds to one party observed in one election between 1980 and 2019. The size of each symbol is proportional to (log) national vote share. The variable on the vertical axis is the net autarky score, computed as described in Equation (30). The variable on the horizontal axis is a classical index of left-right economic ideology concerning domestic issues. It is computed through the same formula as for net autarky, but employing in this case the number of statements in the manifesto that are in favor or against redistribution and the welfare state, trade unions, Keynesian demand management policies, and regulation of economic activity. Higher scores denote more conservative positions, located on the right side of the figure. The dashed lines split the graph into four quadrants, based on the (country-specific) median positions on the two policy dimensions. For instance, parties in the upper quadrants are characterized by more protectionist and isolationist platforms compared to the median within their country.

Triangles refer to Christian-democratic parties, typically found on the economic center-right. Squares are socialist and green parties, usually found on the economic left, as are communist parties, identified by asterisks. Hollow dots are liberal and conservative parties, typically found on the economic right. The allocation of parties to these differ-

ent political families is based on the taxonomy provided by the Manifesto Project. Finally, solid diamonds denote radical-right parties, identified as in Colantone and Stanig (2018a, 2019) based on the conventional wisdom in the political science literature. In general, parties that are classified as radical-right tend to display three characteristics: (1) radicalism, meant as a criticism of the established order and institutional checks and balances; (2) exclusionary nationalism and nativism; and (3) populism, expressed as a rejection of pluralism and elitism (Golder 2016).⁸

The main message emerging from Figure 11 is that relatively anti-globalization parties –located in the upper quadrants– can lean both to the left and to the right of center when it comes to domestic economic policy. The combination of a laissez-faire approach on domestic issues with protectionism and isolationism in international affairs is actually quite common. This type of policy platforms has been characterized as “economic nationalism” (Colantone and Stanig, 2018a, 2019) and it is typical (though not exclusive) of radical-right parties, most of which are indeed located in the upper-right quadrant of the graph.

In Figure 12, we document the evolution of support for different party groups over time. Specifically, we compute the cumulative vote share of parties belonging to each quadrant of Figure 11, and report the 5-year rolling average for each group across countries. By so doing, in each year we take into account on average one election per each sample country, thus minimizing the time variation due to compositional effects (as countries do not hold elections every year). The lines in the graph show cumulative vote shares for the four party groups, in this bottom-up order: economic nationalists (upper-right quadrant), isolationist left (upper-left quadrant), pro-trade left (bottom-left quadrant), and pro-trade right (bottom-right quadrant). To illustrate, the black line displays the vote share for economic nationalist parties; the distance between the black line and the yellow line is the vote share for the isolationist left, and so on up until reaching 100 percent of votes cast.

Consistent with the evidence in Figure 13, the globalization backlash is pretty evident from the early 1990s onwards. The combined vote share for right- and left-wing

⁸The full list of radical-right parties includes: the BZÖ, FPÖ and the Team Frank Stronach in Austria; the Vlaams Blok and the Vlaams Belang in Belgium; the People’s Party in Denmark; the True Finns in Finland; the Front National in France; Golden Dawn and LAOS in Greece; the Alternative for Germany in Germany; the Brothers of Italy and Northern League in Italy; the PVV, the List Fortuyn and Forum for Democracy in the Netherlands; the Progress Party in Norway; Vox in Spain; the Sweden Democrats in Sweden; the AN/NA, the Swiss Democrats, the Swiss People’s Party, and the Freedom Party of Switzerland in Switzerland; and the UKIP in the United Kingdom.

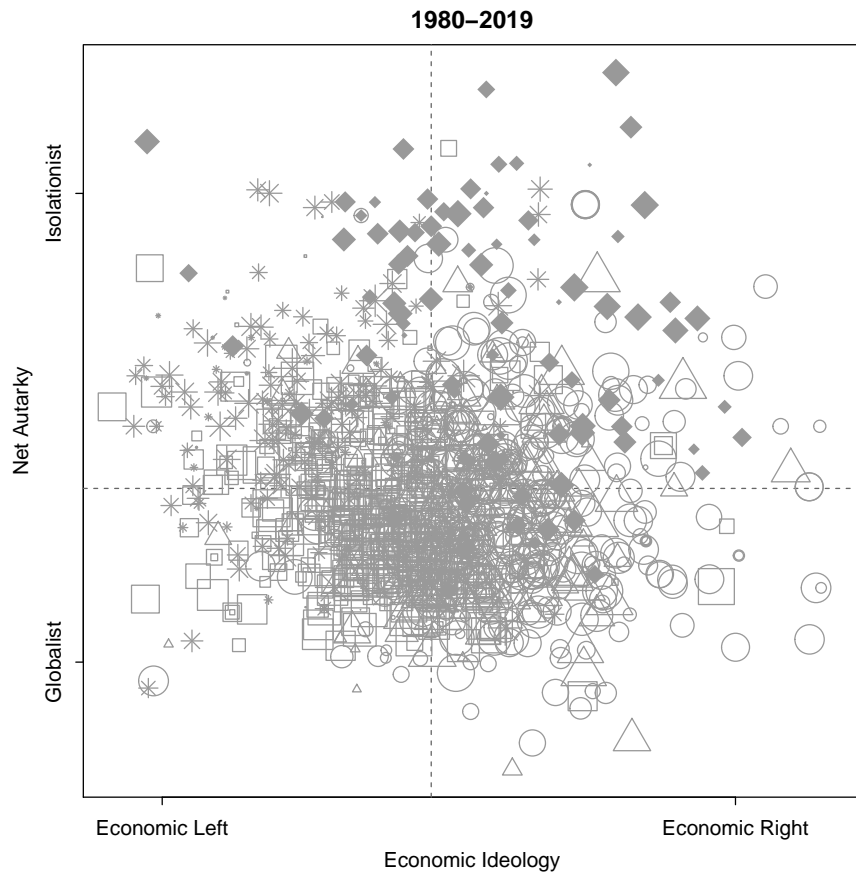
isolationists almost doubles, rising from around 30 to about 60 percent. Such a surge is primarily driven by right-wing parties until the financial crisis. Later, we observe a significant increase in support for the isolationist left, with the most prominent examples coming from southern Europe: Podemos in Spain, Syriza in Greece, and the Five Star Movement in Italy. Nevertheless, economic nationalist parties keep performing very well even after the crisis. Interestingly, some radical-right parties actually move to the left of center on domestic economic policy, and thus to the upper-left quadrant in Figure 13. Their vote shares are captured by the distance between the black line and the dashed grey line. Such a shift of the radical right has been studied in recent political science literature (Lefkofridi and Michel 2017; Hall and Evans 2019; Rovny and Polk 2020). It involves not only northern European parties such as the True Finns in Finland, but also southern European forces such as Lega in Italy. To varying degrees, these parties start supporting redistribution policies and a more generous welfare state, even though with exclusive access to natives.

Taking stock of the evidence, there has been a significant globalization backlash in voting behavior from the early 1990s onwards. This appears clearly in terms of electorate center of gravity, and it is also associated with a rise in polarization after the year 2000, especially in the US. The backlash takes the form of increasing support for both left- and right-wing protectionist and isolationist parties. While support for right-wing economic nationalists starts rising already in the 1990s, the isolationist left takes off mainly from the financial crisis onwards.

3.2 Policy influence

We now evaluate to what extent the protectionist and isolationist shift in voting has been consequential for the composition of legislatures and executives. We regard this as a key aspect of the globalization backlash, as it relates to the translation of voting behavior into policy outcomes, which is far from obvious. To the extent that electoral systems depart from perfect proportionality, the shift in electorate location documented above would not induce automatically an analogous shift in the composition of legislatures. In the limit, in a fully majoritarian context, one could easily imagine a situation in which anti-globalization parties significantly increase their vote shares without gaining seats in the legislature. A shift in the composition of executives is even less likely to obtain, also in the presence a growing legislative representation of isolationist parties, since these may still remain out of the government.

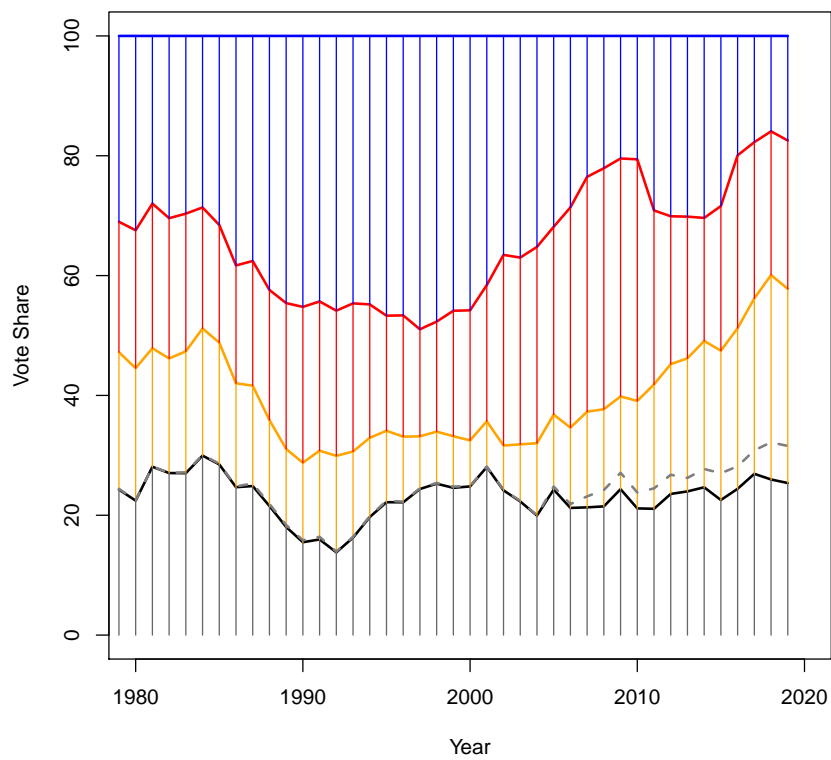
Figure 11: Party Groups



Source: Authors' elaboration based on Manifesto Project data (Volkens et al. 2020).

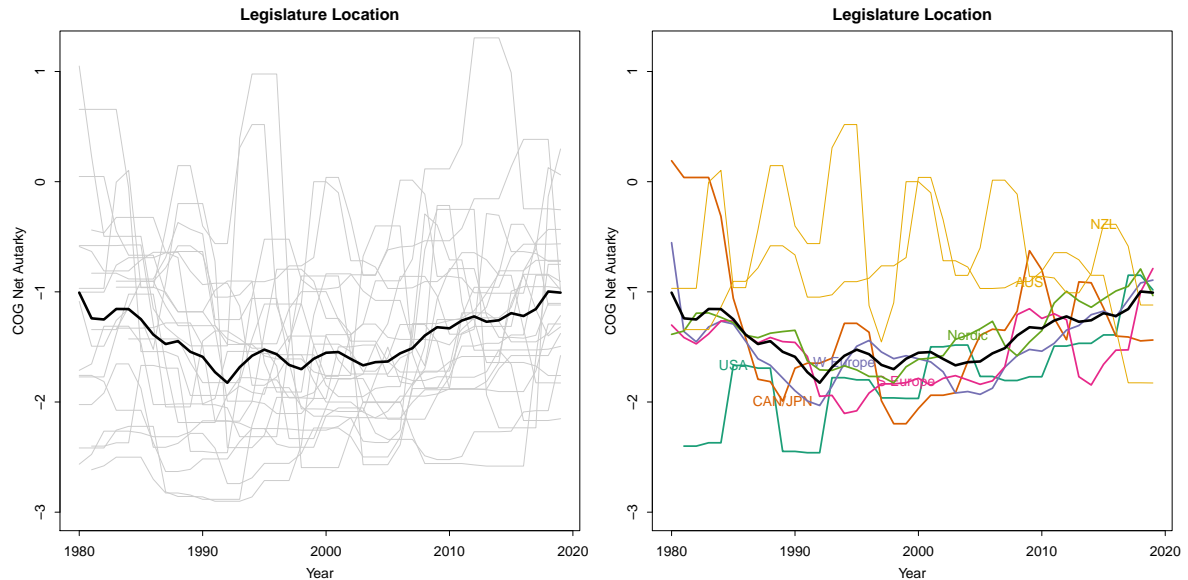
Note: Each data point is one party in one election between 1980 and 2019, in 21 countries (all but Australia and New Zealand). Triangles refer to Christian-democratic parties; squares are socialist and green parties; asterisks are communist parties; hollow dots are liberal and conservative parties; solid diamonds are radical-right parties. The size of each symbol is proportional to (log) national vote share.

Figure 12: Electoral Dynamics by Party Groups



Source: Authors' elaboration based on Manifesto Project data (Volkens et al. 2020).
Note: The figure displays the cumulative vote share of economic nationalists (black line), plus the isolationist left (yellow line), plus the pro-trade left (red line), plus the pro-trade right (blue line). The dashed grey line refers to radical-right parties located to the left of the median in terms of economic ideology. The lines display five-year moving averages of vote shares by ideological group in all countries covered by the analysis.

Figure 13: Legislature Location



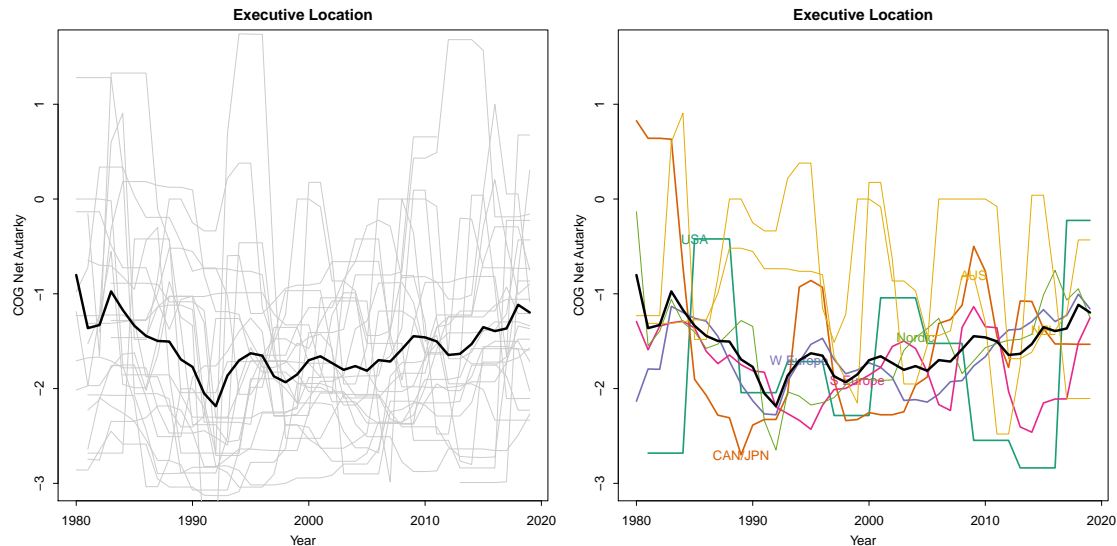
Source: Authors' elaboration based on data from Manifesto Project (Volkens et al. 2020) and ParlGov (Döring and Manov 2020).

Note: Both panels report figures referring to legislature center of gravity in terms of net autarky scores. In the left panel, the light grey lines refer to each single sample country; the black line is the cross-country average. In the right panel, we display separately specific countries and groups of countries in different colors; the black line is the cross-country average.

We start by considering the composition of legislatures, focusing on the lower house of each country. Figure 13 reports the dynamics of legislature location in terms of net autarky. As for the electorate location, we focus on the center of gravity. That is, we compute the weighted average of net autarky scores for all parties represented in the legislature, using as weights their seat shares. In practice, we use the same formula as in Equation (31), but considering only parties with at least one seat in the legislative lower house, and using seat shares rather than vote shares as weights. Data on seat shares are from ParlGov (Döring and Manov 2020). The evidence on legislature location is very similar to that obtained on electorate location, in Figure 9. This suggests that the anti-globalization shift in voting has indeed translated into a parallel shift of legislatures' composition.

Figure 14 presents a similar analysis on executive location in terms of net autarky. In the case of single-party executives, the location of the executive is simply the net autarky score of the ruling party. To compute the ideological location of executives backed by a coalition of parties, we calculate the weighted average of the net autarky scores of all the coalition partners, where weights are the shares of the legislative majority seats that each coalition partner commands, so that larger coalition parties are weighted more

Figure 14: Executive Location



Source: Authors' elaboration based on data from Manifesto Project (Volkens et al. 2020) and ParlGov (Döring and Manov 2020).

Note: Both panels report figures referring to executive center of gravity in terms of net autarky scores. In the left panel, the light grey lines refer to each single sample country; the black line is the cross-country average. In the right panel, we display separately specific countries and groups of countries in different colors; the black line is the cross-country average.

than smaller ones. This is the center of gravity of the executive. The protectionist and isolationist move from the 1990s onwards is evident also in this case. Overall, the globalization backlash in voting behavior seems to have been consequential not only in terms of legislative representation, but also in terms of government positioning, thus with direct implications for policy making.

3.3 Attitudes

To conclude this section, we ask whether the globalization backlash in voting reflects a general shift in individual attitudes against globalization. Perhaps contrary to what one may think at first glance, this is not something that should be taken for granted. A canonical understanding in political science is that vote choice involves a comparison of comprehensive policy bundles proposed by competing parties, with weights assigned to different elements of the bundles varying across voters. Parties' platforms include stances on trade policy and internationalism along with several other issues, such as taxation, welfare policy, immigration, gay rights, gender equality, and cultural identity. Voters may then choose to support an anti-globalization party for reasons that have little to do, for instance, with their attitudes towards trade. Hence, at the aggregate level,

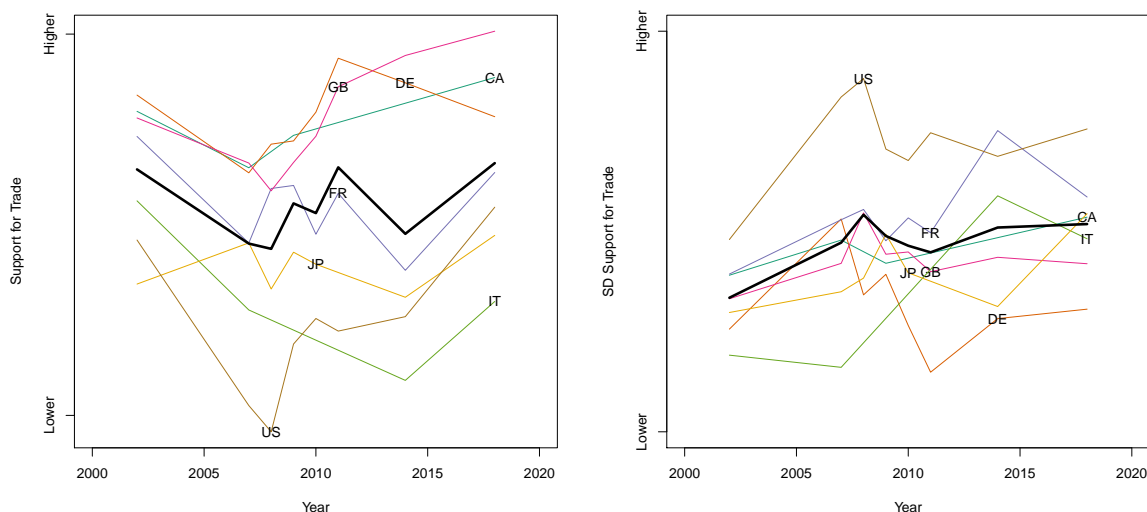
there could be an increase in support for protectionist and isolationist parties even in the absence of a generalized tilt of public opinion against globalization. This is actually what seems to have happened in recent years.

Available data on individual attitudes do not have the same wide coverage as election data. Thus, it is unfortunately impossible to perform a systematic analysis of attitudes over the same group of countries as covered in the electoral analysis, and over a similarly long time span. As a fair second best, we rely on the Global Attitudes and Trends Survey released by the Pew Research Center. This provides consistent cross-country data over the period 2002-2018 for a subset of seven relevant countries in our sample: Canada, France, Germany, Italy, Japan, United Kingdom, and the United States. Specifically, we rely on the following survey question: “*What do you think about the growing trade and business ties between (survey country) and other countries - do you think it is a very good thing, somewhat good, somewhat bad or a very bad thing for our country?*”. The four possible answers are coded from 1 (very bad) to 4 (very good); higher values thus correspond to more positive views about globalization.

The left panel of Figure 15 displays the average score across individual respondents for each country (colored lines), as well as the cross country average (black thick line). There is no clearly detectable trend, except for some cyclical variation. This is pretty evident in the US, where support for trade reaches its lowest over the financial crisis, and picks up afterwards. In sharp contrast with the protectionist shift in voting of recent years, support for trade seems to grow everywhere after 2014. The only exception is Germany, where average trade support displays a slight decline, while still remaining among the highest in the sample. Clearly, relying only on one generic question is suboptimal. Yet, at a minimum, this evidence suggests that the increasing support for protectionist and isolationist parties documented above needs not reflect necessarily a worsening in people’s attitudes towards trade. The same conclusion, based on a different set of countries, is also reached in a recent review paper on the globalization backlash by Walter (2021).

What seems to grow over time, in parallel with the protectionist shift in voting, is the variance in trade support across individuals. This is reported in the right panel of Figure 15. The upward trend is particularly visible until 2008, as trade support was declining, especially in the US. In general, there is a negative correlation between trade support and its standard deviation. That is, variation in support for trade tends to grow when average trade support decreases. This finding is consistent with the rise in polarization documented in Figure 10.

Figure 15: Trade Attitudes



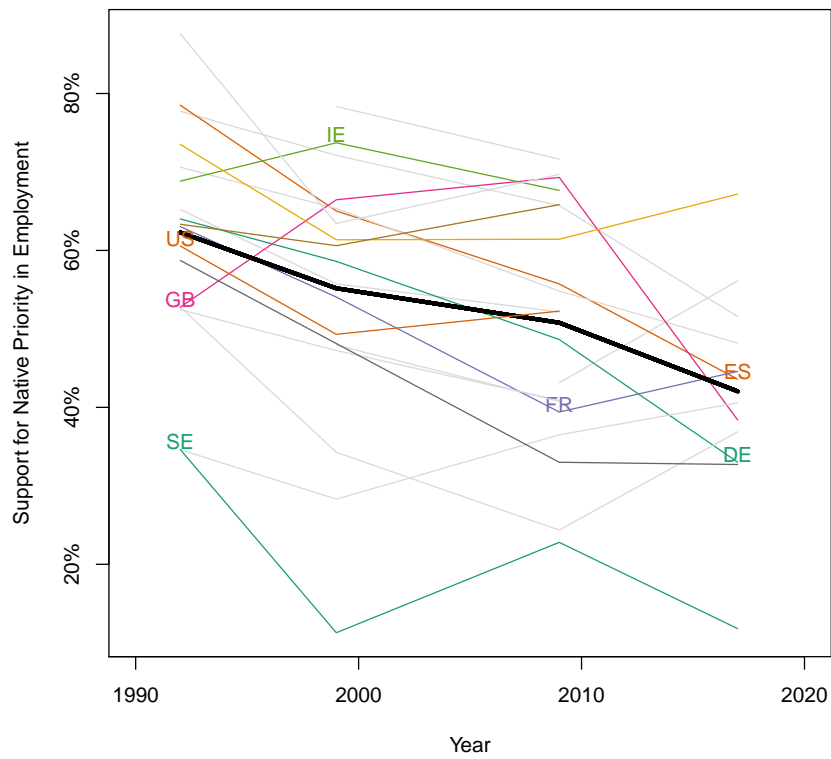
Source: Authors' elaboration based on data from Pew Research Center - Global Attitudes and Trends Survey.
 Note: The left panel reports in different colors the country-specific average of individual answers to the Pew trade question, ranging from 1 (very bad) to 4 (very good); the black thick line is the cross-country average. The right panel reports in different colors the country-specific standard deviation of individual answers to the Pew trade question; the black thick line is the cross-country average of standard deviations.

To provide some complementary evidence on attitudes, we use individual-level data from the European Values Study (EVS) and the World Value Survey (WVS). These cover a larger subset of our initial sample, over a longer time span.⁹ First, we focus on attitudes towards immigration. Specifically, we consider the following survey item, appearing both in EVS and WVS for different countries: “*Since jobs are scarce, priority should be given to (survey country) citizens.*” We construct a dummy equal to 1 if the respondent declares to “agree” with this statement, while “neither agree nor disagree” and “disagree” are coded as 0. Figure 16 then reports the share of respondents who agree with granting priority to natives in the labor market. The black thick line is the cross-country average, while the other lines refer to single countries, some of which are highlighted in different colors. In general, there is not an upward trend in nativism. If anything, the cross-country average is actually declining. Hence, with the same caveats as above, the anti-globalization shift in voting does not seem to be paralleled by worsening attitudes about immigration, at least not in terms of labor market openness.

Finally, we consider national pride, focusing on the following survey item: “*How*

⁹Covered countries are: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland, United Kingdom, United States.

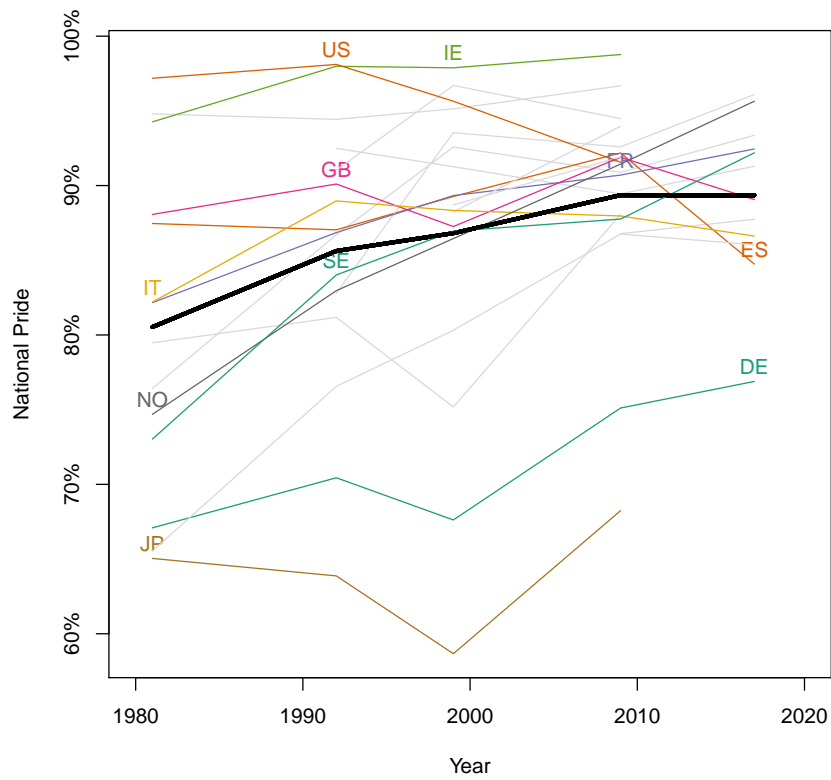
Figure 16: Immigration Attitudes



Source: Authors' elaboration based on data from the European Values Study (EVS) and the World Value Survey (WVS).

Note: The figure reports in different colors the country-specific share of respondents who agree with the statement that, since jobs are scarce, natives should be given priority in the labor market. The black thick line is the cross-country average.

Figure 17: National Pride



Source: Authors' elaboration based on data from the European Values Study (EVS) and the World Value Survey (WVS).

Note: The figure reports in different colors the country-specific share of respondents who declare to be quite proud or very proud to be citizens of their country. The black thick line is the cross-country average.

proud are you to be a (survey country) citizen?” We construct a dummy equal to 1 if the respondent declares to be “quite proud” or “very proud”, while “not very proud” and “not at all proud” are coded as 0. Figure 17 then reports the share of respondents who are either quite proud or very proud of their national citizenship. As before, the black thick line is the cross-country average, while the other lines refer to single countries. National pride seems to have increased in most countries since the 1980s.

Overall, this evidence suggests that, if anything, the increasing support for protectionist and isolationist parties is related to a general rise in nationalist sentiments, rather than to a worsening of specific attitudes towards trade and immigrants. We elaborate further on these issues in the next section.

4 Drivers of the globalization backlash

What are the drivers of the globalization backlash? A large literature has developed in recent years around this broad research question, investigating both economic factors and more “cultural” determinants. In this section, we provide a systematic account of this literature, along with some novel empirical evidence.

4.1 The economic effects of globalization and its backlash

First and foremost, we assess to what extent the backlash is endogenous to globalization itself. The theoretical analysis of Section 2 has shown how the backlash may arise within the workhorse models of trade when taking into account the social footprint of globalization. Here we review the empirical evidence on the effects of trade on political outcomes. Consistent with the theoretical analysis, studies in this area of research have mostly focused on import competition, and particularly on the China shock, as introduced by Autor et al. (2013). The handbook chapter by Redding (2021) provides an extensive overview of the literature on the economic consequences of globalization identified through surging import competition from China. The main insight is that areas that have been more exposed to this trade shock, owing to their ex-ante industry specialization, have been witnessing worse economic outcomes along several dimensions. These encompass higher unemployment, lower labor force participation, increased use of disability and other transfer benefits, as well as reduced wages. Negative implications are particularly severe for workers who are directly exposed due to their initial industry

of employment, as they experience higher job churning and even permanent losses in lifetime income. In general, as emphasized by Autor et al. (2016), Broz et al. (2021), and Colantone and Stanig (2018b), regional effects too tend to be long lasting, inducing trajectories of economic decline spanning at least one decade after the shock commences. The question is then whether such phenomenon –which started in the early 1990s and progressed until the financial crisis– has played a role for the anti-globalization backlash.

4.1.1 Evidence from the US

We start by reviewing the study by Autor et al. (2020) on the United States. This investigates the impact of differential exposure to the China shock across geographic units over a number of outcomes. These include both different forms of political expression and actual electoral outcomes from congressional and presidential elections, over the period 2000-2016. Like other contributions in this literature, this empirical study rests on the idea that, while the welfare-enhancing effects of trade are widespread, the trade-induced adjustment costs are well-delineated and concentrated, both demographically and geographically. This makes them particularly visible and recognizable, and thus potentially salient and consequential for politics.

Exposure to the China shock is measured at the level of Commuting Zones (CZs), through the following formula:

$$\Delta IP_{j\tau}^{cu} = \sum_k \frac{L_{jkt}}{L_{jt}} \Delta IP_{k\tau}^{cu}, \quad (32)$$

where j indexes commuting zones, k industries, and τ is the period of time over which the shock is assessed. $\Delta IP_{k\tau}^{cu}$ is the country-level figure of Chinese import growth for industry k over period τ , divided by initial absorption (i.e., US shipments plus net imports) in the base year 1991. In the baseline analysis, the reference period τ is 2000-2010. The shock at the commuting-zone level is backed out as a weighted summation of the country-industry changes in imports, with weights given by the share of each industry in the total employment of each commuting zone: L_{jkt}/L_{jt} . Shares are measured prior to the outcome period, in the year 2000. Intuitively, commuting zones that host relatively more manufacturing employment ex-ante are more exposed to the shock. Yet, this is not the only source of variation. For given employment share in manufacturing, stronger shocks are attributed to areas originally more specialized in industries where

imports from China have grown more in subsequent years.

Endogeneity issues may stem, for instance, from the correlation of US imports from China with industry-specific import-demand shocks, which may confound the identification of the causal effect of the supply shock component of rising Chinese imports. To deal with this issue, the authors employ the following instrumental variable:

$$\Delta IP_{j\tau}^{co} = \sum_k \frac{L_{jkt-10}}{L_{jt-10}} \Delta IP_{k\tau}^{co}. \quad (33)$$

$\Delta IP_{k\tau}^{co}$ is the growth in Chinese imports in eight other developed countries.¹⁰ This is meant to capture the growth in US imports from China that is due to plausibly exogenous changes in supply conditions in China, rather than to potentially endogenous domestic factors in the US. The intuition is that supply-side improvements in China would lead to rising exports not only towards the US but also towards other developed countries. In addition, the employment shares (L_{jkt-10}/L_{jt-10}) are lagged by ten years, to deal with the fact that the figures in 2000 may have already been contaminated by the China shock starting in the beginning of the 1990s. We refer to the handbook chapter by Redding (2021) for a comprehensive discussion of the potential issues concerning this IV strategy, and for a broader critical review of the methodological approach to the China shock. Here, we proceed by reviewing the econometric analysis on political outcomes.

The main estimating equation for the analysis of congressional and presidential elections is as follows:

$$\Delta Y_{cdj\tau} = \gamma + \beta_1 \Delta IP_{j\tau}^{cu} + X'_{cdj\tau} \beta_2 + e_{cdj\tau}. \quad (34)$$

$\Delta Y_{cdj\tau}$ is the change in the outcome of interest (e.g., vote share for the Republican party) in the county-by-congressional-district cell cd , located in commuting zone τ . This is regressed over the import shock over period τ computed at the CZ level: $\Delta IP_{j\tau}^{cu}$. It is important to notice that congressional districts do not correspond to CZs, which are aggregations of counties. In fact, congressional districts may span multiple counties and CZs. The authors thus employ as units of analysis county-by-congressional-district cells. Each cell is attributed the trade shock corresponding to its unique CZ and the voting outcome corresponding to its unique district, and gets a regression weight equal to its share of the voting-age population in the district.¹¹ $X_{cdj\tau}$ is a vector of regional controls

¹⁰These are: Australia, Denmark, Finland, Germany, Japan, New Zealand, Spain, and Switzerland.

¹¹In addition, the authors have to deal with the issue of redistricting, that is, changes in district boundaries over time, especially after 2010. We refer to Autor et al. (2020) for a detailed explanation of how this

that includes both CZ- and county-specific variables.¹²

Larger increases in trade exposure are found to induce: (1) an increase in the intensity of electoral campaigns, as proxied by higher donors' contributions and higher voter turnout; and (2) a modest decrease in the Republican two-party vote share.¹³ The latter result is consistent with earlier findings by Che et al. (2016), pointing to electoral gains for the Democratic party in counties more exposed to Chinese imports. Yet, this overall finding masks important heterogeneity. Autor et al. (2020) shows that the trade shock induced a consequential increase in support for the Republican party in the sub-set of competitive districts that were not firmly controlled by one party. Overall, this led to a higher probability of electing Republican legislators –often with narrow margins– starting from the 2010 mid-term elections, which brought many Tea Party Republicans into Congress.

This rightward shift was entirely driven by majority-White non-Hispanic congressional districts, and entailed the election of more conservative, rather than moderate, Republican representatives, mostly at the expenses of moderate Democrats. This is inferred by analyzing the ideology scores of donors for each candidate in the electoral campaigns using campaign finance scores (Bonica, 2013). In parallel, in locations with a majority non-White and Hispanic electorate, there was a tilt away from Democratic moderate candidates in favor of more left-leaning candidates. Overall, the shift to the right in Congress composition was thus also accompanied by rising polarization of representatives.

The analysis of presidential elections is conducted by Autor et al. (2020) at the county level, with the trade shock computed over the period 2000-2008. Other than that, the specification is the same as for the congressional elections. The dependent variable is the change in the Republican two-party vote share between 2000 and the years of the subsequent elections. Counties that had been more exposed to rising import competition from China are found to support systematically more the Republican party both in 2008 and in 2016, compared to their Republican vote share in 2000. Interestingly, such a shift in voting is also accompanied by an increase in the market share of the right-leaning

issue is addressed through crosswalks and variables' adjustments.

¹²CZ-specific controls are: Census-division dummies, share of manufacturing employment, the off-shorability index and the routine-task-intensity index (Autor and Dorn 2013) evaluated over employment figures in the year 2000, plus the two-party vote share of the Republican nominee in the 1996 and 2000 presidential elections. County-specific controls are: population shares for nine age and four racial groups, plus shares of the population that are female, college-educated, foreign-born, and Hispanic.

¹³The Republican two-party vote share is the ratio of Republican votes over the sum of Democratic and Republican votes.

Fox News channel.

In an Online Appendix (Autor et al. 2017), the authors provide more detailed evidence on the election of Trump in 2016. In this case, the trade shock is computed between 2002 and 2014. The magnitude of the effect of import competition is not trivial. In particular, in a counterfactual exercise on closely contested states, they conclude that the Democratic candidate would have won the states of Michigan and Wisconsin in case of a 25% smaller trade shock, and additionally the state of Pennsylvania had the trade shock been 50% smaller than observed. In the latter scenario, the Democratic candidate Clinton would have won the presidency.

Connecting the rightward shift in voting documented by Autor et al. (2020) to the globalization backlash, it is important to notice that shifting to the right in the US context entails shifting in a protectionist and isolationist direction. In fact, the Republican manifestos in presidential elections always display higher net autarky scores (as defined in Equation (30)) compared to Democrats in the 2000s. This was particularly evident in the 2016 campaign, with the race between the vehemently protectionist Donald Trump and the more globalist Hillary Clinton. Trump actually campaigned on a nationalist and isolationist platform very similar, under many respects, to those of the European radical right (Lührmann et al. 2020).

By and large, the main message emerging from Autor et al. (2020) is that the political backlash against globalization in the US can be—at least to a partial, though clearly detectable extent—attributable to globalization itself, in the form of rising trade exposure. Additional evidence on the political consequentiality of trade shocks in the US has also been provided by Margalit (2011) and Jensen et al. (2017), in terms of anti-incumbent voting in presidential elections. A more recent stream of studies is investigating the political connotations and consequences of the trade escalation provoked by President Trump during his mandate. Margalit and Kim (2021) show that the Chinese government targeted its tariff retaliation systematically on US export goods whose production is more concentrated in counties supporting the Republican party, especially if located in closely contested congressional districts. This strategy seems to have been successful, as targeted areas were more likely to turn against Republican candidates. Similar evidence of politically-targeted retaliation, extended also to the EU, is provided by Fetzer and Schwarz (2021). Overall, Blanchard et al. (2019) estimates that the trade war can account for 5 out of the 40 House seats lost by Republicans in the 2018 elections.

4.1.2 Evidence from Europe

Colantone and Stanig (2018a) investigate the political effects of globalization in Europe, leveraging exposure to Chinese imports. Their analysis covers 76 legislative elections in 15 industrialized countries of western Europe, spanning the period 1988-2007.¹⁴ The authors employ data on election results at the district level, collected from official sources, as well as data on individual-level vote, obtained from the European Social Survey (ESS). Exposure to Chinese imports is computed at the NUTS-2 regional level. NUTS-2 regions have a population ranging between 800,000 and 3 million, and constitute administrative units that either correspond to electoral districts, or include more of them with no cross-regional overlaps.¹⁵

Regional exposure to the trade shock is computed in a similar way as in the paper by Autor et al. (2020). There is only one difference compared to Equation (32): the industry-specific import shocks ($\Delta IP_{k\tau}$) are normalized by the pre-sample total number of workers within each country-industry, rather than by initial absorption. This approach follows closely Autor et al. (2013). All employment figures are measured pre-sample at the beginning of China's surge: between the end of the 1980s and the beginning of the 1990s, depending on the country.

The baseline instrumental variable approach is akin to the one of Autor et al. (2020). Specifically, in order to identify the supply shock component of rising import competition, Colantone and Stanig (2018a) instrument the growth in imports from China in each European country using Chinese imports' growth in the US. However, in a number of robustness checks, the authors also deal with the potential threats to identification entailed by this approach, as due especially to potential demand and technology shocks correlated across countries. In particular, results are robust to excluding several industries for which such shocks may have played a stronger role (e.g., computers, textiles, construction materials). They are also robust to replacing Chinese imports in the US with Chinese imports in a group of high-income countries whose business cycle is less correlated with that of European countries.¹⁶ Finally, Colantone and Stanig (2018a) also propose a novel instrument, based on regional effective exchange rates. This relies on the computation of exchange rate variations at the country-industry level, which are

¹⁴Sample countries are: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

¹⁵The analysis covers 198 regions in total. 16 of them are located in Germany and correspond to NUTS-1 administrative units, which are more aggregated. This is due to data limitations.

¹⁶The groups includes Australia, Canada, Japan, and New Zealand.

then regionalized through the pre-sample employment share of each industry in each region. If anything, using this instrument leads to even stronger results.

In the district-level analysis, the baseline estimating equation is as follows:

$$\text{Electoral Outcome}_{cdt} = \alpha_{ct} + \beta_1 \text{Import Shock}_{cr(d)t} + \varepsilon_{cdt}, \quad (35)$$

where c indexes countries, d districts, t election years, and ε_{cdt} is an error term. The growth in imports from China is computed for each region r over two years prior to each election. The function $r()$ maps each district d to its NUTS-2 region r . Electoral Outcome $_{cdt}$ is one of the different summaries employed by the authors to characterize the election results of each district. These are described below. Finally, α_{ct} denotes country-year fixed effects, which are equivalent to election fixed effects. Their inclusion allows to control for any factors that affect symmetrically all the districts of a country at the time of a given election. These include, for instance, the overall economic performance of the country, the national political climate, as well as time-varying institutional factors such as election laws. The effects of the import shock are thus identified only out of variations across regions within the same country and year.

One of the dependent variables considered by Colantone and Stanig (2018a) is the district-level center of gravity (i.e., electorate location) in terms of net autarky. This is computed based on the same party scores defined in Equation (30) of the previous section, measured at the national level through Manifesto Project data (MP, Volkens et al. 2020). The district-level center of gravity is then obtained as in Equation (31), using as weights the vote shares of each party in each district.¹⁷ Higher exposure to Chinese imports is found to tilt the electorate location of districts in a protectionist and isolationist direction. This finding points to a direct and explicit link between import competition and the globalization backlash.

In addition to that, the authors provide a more comprehensive characterization of the political implications of the China shock along different dimensions. A main point made in the paper is that the trade shock tilts voters not only in a protectionist and isolationist direction, but also in a nationalist, conservative, and radical-right direction. In other words, the trade-induced globalization backlash has a strong right-wing connotation. To make this point, Colantone and Stanig (2018a) consider a host of additional dependent variables.

¹⁷All the results in the paper are robust to using the district-level median voter scores, computed as explained in Footnote 7.

A first set of regressions employs alternative summaries of the ideological leaning of districts, as inferred from election outcomes. These include the center of gravity in terms of the following scores: (1) nationalism; (2) nationalist autarchy; (3) economic conservatism; and (4) economic nationalism. All scores are based on MP data, and computed through the same district-level formula as for net autarky. What changes across scores is the type of manifesto statements that are considered. Specifically, the nationalism score is based on claims in favor or against the national way of life, traditional morality, law and order, and multiculturalism. Higher values denote more nationalist positions. Nationalist autarchy combines all items used for net autarky and nationalism scores, while also including claims about human rights, democracy, and constitutionalism (Burgoon 2009). Economic conservatism is the index of left-right economic ideology concerning domestic issues considered on the horizontal axis of Figure 11. Finally, economic nationalism combines all items used to calculate the net autarky and the economic conservatism scores. Larger values then reflect both stronger support for protectionism and isolationism, and stronger support for conservative economic stances on domestic issues. Higher exposure to the trade shock is found to have positive, significant, and quantitatively meaningful effects on all these variables. Interestingly, the nationalist trait of the trade-induced political shift is consistent with the contemporaneous surge of nationalist attitudes at the individual level documented in the previous section. Importantly, the district-level findings are also confirmed by the individual-level analysis, where individual vote choices are regressed on the China shock in the region of residence.

In a second set of regressions, the authors employ as dependent variables the combined vote shares for different families of parties. First, they consider the overall vote share obtained by radical-right parties in each district. These are identified based on the conventional wisdom in the political science literature, as discussed in the previous section (full list in Footnote 8). An increase in trade exposure by one standard deviation leads, *ceteris paribus*, to higher support for radical-right parties by around 1.7 percentage points. This is quite sizeable, considering that the average radical-right vote share in the sample is 5%, with a standard deviation of 7%.

Then, the analysis employs four party groups identified based on economic conservatism and net autarky scores. These are the same groups considered in Figure 12, based on the quadrants of Figure 11: economic nationalists (upper-right quadrant), isolationist left (upper-left quadrant), pro-trade left (bottom-left quadrant), and pro-trade right (bottom-right quadrant). Table 1 reports the results on these party groups from Colan-

tone and Stanig (2018a). The import shock has a positive and significant effect on support for the economic nationalists, that is, the protectionist right group to which most radical-right parties belong. There is also a negative and significant effect on support for the pro-trade left, while no significant effects are detected neither for the isolationist left nor for the pro-trade right. These results suggest that, in response to the import shock, the electorate tends to abandon mainstream social-democratic parties and favor parties that propose economic nationalist platforms.

Table 1: Party Groups

	(1)	(2)	(3)	(4)
Dep. Var.:	Economic Nationalists	Isolationist Left	Pro-trade Left	Pro-trade Right
Import Shock	0.278*** [0.094]	-0.052 [0.047]	-0.134** [0.054]	-0.017 [0.075]
Estimator	2SLS	2SLS	2SLS	2SLS
Country-Year Effects	yes	yes	yes	yes
Obs.	7,782	7,782	7,782	7,782
R2	0.77	0.72	0.88	0.90
First-stage results				
US imports from China	0.039*** [0.009]	0.039*** [0.009]	0.039*** [0.009]	0.039*** [0.009]
Kleibergen-Paap F-Statistic	19.17	19.17	19.17	19.17

Standard errors clustered by region-year. *** $p < 0.01$, ** $p < 0.05$

Overall, the findings by Colantone and Stanig (2018a) show that the globalization backlash induced by trade has a clear right-wing connotation. Evidence in the same direction has also been provided by several studies that have considered single European countries. In particular, notable examples of papers showing a link between trade exposure and support for radical-right parties are: Malgouyres (2017) on France, Dippel et al. (2021) on Germany, and Caselli et al. (2019, 2021) on Italy. This evidence on Europe is also akin to that provided by Autor et al. (2020) for the US.

Yet, in Figure 12 of the previous section we have shown that, in general, the increase in support for anti-globalization parties has been driven not only by right-wing parties but also by left-wing parties, especially in Europe, and especially from the financial crisis onwards. It could then be that Colantone and Stanig (2018a) and other European studies do not detect a positive effect of import competition on the isolationist left just because their analysis does not cover more recent years.

To address this concern, we replicate the cross-country analysis by Colantone and Stanig (2018a) on the time-span 2008-2019. The specification remains the same, but the China shock is now computed for each region over the pre-crisis period 1988-2007, as the average growth in Chinese imports over 5-year intervals. This approach is similar to that adopted by Autor et al. (2020), under the idea that the plausibly exogenous, supply-driven China shock unfolds between the end of the 1980s and the trade collapse of 2008-2009. Our novel results are reported in Table 2, and they are qualitatively consistent with the evidence discussed above for the earlier period. Overall, taking stock of the evidence, we can confidently conclude that trade exposure is a significant determinant of the right-wing globalization backlash, but it does not play a significant role for the success of protectionist and isolationist parties of the left.

Table 2: Party groups 2008-2019

	(1)	(2)	(3)	(4)
Dep. Var.:	Economic Nationalists	Isolationist Left	Pro-trade Left	Pro-trade Right
Import Shock pre-2008	0.090*** [0.023]	-0.031 [0.027]	-0.046** [0.019]	0.007 [0.024]
Estimator	2SLS	2SLS	2SLS	2SLS
Country-Year Effects	yes	yes	yes	yes
Obs.	5,849	5,849	5,849	5,849
R2	0.68	0.66	0.65	0.88
First-stage results				
US imports from China	0.029*** [0.003]	0.029*** [0.003]	0.029*** [0.003]	0.029*** [0.003]
Kleibergen-Paap F-Statistic	76.12	76.12	76.12	76.12

Standard errors clustered by region-year. *** p<0.01, ** p<0.05

4.1.3 Why not the left?

The finding that trade exposure does not increase support for left parties may seem puzzling. As discussed in Section 2, the theoretical intuition behind the trade-induced globalization backlash is that trade liberalization generates a social footprint, with concentrated adjustment costs in specific social segments and regions. The backlash would then result from insufficient compensation and redistribution of welfare. In light of this, one could expect trade exposure to increase support for relatively pro-redistribution

parties of the left. In particular, isolationist left parties could gain support through political platforms combining protectionism with promises of an empowered welfare state. This combination could be bundled with an anti-capitalist master narrative, centered on the interests of workers rather than on nationalism. Yet, there is no evidence of such a pattern in the data.

A number of factors may contribute to explaining this finding. First, empowering the welfare state would require higher taxes, thus discouraging support from the (declining) middle class, which accounts for a significant portion of the electorate in western democracies. Lower taxes have been identified as a main element of the winning formula of radical-right parties, allowing them to gain electoral support from the middle class as well as from the working class. The latter would instead be more attracted by the second key element of the winning formula –i.e., protectionism– while a nationalist narrative provides a unifying rhetoric bundling together such different constituencies (Kitschelt and McGann 1997).

Second, and more generally, in the decades after WWII, the prevailing paradigm in western democracies has been that of “embedded liberalism” (Ruggie 1982). This entailed a combination of trade liberalization and multilateralism, with policies aimed at fostering domestic growth and social cohesion through the creation of a strong middle class. The idea underlying this implicit social contract was that liberal policies would bring welfare gains shared by a large fraction of society. In western Europe, for instance, this was realized especially through economic integration within the European Union, accompanied by the creation of strong national welfare systems, which would provide a buffer against uncertainty stemming from international shocks (Cameron 1978; Rodrik 1998). The credibility of such a paradigm has been declining from the 1990s onwards (Hays 2009). Stronger trade shocks, such as the one induced by China’s rise, would have required even more redistribution and a stronger role of public policies. Yet, policy responses were not adequate, partly due to the process of globalization itself (Rodrik 1997). Indeed, this has led to missing tax revenues for governments due to profit shifting (Tørsløv et al. 2018), and to a general increase in the tax burden on relatively immobile middle income earners, while more mobile companies and top earners saw declines in tax rates (Egger et al. 2019).

Overall, the idea that globalization could work in the interest of all has been losing popularity, and promises of effective redistribution have lost credibility. As noted by Frieden (2019), the failure of compensation has been compounded by a failure of representation, as common people perceived that their problems were not really acknowl-

edged, let alone addressed by mainstream parties. As a matter of fact, anti-globalization parties of the radical-right benefited from an anti-incumbent advantage. Most of them never had government responsibilities before, so they could cast themselves as the true interpreters of the need for change, against the complicit mainstream forces on both sides of the political spectrum.

In addition to this, structural transformations of the economy, such as globalization and technological change, have been related to a declining role of labor unions. Unions have historically provided a connection between workers and parties of the left. Hence, their loss of relevance may also contribute to the lack of a detectable relation between trade exposure and support for left parties (Kitschelt 2012; Anelli et al. 2019).

Finally, as we discuss more extensively in the next section, there is evidence that exposure to economic distress –including as stemming from globalization– tilts people’s attitudes in an authoritarian and nativist direction. This naturally pushes voters closer to anti-globalization parties of the right, and away from left parties, which have historically championed the international solidarity of workers (Betz and Meret 2012). Recent theoretical research also shows that exposure to economic shocks that raise inequality may increase the salience of identitarian issues. This may dampen demand for redistribution and have direct effects on trade policy in a protectionist direction (Altomonte et al. 2019; Gennaioli and Tabellini 2019; Grossman and Helpman 2021; Shayo 2009).¹⁸

A question that remains unanswered, then, is what has driven the rising support for protectionist and isolationist parties of the left. As discussed earlier, these parties have been particularly successful in Europe, especially since the financial and sovereign debt crisis onwards. A number of contributions in the literature have identified fiscal austerity as a main driver for this political shift. The underlying idea is that voters have turned to challenger left parties that reject the mainstream consensus of austerity imposed by EU institutions, especially in the most crisis-plagued countries of southern Europe (Hernandez and Kriesi 2016; Hobolt and Tilley 2016; Hobolt and de Vries 2016; Hübscher et al. 2020).

Building on the received literature, which has a country-level focus, in Table 3 we provide some novel empirical evidence exploiting cross-regional variation in exposure to austerity. Specifically, we augment the regressions of Table 2 by including as an explanatory variable the pre-crisis share of regional employment in the public sector (measured in 2000).¹⁹ The idea is that austerity measures would have stronger negative implica-

¹⁸See Panunzi et al. (2020) for related work based on risk attitudes.

¹⁹Data are drawn from Eurostat, and refer to employment in public administration, defence, education,

tions in regions whose economy originally relied more heavily on public spending. We find that the public sector share is positively and significantly related to support for the isolationist-left camp over 2008-2019. At the same time, the evidence on the import shock remains in line with Table 2. While purely suggestive, these findings provide further support for the idea of an austerity-related globalization backlash on the left. Yet, it is important to notice that austerity has been found to breed support for right-wing nationalist parties too. Notable studies in this direction are: Algan et al. (2017), Broz et al. (2021), Dal Bo et al. (2018), Guiso et al. (2019), Fetzer (2019), and Frieden and Walter (2017).

Table 3: Exposure to austerity - Elections 2008-2019

	(1)	(2)	(3)	(4)
Dep. Var.:	Economic Nationalists	Isolationist Left	Pro-Trade Left	Pro-trade Right
China Shock pre-2007	0.062** [0.026]	0.000 [0.028]	-0.049** [0.022]	0.002 [0.023]
Public employment share 2000	-0.173 [0.153]	0.274** [0.133]	-0.081 [0.112]	-0.037 [0.088]
Estimator	2SLS	2SLS	2SLS	2SLS
Country Effects	yes	yes	yes	yes
Obs.	5,611	5,611	5,611	5,611
R2	0.69	0.66	0.65	0.89
First-stage results				
US imports from China	0.030*** [0.004]	0.030*** [0.004]	0.030*** [0.004]	0.030*** [0.004]
Kleibergen-Paap F-Statistic	67.24	67.24	67.24	67.24

Standard errors clustered by region-year. *** p<0.01, ** p<0.05

4.2 Interpretation, Brexit, and the role of immigration

How shall we interpret the reviewed evidence on the link between globalization and voting? An intuitive, though oversimplified, interpretation would entail the following two logical steps: (1) voters can correctly identify trade exposure as the cause of their (and their community's) economic malaise; and thus (2) they choose to support protectionist and isolationist parties. Such an instrumental view of voting might miss important aspects of the globalization backlash. Indeed, it is highly (possibly unrealistically) de-

health, and social security.

manding in terms of voters' awareness, and it does not account for the complexities of parties' policy platforms, nor for the richness of social and psychological dynamics underlying vote choices.

To provide a more comprehensive characterization of this political phenomenon, we start by building on a study by Colantone and Stanig (2018b), which investigates the role of the Chinese import shock in the Brexit referendum of 2016. Voters could choose whether they wanted the United Kingdom to "Remain" in the EU or "Leave" the EU. Following a similar methodology as in Colantone and Stanig (2018a), the study finds plausibly causal evidence of higher support for the Leave option in regions that were more exposed to Chinese imports. This result is summarized graphically in Figure 18. Importantly, trade exposure is measured between 1990 and 2007, thus stopping almost ten years before the referendum takes place. Over this period, the economic performance of regions that were more affected by the trade shock is disappointing. In particular, their GDP per capita declines compared to the median region in the UK, suggesting the existence of trade-induced adjustment costs that persist in the medium term.

Chinese import competition can then be seen as a structural driver of divergence across regions (and social groups) in the UK. As such, the authors argue, it may have a causal impact on voting to the extent that support for the Leave option reflects the discontent of communities experiencing economic decline compared to richer areas of the country. In particular, the import shock may lead to higher support for Brexit through three main, nonmutually-exclusive mechanisms. These relate to three possible interpretations of Leave vote: (1) as a vote against incumbent political elites and the business establishment; (2) as a vote against international integration and in favor of national sovereignty; and (3) as a vote against immigration. This conceptual framework can be generalized to describe more broadly the way in which trade exposure translates into political outcomes. Moreover, it clarifies how the idea of comorbidity could work in this context. Multiple economic factors, along with trade, may contribute to the economic distress of the same regions and social groups, thus pushing further towards the same political shift. In view of the more general interest, we describe the three interpretations of Leave vote in what follows.

First, a vote in support of Brexit may be read as an anti-incumbent vote. Voters dissatisfied with the economic trajectory of their community took the opportunity of the referendum to send a signal to the elites, which were overwhelmingly in favor of the Remain option. In this reading, anti-incumbency applies not only to the current government, but also to the political and business establishment more at large. Importantly,

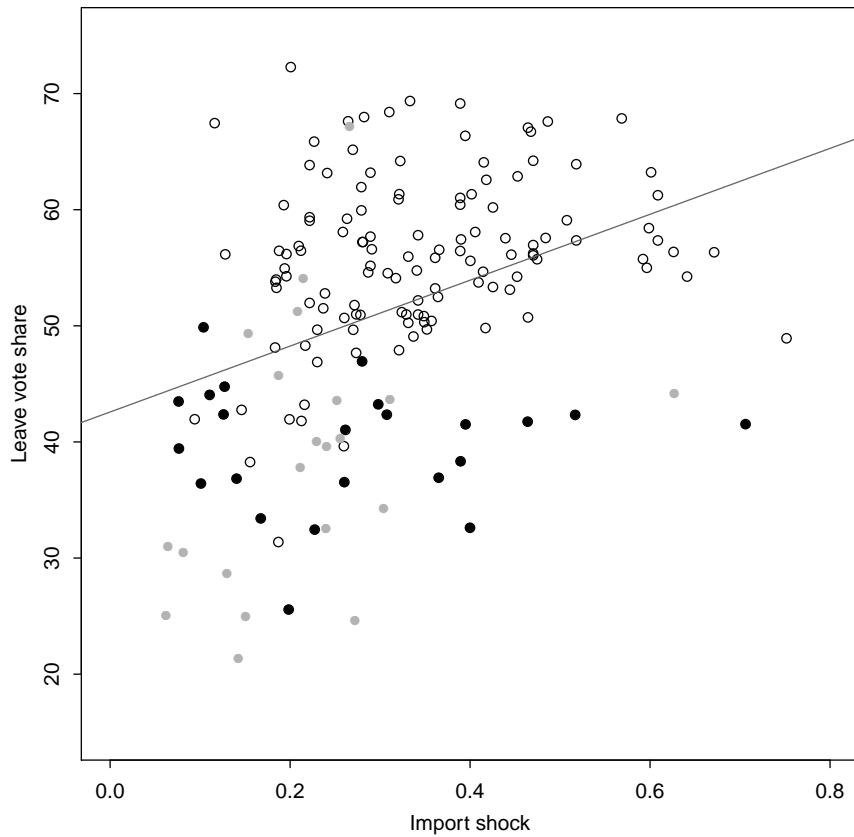
this mechanism does not require that people are able to identify the exact causes of their economic malaise. They may just punish the incumbents irrespectively of being able to evaluate their true responsibilities, and even irrespectively of whether Brexit might actually ameliorate their own economic fortunes. This is an example of what political scientists call “blind retrospection” (Achen and Bartels 2016). Voters were simply disappointed because of persistent economic decline, and used the referendum to voice their discontent. This reasoning may be easily generalized to legislative elections, where trade exposure is found to increase support for anti-establishment parties and candidates of the radical right.

Second, support for Brexit may be interpreted as a vote against international integration and in favor of national sovereignty. This reading hinges on voters being more sophisticated than blind retrospection punishers. It relies on the idea that people identify globalization –even if just in very general terms– as a cause for their economic distress. As a matter of fact, being part of the EU was perceived by many as an obstacle to British economic independence and prosperity. Hence the desire to “take-back-control” of the country, as per the expression popularized by Leave campaigners. At a more general level, appeals to national sovereignty, security, and self-sufficiency are typical of economic nationalist parties. This isolationist rhetoric may also serve as an effective complement for protectionist stances in party manifestos, as trade policy tends to be a rather technical topic, while nationalist appeals are easier to grasp for voters. Overall, although with more general nuances, this second mechanism is the closest to the intuitive interpretation of the link between trade and voting described at the beginning of this section.

The third mechanism connecting trade exposure and support for Brexit is related to the interpretation of Leave vote as a vote against immigration. As a matter of fact, the Brexit campaign focused significantly on immigration issues, and many Leave voters pointed to dissatisfaction with immigration as a main reason for their vote choice (Ipsos MORI 2016; Lord Ashcroft 2016). Yet, Figure 19 shows that there is not a positive correlation between the share of foreign-born residents in a region and Leave support. Colantone and Stanig (2018b) reconcile these two –apparently contradictory– pieces of evidence by noticing that what is actually politically consequential is people’s perception of immigration as a problem, rather than the sheer incidence of immigration in an area. In addition, they show that immigration attitudes are significantly worsened by exposure to the import shock, while they are not systematically related to the regional share of foreign-born residents (nor to their recent arrival rate). Hence, trade exposure may lead to higher support for Brexit by worsening immigration attitudes.

Figure 18: Trade exposure and Brexit

Import shock and Leave vote share at the NUTS3 level

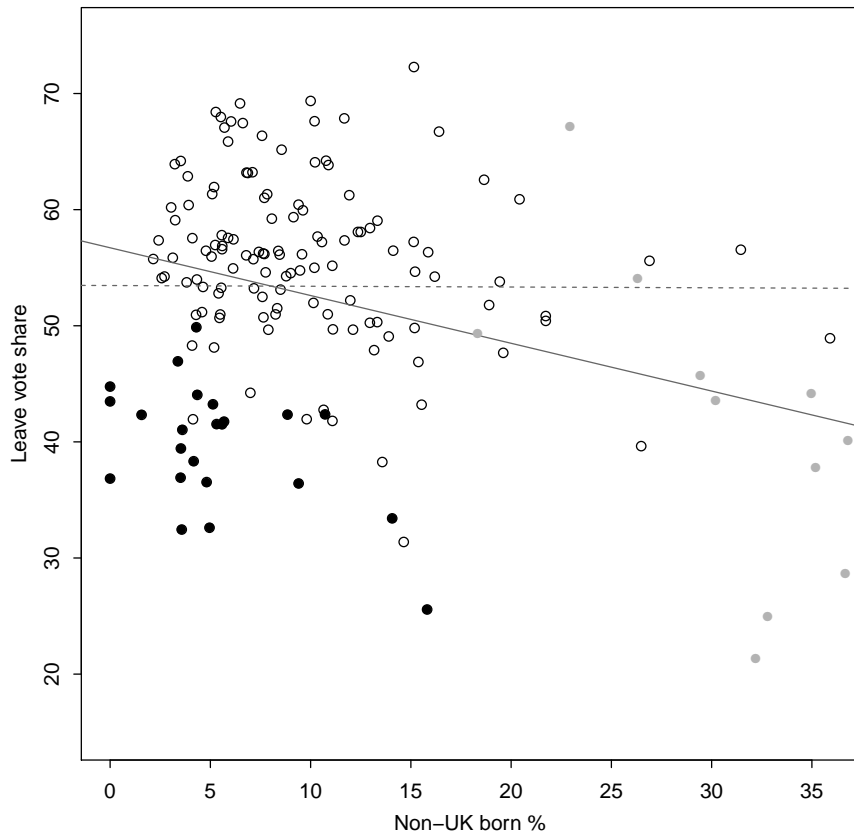


Source: Adapted from Colantone and Stanig (2018b).

Note: Black dots are NUTS3 regions of Scotland, grey dots are the NUTS3 of London, and the hollow dots are the remaining NUTS3 of England and Wales. The grey solid lines is the least-squares fit on the whole sample.

Figure 19: Immigration and Brexit

Non-UK born population and Leave vote share at the NUTS3 level



Source: Adapted from Colantone and Stanig (2018b).

Note: Black dots are NUTS3 regions of Scotland, grey dots are the NUTS3 of London, and the hollow dots are the remaining NUTS3 of England and Wales. The grey solid lines are least-squares fits on the whole sample, the dashed grey line is the least-squares fit excluding London.

This may happen through at least three nonmutually-exclusive channels. First, trade-induced economic distress may determine a scarcity of jobs, and people may thus fear rising competition on the job market due to immigrants. Second, declining regions may witness higher reliance on public welfare services, leading to fears of congestion driven by immigrants (see, e.g., Alesina et al. 2018). Third, immigrants themselves may be blamed for the disappointing performance of the regional economy. Identifying the real causes of slow growth is difficult for researchers, let alone for voters. Instead, a scapegoating message pointing to immigration is much easier to convey for radical-right forces such as the U.K. Independence Party, which was the main proponent of Brexit.

This discussion about immigration can be generalized to legislative elections, where trade exposure has been found to increase support for economic nationalist and radical-

right parties. Anti-immigration stances are an important component of their policy platforms, and have been identified as key determinants of their electoral success (Rydgren 2008). Changes in attitudes seem to be an important channel through which economic shocks translate into voting behavior. In particular, consistent with the right-wing connotation of the trade-induced globalization backlash, several other studies have shown how trade exposure tilts people's attitudes in a nativist and authoritarian direction. Notable contributions in this respect are: Ballard-Rosa et al. (2021a) and Cerrato et al. (2018) on the US; Ballard-Rosa et al. (2021b) and Carreras et al. (2019) on the UK; Colantone and Stanig (2018c) across 15 countries of western Europe. Importantly, trade exposure seems to drive rising concerns with immigration not only with respect to its economic impact, but also as a threat to the national culture. This is in line with the view of globalization as a "package" involving at the same time material consequences and cultural shifts (Margalit 2012).²⁰

A large literature has also investigated the direct effects of immigration on attitudes and voting (see Devillanova 2021 for a recent review). The main empirical challenge in these studies is the endogeneity of local immigration rates due to sorting. Following Altonji and Card (1991), some studies rely on shift-share instruments, by which the incidence of immigration in an area is instrumented based on the historical national composition of foreign-born residents, combined with subsequent growth in immigration from different origin countries (e.g., Barone et al. 2016; Tabellini 2020). Other papers exploit the availability and characteristics of living spaces as predictors of immigrants' settlement (e.g., Devillanova 2021; Harmon 2017; Steinmayr 2017). Hangartner et al. (2019) exploits distance from the coast of departure to instrument refugees' arrivals in Greek Aegean islands. Finally, Dustmann et al. (2019) leverages the quasi-random allocation of refugees across municipalities in Denmark. By and large, this literature finds evidence of positive effects of immigration (and refugees' arrivals) on support for right-wing, anti-immigration parties, which tend to be also protectionist. Exceptions are found (not always) for larger urban areas, suggesting the existence of a rural-urban divide in attitudes. Overall, immigration seems to be another factor contributing to the right-wing globalization backlash, either as a catalyst for the effects of trade, as discussed above, or independently.

²⁰The literature has debated whether immigration concerns are more economic or cultural in nature. Hainmueller and Hopkins (2014) provide a review of this debate. At the moment, cultural traits are more clearly discernible, while evidence on the economic concerns –as related to direct competition in the labor market– is weaker.

4.3 Culture vs. the economy

The literature on the globalization backlash largely overlaps with the more general literature investigating the recent populist wave.²¹ A prominent debate in this literature –which applies directly to the globalization backlash– concerns the drivers of the observed political shifts. Some contributions have emphasized economic factors such as globalization, austerity, and technological change, effectively summarized by the comprehensive concept of economic insecurity (e.g., Guiso et al. 2017). Other studies have put forward cultural drivers, such as nativism, racism, perception of status threat, and a general aversion to cosmopolitan values and social liberalism (e.g., Inglehart and Norris 2017; Mutz 2018).

Our view is that economic and cultural drivers should not be seen as mutually exclusive explanations for the globalization backlash. To the contrary, we should think of economic and cultural factors as complementary and interacting determinants of the backlash. For instance, in the previous section we have discussed how trade shocks may actually have an impact on individual cultural attitudes, as related to nativism and authoritarianism. As a result, the cultural shift is then at least partially endogenous to the trade shock.

This line of reasoning applies to economic shocks at a more general level, to the extent that their political effects tend to work through changes in attitudes. This broader point has been made by several contributions in the literature (e.g., Colantone and Stanig 2018c, 2019; Margalit 2019; Rodrik, 2021). We like to summarize it with a powerful quote by Franzese (2019, emphases in the original): “the question is ill-formed: it’s not status threat *or* economic hardship, it’s *and*, or even *because*.”

From a theoretical perspective, Rodrik (2021) introduces a conceptual framework describing different causal links between globalization and political outcomes. He emphasizes how globalization can have an impact both on the demand-side and on the supply-side of politics. On the demand-side, globalization can have a direct effect on individual preferences for certain policies (e.g., protectionism), and an indirect effect on attitudes through changes in the perception of identity, and in the salience of cultural values. On the supply-side, globalization can affect the ideology of parties, and push them to increase the salience of cultural and identity issues for strategic reasons.

Overall, as emphasized by Colantone and Stanig (2018c), political outcomes reflect-

²¹We refer the reader to Guriev and Papaioannou (2021) for a thorough overview of the populism literature, which is outside the scope of this contribution.

ing cultural shifts in attitudes cannot be interpreted at face value as consequences of purely cultural concerns. They may actually constitute, at least partly, the cultural manifestation of economic grievances. Clearly, this type of considerations do not imply that cultural factors may not play their own direct and independent role. As Margalit (2019) suggests, we may even think of an influence of cultural factors on economic factors, whereby grievances about economic changes are partly driven by their cultural and social implications. In this vein, Gidron and Hall (2017, 2020) provide a fascinating conceptualization of how cultural and economic factors interact in determining people's anxiety about their social status, which in turn is found to be a proximate cause of nativism and radical-right support.

Besides its conceptual relevance, this discussion has one important methodological implication. That is, empirical studies aimed at assessing the relative role of economic and cultural drivers for determining electoral outcomes should not include proxies for both drivers as explanatory variables in the same regression. This sort of "horse-race" approach would indeed be biased by the fact that individual attitudes are post-treatment with respect to economic shocks, and thus "bad controls", to use the terminology by Angrist and Pischke (2008). Several studies have nevertheless taken this type of approach, regressing voting outcomes over large sets of variables encompassing both cultural attitudes and measures of economic distress. Lack of significance of the economic indicators in these regressions is then taken as evidence that economic factors do not matter for voting.

An example of the complexity involved in adjudicating these questions is provided by the exchange between Morgan (2018) and Mutz (2018), regarding cultural and economic explanations for the victory of Donald Trump in the 2016 presidential race in the US. The main point is that even a partial dependence of cultural attitudes on economic factors may invalidate any strong conclusions taken from regressions that condition on both at the same time. Importantly, without strong additional assumptions, backing out the relative contributions of economic and cultural drivers of the globalization backlash, and inferring the causal structure of these processes, is not possible, especially from cross-sectional data. Panel data at the individual level, allowing to trace over long time periods exposure to economic shocks, changes in cultural attitudes, and voting behavior, might provide some inroads. Overall, disentangling the role of cultural vs. economic factors is definitely a promising area for future studies.

4.4 The role of technology

Two main messages have emerged thus far from our review of the literature: (1) trade exposure is a significant driver of the globalization backlash; yet (2) the backlash is only partly determined by trade. In particular, import competition is not a significant factor behind the success of left-wing protectionist parties, whose surge seems to be rather driven by exposure to austerity policies. In addition, even the right-wing globalization backlash seems to have multiple determinants besides trade exposure, including austerity, immigration, and cultural shifts. Borrowing from the medical literature, we may describe this multi-causal nature of the phenomenon through the concept of comorbidity, by which different factors compound to generate the backlash. Within this framework, a prominent role is also played by technological change: a fundamental dimension of structural change in the economy, that may generate politically consequential social cleavages.

Technological change is akin to globalization in several respects. Chiefly, it brings aggregate welfare gains while creating winners and losers, at least in relative terms. A large literature has documented the distributional consequences of technological shifts. In recent years, the main focus has been on the IT revolution starting from the 1980s, and on the subsequent wave of automation based on robots (Autor 2015; Frey and Osborne 2017). First, the IT revolution, with the widespread adoption of computer-based technologies, has led to increasing polarization in the job market, with a relative increase in employment at the two tails of the skill and wage distribution, and a shrinkage of middle-skill and middle-income jobs. In fact, the latter tend to be more routine-intensive, and therefore more substitutable by computers. Overall, this process has led to a surge in educational premia and wage inequality both in the US and in Europe, and has significantly harmed the middle class.

This tendency has been reinforced by the more recent wave of technological change, which relies on machine learning and mobile robotics for the automation of a wider range of tasks, increasingly of the non-routine type. The available evidence, based on robot adoption data, suggests that automation has had important distributional consequences, favoring mostly high-skilled individuals (Acemoglu and Restrepo 2020; Bonfiglioli et al. 2020; Chiacchio et al. 2018; Dauth et al. 2018; Graetz and Michaels 2018). As in the case of trade exposure, adjustment costs are concentrated in ex-ante more vulnerable regions, owing to their historical industry specialization. Importantly, there is no evidence of further polarization, as the number of low-skill jobs is also negatively

affected. This makes the position of losers potentially worse, as the reduction of job opportunities compounds the rising gap in wages.

Several papers have investigated the political implications of technological change, focusing mostly on exposure to robot adoption. From a methodological point of view, the main reference for cross-regional work is the paper by Acemoglu and Restrepo (2020). This develops a theoretical framework where robots can displace workers in supplying tasks to the local labor market, but also produce positive spillovers on local employment and wages through increased productivity. The overall local labor market effects of automation are thus determined by whether the displacement effect prevails on the positive spillover one. In reduced-form analysis, regional exposure to automation can be measured as a weighted summation of industry-level advances in robotics (i.e., changes in the number of operational robots per worker), where weights are given by the initial regional shares of employment in each industry. This approach is very similar to the one developed by Autor et al. (2013) to measure exposure to Chinese imports. In the same spirit –and with the same potential threats to identification– robot adoption in third countries can be used to instrument domestic robot adoption. The idea is that of capturing plausibly exogenous technological trends that are common across countries.

Based on this methodology, Frey et al. (2018) find that support for Donald Trump in the US presidential election of 2016 was stronger in local labor markets (CZs) that were more exposed to robot adoption between 2011 and 2015. In a counterfactual analysis, they show that Michigan, Pennsylvania, and Wisconsin would have swung in favor of the Democratic candidate Hillary Clinton if exposure to robots had not increased in the immediate years before the election. This would have switched the overall result of the election in favor of Democrats. Anelli et al. (2019) exploit the same methodology for studying the impact of automation on legislative elections in 14 countries of western Europe, between 1993 and 2016. They find that stronger exposure to robot adoption leads to higher support for nationalist and radical-right parties, at the expense of mainstream left and liberal right parties. Evidence pointing in the same direction has also been found in single-country studies: Caselli et al. (2021) on Italy, Dal Bó et al. (2018) on Sweden, and Schöll and Kurer (2020) on Germany.

Taking stock of the extant studies, the political effects of automation seem to be very similar to those of trade exposure, favoring protectionist and isolationist parties (and candidates) of the right. Overall, technological change thus emerges as another important driver of the globalization backlash. Yet, there are some notable differences between Chinese competition and robotization. Both shocks are stronger in areas characterized

by larger historical shares of manufacturing employment. However, for given manufacturing share, exposure to each shock depends on industry specialization within manufacturing. For instance, automation plays a big role in automotive, an industry that has been little exposed to Chinese import competition, while the opposite applies to textiles. While exposure to Chinese imports has been found to induce persistent economic decline at the regional level, automation is actually driven by successful industries and companies. This may imply shorter adjustment costs at the regional level, and the local creation of welfare that can be mobilized in principle to finance effective compensation policies for the losers.

This discussion highlights the importance of relying on individual-level analysis besides cross-regional analysis when studying the effects of automation. Especially in the medium run, the political implications of automation are likely to be more related to rising within-region inequalities than to cross-regional divergence. However, measuring the exposure of individuals to automation poses a serious empirical challenge. Some early contributions have used the automatability of the current occupation (e.g., Gallego et al. 2021; Im et al. 2019), finding for instance that individuals employed in occupations at higher risk of automation are more likely to vote for radical-right parties. However, this approach is problematic to the extent that the current occupation of an individual may be already contaminated by earlier automation dynamics. To illustrate, consider a blue-collar worker who loses her highly automatable job in automotive due to robots, in year $t - 1$, and finds a new job in a less automatable occupation (e.g., as a janitor) in year t . When observing this individual in year t , using the current occupation we would attribute her a low exposure to automation, while actually she is the canonical example of an automation loser. Even worse, if this individual remains unemployed in year t , she is left out of the analysis altogether, as there is no occupation to be assigned.

Anelli et al. (2019) propose a new methodology to deal with these issues. In their approach, the vulnerability of each individual to automation is obtained as the weighted average of the automatability score of each occupation, using as weights the probabilities of employment of each individual in each occupation. These probabilities are based on age, gender, education, and region of residence. Crucially, they are estimated using historical labor force data, thus reflecting the characteristics of the labor market prior to the automation shock. Higher vulnerability is then attributed to individuals whose characteristics would have made them more likely, in the pre-shock labor market, to be employed in highly automatable jobs, independently on their current occupation. Interestingly, the authors show evidence of significant variation in individual vulnerability at

all levels of regional exposure to automation. Moreover, the distributions of individual vulnerability are largely overlapping as they consider groups of regions at different levels of regional exposure.

To obtain the individual exposure to automation at the time of a given election, the vulnerability score is interacted with the pace of robot adoption in the specific country (or region) and election year. Anelli et al (2019) find that higher robot exposure at the individual level pushes voters to support more nationalist and radical-right parties. It also leads to poorer perceived economic conditions and well-being, lower satisfaction with the government and democracy, and a reduction in political self-efficacy. These findings are suggestive of potential transmission channels connecting the automation shock to voting.

Future contributions may try to disentangle the relative role of automation and trade as drivers of the globalization backlash. The variation in the incidence of the two phenomena across industries, combined with differences in regional specialization, may provide room for this type of analysis, in the spirit of Autor and Dorn (2015). Anelli et al. (2019) and Caselli et al. (2021) already discuss some evidence in that direction, whereby both trade and automation exposure at the regional level are found to be simultaneously significant in vote regressions, at least until the financial crisis. Yet, disentangling the role of trade and technology more precisely might require more sophisticated and theory-based analyses. In fact, trade and automation dynamics are closely intertwined, not only at the industry level but also at the firm level, where import and automation decisions are endogenously determined.

Automation and trade also show interesting interplays in people's perceptions and attitudes. In this respect, Di Tella and Rodrik (2020) provide some intriguing results based on a large online survey of US residents. Respondents are asked their opinion with respect to the desirability and modality of government intervention in a situation where a large number of jobs is at risk. Different groups receive different information concerning the cause of layoffs. There are four main options: (1) automation (technology shock); (2) a demand shift away from the firm products; (3) bad management; and (4) outsourcing to a foreign country (trade shock). Outsourcing can then be to an advanced country, to a developing country, or to a developing country with an emphasis on poor labor standards. Interestingly, respondents demand more protectionism not only when they are told that layoffs are due to outsourcing, but also when they are due to automation and demand shifts. These results suggest that protectionism is largely seen as an effective way of helping workers, not only when they are directly harmed by trade but also when

they are threatened by different types of shocks. This is further evidence in line with the idea of comorbidity behind the globalization backlash.

In general, while technological advances and demand shifts may be perceived as unavoidable, opening to trade is instead seen as a free policy choice in the hands of political leaders. Trade policy may then be used as a general form of protection. In line with this reading, Di Tella and Rodrik (2020) also find that the elicited protectionist response is significantly higher when respondents know that outsourcing is directed to a low-income country (Cambodia) rather than to a high-income country (France). This finding may be interpreted in terms of cultural distance from the US, which is higher in the case of Cambodia. A related reading could be in terms of level playing field. Indeed, trade may be perceived as particularly unfair when it involves competition with countries that are not competing by the same standards. Donald Trump's narrative with respect to unfair competition from Mexico and China is a prominent example of the political salience of this type of issues.

5 Looking ahead

The reviewed evidence suggests that the globalization backlash has economic roots that are related not only to globalization itself, but rather to a more general phenomenon of deepening cleavages within society, as driven by structural transformations in the economy. In this respect, the future of globalization hinges on how successful society will be at making not just globalization, but structural change in general, more politically sustainable, by making it more inclusive.

While we have not excluded the role of cultural factors, it would be dangerous to dismiss the economic roots of the backlash. This could lead to the conclusion that nothing went wrong in the management of structural economic changes over the past decades, while there is ample evidence pointing in the opposite direction. While one should be very open about the social footprint of structural change, highlighting the distributional consequences of globalization, for instance, should not be considered as an endorsement of nationalism. On the contrary, nurturing a fruitful debate on how to reconcile economic liberalism with social cohesion may be the best way to reaffirm the value of open economies, of open and inclusive societies, and of the international liberal order.

The literature around these issues has been developing fast in recent years, as also testified by this contribution. Importantly, this research work has informed a lively pol-

icy debate. Prominent international institutions such as the European Commission, the IMF, the OECD, and the World Bank have launched initiatives and published reflection papers on, e.g., harnessing globalization (European Commission 2017). Attention paid by media and journalists has also been high (e.g., Sandbu 2020). Being reasonably optimistic, we may expect all this to lead to higher awareness on the part of leaders, and more effective policies in the coming years. For example, Rodrik and Sabel (2019) emphasize the importance of policies for the creation of “good jobs” fostering the middle class, including not only interventions on the pre-production (e.g., schooling) and post-production (e.g., taxes and transfers) stages of the economy, as per the traditional welfare-state model, but also on the production stage, chiefly through effective anti-trust, innovation, and labor market policies (Ottaviano and Suverato 2021). At the international level, tackling offshore profit shifting and improving coordination in corporate taxation is key not only for financing ambitious policy interventions, but also for improving the acceptability of globalization for public opinion.

There are good reasons to expect positive developments also from the political system. In the US, Donald Trump failed to secure a second presidential mandate in 2020. In the UK, the implementation of Brexit has disappointed many former supporters of it. The populist government of Italy, formed in 2018 and led de facto by the radical right, collapsed after slightly more than one year. In general, as anti-establishment forces have gained power and influence, they started losing their anti-incumbent advantage and being held accountable for their own unmet goals and unfeasible proposals. For instance, once in power, the radical-right party Lega backtracked from its flagship proposal of taking Italy out of the Euro single currency area. In parallel, the supply-side of politics is also undergoing a more general transformation, with the emergence of new political forces (e.g., President Macron’s movement in France) and the restructuring of mainstream parties. This could help solve the failure of representation pointed out by Frieden (2019), through the offer of policy platforms in favor of inclusive globalization and technological change, so that the representation of losers is not left exclusively to anti-globalization and radical-right parties.

Yet, despite changes in political representation, the fundamental economic cleavage between sectors of society that are thriving in the globalized and tech-intensive economy, and those who have been losing ground, seems difficult to revert, and will likely shape political competition for long. In this respect, a study by Colantone and Ottaviano (2021) suggests that, besides having short- and medium-run consequences, exposure to trade and automation may also have longer-run implications by reducing social mo-

bility. Importantly, in addition to perpetuating initial income differences, the induced reduction in social mobility may reinforce the political consequences of trade and technology shocks, as rising inequality becomes less socially acceptable when matched by declining social mobility, thus fostering political backlash (Major and Machin 2018).

Specifically, Colantone and Ottaviano (2021) build on an earlier study by Chetty et al. (2014), which has documented large differences in the extent of social mobility across commuting zones of the US. Chetty et al. (2014) exploits extensive data covering more than 40 million US residents born in 1980-1982. Their income is evaluated in the years 2011-2012, and related to the income of their parents back in 1996-2000. As a baseline result, the authors show evidence supporting the idea of the “Great Gatsby Curve” (Krueger 2012). That is, areas characterized by higher levels of inequality in parents’ income display lower social mobility of children. This entails, for instance, higher correlation between children and parents’ income ranking. Colantone and Ottaviano (2021) augment this analysis by including CZ-level measures of exposure to Chinese imports (as in Autor et al. 2013), Mexican imports and robot adoption (as in Acemoglu and Restrepo 2020). They are all found to reduce social mobility, both in absolute and in relative terms, conditioning for the initial level of inequality.

These findings are consistent with the literature on import competition, which has found evidence of negative effects of trade exposure not only in terms of employment and earnings, but also in terms of broader outcomes such as local provision of public goods, crime, marriage, fertility, physical and mental health (see Autor et al. 2016, Colantone et al. 2019, and Redding 2021 for a review). In fact, as highlighted by Chetty et al. (2014), social mobility is a comprehensive outcome, which depends on economic determinants as well as on family characteristics and social conditions within communities. The reduction of social mobility induced by trade and automation may then reflect in a comprehensive way the far-reaching effects of structural economic change.

As we think about future developments, another source of worry comes from the COVID-19 pandemic. In fact, the pandemic-induced economic crisis seems to have a regressive character, thus raising inequalities and potentially decreasing social mobility, especially due to school closures (Antràs 2020; Burgess and Sievertsen 2020; Chetty et al. 2020). Overall, the pandemic might then deepen existing cleavages and give rise to new long-term grievances. In turn, this might breed political discontent and raise support for anti-globalization parties.²² As Antràs (2020, 43) notes, “if income inequality brews

²²Whether this process will disproportionately benefit isolationist parties on the left or the right, depends on many factors. In particular, as we discussed above, the globalization backlash owes its nation-

isolationism, slowbalisation may well turn quickly into de-globalisation.”

In addition to these general economic considerations, there are some specific mechanisms that might lead one to worry that the pandemic will exacerbate the globalization backlash. The first concerns anti-incumbency effects. In the short run, these effects are ambiguous: they may push political power either towards pro-globalization mainstream forces or towards the isolationist forces propped up by the globalization backlash in recent years. Which effect prevails depends on the combination of two factors: (1) whether the incumbent government at the time of the pandemic is of the anti-globalization camp; and (2) how effectively the government manages the emergency (Wondreys and Mudde 2020).

In this respect, there is some evidence that populist incumbents took fewer measures against COVID-19, especially in the early phases of the pandemic (Kavakli 2020). In particular, two prominent presidents with populist and radical-right leanings, Trump and Bolsonaro, managed the emergency in a seemingly incompetent manner, also downplaying the seriousness of the epidemic. Yet, as Wondreys and Mudde (2020) observe, there are also cabinets with radical-right participation that did not follow this pattern, especially in Central Europe and especially in the first phase of the pandemic. Overall, it seems unwarranted to attribute to nationalist and radical-right forces as a whole an approach that downplays and mismanages the pandemic. Relatedly, it seems far-fetched to claim, as some have been tempted to do, that populism or the radical right are “the next victims” of the pandemic (Mudde 2020). Anti-globalization forces may indeed benefit from perceived failures of mainstream governments in managing the pandemic. Insisting on such failures might actually become a very lucrative strategy for challenger parties in the near future.

At a second level, the pandemic is at the same time globalization-driven and a sudden (albeit likely short-lived) de-globalization. As Bieber (2020) noted, the pandemic provides, to an extent, a vindication of many of the fears that nationalist and radical-right political actors successfully exploited, as well as of some of their distinctive policy proposals. For instance, calls for closed borders to the movement of people –a central feature of nativist platforms– seem less unreasonable in light of the tightened cross-border movements across advanced democracies due to COVID-19. At the same time, the reliance on global markets for the supply of personal protective equipment in the early phases of the pandemic, and of vaccines later on, and, at a more general level, the

alist and radical-right aspect not just to increases in inequality per se, but chiefly to the declining path of formerly relatively comfortable middle classes, that see their status deteriorate over time.

disruption of global value chains, have given oxygen to calls for national self-sufficiency as the main road to national security and sovereignty, a central element of autarkic platforms. All this may foster the globalization backlash.

Finally, social psychology has well documented, in general, that threats to physical safety and to social order activate stronger in-group orientation and authoritarianism. Specifically, using British and Irish data, Hartman et al. (2021) document how the COVID-19 pandemic increases nationalism and nativism, by creating the perception of an existential threat and activating underlying authoritarian personality traits. This may in turn tilt people towards nationalist and radical-right parties.

In sum, there are reasons to fear that the pandemic crisis might compound the other processes we have isolated as drivers of the globalization backlash, especially with respect to the success of economic nationalist and radical-right platforms. Evidence on past experiences provides reasons for concern. For instance, Blicke (2020) documents how areas of Germany hit harder by the Spanish Flu epidemic of 1918-20 also witnessed stronger support for the Nazi party in the early 1930s. A robust public policy reaction to the pandemic is all the more warranted.

6 Conclusion

We have reviewed the literature on the globalization backlash, seen as the political shift of voters and parties in a protectionist and isolationist direction, with substantive implications on governments' leaning and enacted policies. We have documented the backlash using newly assembled data covering 23 advanced democracies, over 1980-2019. The protectionist and isolationist shift in politics is detectable from the mid-1990s onwards, with the only exceptions of Australia and New Zealand. Until the financial crisis, the backlash is mostly driven by rising support for anti-globalization parties on the right of the political spectrum. From the crisis onwards, there is also a surge in support for protectionist parties of the left, especially in Europe. The backlash in voting is not systematically accompanied by worsening individual attitudes on globalization. Yet, there is some evidence of a rise in polarization, and of a nationalist tilt in public opinion.

We have discussed the economics of the backlash. In particular, from a theoretical perspective we have shown how the backlash may arise within standard trade models when taking into account the 'social footprint' of globalization. With this term we refer to persistent welfare losses that arise from trade-induced factor reallocations when these are costly. Reallocations are needed in order for the gains from trade to materialize. However, they may also leave unsolved social problems due to labor and capital market frictions, moving, reskilling and retooling costs, lock-in effects in the presence of external economies, with the ensuing implications in terms of rising inequality, social immobility, status threat, identity and cultural issues. In the theoretical analysis, deglobalization may happen independently on whether the government is benevolent or politically biased, and it is more likely to happen the deeper the social footprint is. Yet, protectionism is only a second-best solution. The first-best option is to find ways to reduce the incidence of the unsolved social problems. This requires targeting the aforementioned market frictions and their implications in terms of inequality, social mobility, and cultural concerns.

We have reviewed the literature on the drivers of the globalization backlash. There are two main messages emerging from this literature. First, globalization is a significant driver of the backlash. In particular, trade exposure is found to raise support for anti-globalization parties on the right of the political spectrum. In this respect, we may say that the backlash is endogenous to globalization itself. However, the second message is that not all the globalization backlash can be attributed to globalization. In particular, the success of left-wing protectionist parties seems to be rather driven by exposure

to fiscal austerity. Moreover, technological changes seem to produce the same political implications as globalization. Specifically, exposure to robotization is found to breed support for anti-globalization forces of the right, just as trade exposure. Such economic determinants of the backlash are closely intertwined with cultural factors. In fact, a fundamental way in which economic shocks translate into voting behavior is by tilting individual attitudes, for instance in an authoritarian and nativist direction. Immigration is indeed found to operate as a catalyst for economic concerns, as well as a driver of nativist and protectionist reactions on its own.

To summarize, several different factors, both economic and cultural, compound in generating the backlash, in a way that resonates with the concept of comorbidity in clinical studies. Globalization thus seems to be at stake also for reasons that are not directly related to trade. The future of the open and liberal global order depends on how successful society will be at making not only globalization but also structural change in general more inclusive, and therefore more politically sustainable.

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