

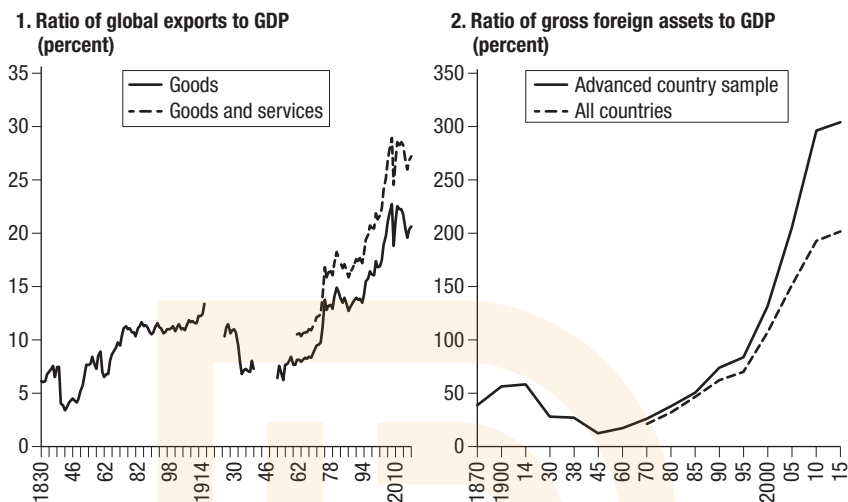
Introduction

LUÍS A. V. CATÃO AND MAURICE OBSTFELD

“Globalization”—defined as worldwide interdependence through trade in goods, services, and assets as well as the flow of people, information, and ideas—has experienced an unprecedented ascent over the past two hundred years. Using the ratio to world gross domestic product (GDP) of global goods exports as a gauge of interdependence in goods markets, figure I.1 shows that globalization has risen dramatically since the early 1800s, on the back of unprecedented declines in transportation and communication costs and lower tariffs.¹ Using the share of foreign asset holdings relative to countries’ GDP as a gauge of interdependence in asset markets, one observes an eightfold increase since 1870 for large currently advanced economies and a tenfold increase for all countries since 1970. By comparison, advances in international labor market integration since the nineteenth century—as measured by the share of foreign-born residents in the total population—have lagged behind, albeit becoming also significant in a few land-abundant

¹ In the first wave of globalization in the nineteenth century, the economic hegemon country at the time (the United Kingdom) reduced average tariffs on imports from a peak of 60 percent in the mid-1820s to between 5 to 10 percent just prior to World War I. During the same period, French tariff rates nearly halved to just above 10 percent (see Nye 2007, figure 1.1). Even in the United States—which remained a high-tariff country through World War I—tariffs also fell from a peak of some 60 percent around 1830 to about 40 percent by 1913 (Carter et al. 2006, table Ee430). While this century-long trend toward lower trade protection was not monotonic—being episodically reversed in response to low import prices from poorer countries and globalization backlashes in advanced ones already in the nineteenth century (see O’Rourke and Williamson 2001, chapter 6), and more dramatically in the 1930s—it continued through the second half of twentieth century. By the dawn of the twenty-first century, average tariff rates on imports fell below 5 percent in advanced economies. For further discussion of the role of trade protection and transportation costs in the pace of world trade, see Krugman 1995.

Figure I.1. Global Trade in Goods, Services, and Assets



Notes: In panel 1, the pre-1950 data spanned between thirty-seven and fifty-one countries, and are estimated to account for around 90 percent of world trade at the time. In panel 2, the advanced country sample included Canada, France, Germany, Japan, the Netherlands, the United Kingdom, and the United States before 1950, adding other European advanced countries thereafter.

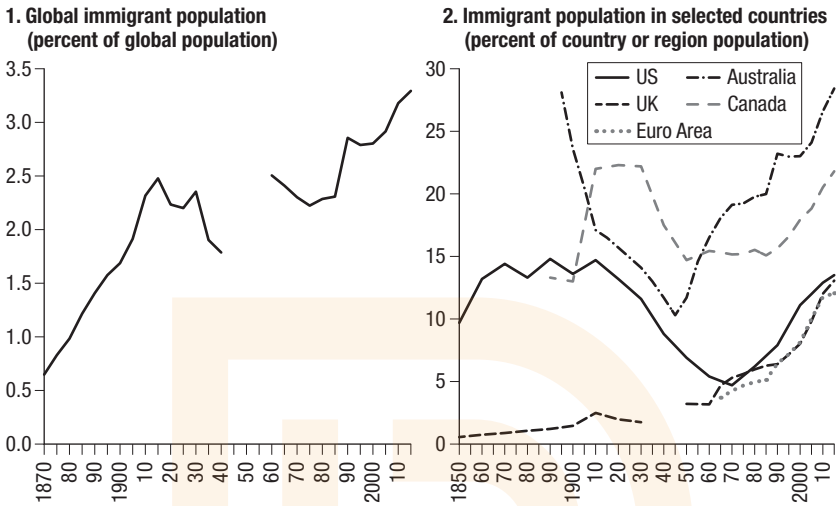
Sources: Federico and Tena-Junguito 2017; Obstfeld and Taylor 2004; Lane and Milesi-Ferretti 2007; IMF *World Economic Outlook*; International Financial Statistics and International Investment Position databases; authors' calculations. Exports and GDP measured in nominal values due to the unavailability or poor reliability of price deflators for earlier years.

New World countries prior to World War I but has typically not surpassed those levels in recent years. In other advanced economies such as those of Europe, international labor-market integration has risen since the 1960s to match the current US level (figure I.2).

As is also apparent from figures I.1 and I.2, the progress of globalization has not been unidirectional; instead, it has followed a stylized U-shaped pattern. Between the two world wars, all three globalization indicators fell. In the case of trade and capital flows, tariff hikes and widespread controls over international transactions took a heavy toll, reinforced by a reversal of the pre-1914 decline in maritime freight rates relative to merchandise prices (see Estevadeordal, Frantz, and Taylor 2003; Krugman, n.d.).² In the case of labor flows, strict immigration

² As shown in Krugman (n.d., table 3), between 1913 and 1938, international real transport costs increased by some 40 percent, after having declined by 20 percent between 1870 and 1913.

Figure I.2. International Movement of Labor



Notes: Figures for German migration stock prior to 1990 were adjusted to take account of border changes associated with the German unification. Specifics of this adjustment are available from the authors on request. No corresponding adjustment could be made to border changes associated with the breakdown of the Union of Soviet Socialist Republics due to lack of data.

Sources: United Nations 2017a, 2017b; World Bank WDI database; Chandy and Seidl 2017; various national data sources; authors' calculations.

quotas starting in 1921 in the United States, and later followed by other countries, were the key culprits (see Hatton and Williamson 1998).³

Following World War II, however, reconstruction of the multilateral trade system proceeded under the General Agreement on Tariffs and Trade (GATT), which spearheaded concerted tariff reductions, and restoration of currency convertibility for current account transactions in line with the mandate of the newly created IMF. As a result, world trade recovered spectacularly (see figure I.1).⁴ Further reductions in

³ According to Joseph Ferrie and Timothy Hatton (2015), less strict restrictions began earlier in the main host countries, such as the White Australia Policy of 1901, and dictation tests introduced in Cape Colony and Natal in 1897, New Zealand in 1899, and British Columbia in 1907, followed by the literacy tests for immigrants to the United States in 1917. Other factors, such as the progressive withdrawal of subsidized passage for immigrants, also played a role already in the two decades prior to the collapse of employment and wages in host countries during the Great Depression of the 1930s.

⁴ While figure I.1 reports the ratio of nominal trade to nominal GDP, which relative price changes such as the oil price increases of the 1970s can distort, it nonetheless

tariffs and capital controls in the 1990s, together with expanded membership of the WTO (the GATT's successor), promoted the rise of global value chains and set the stage for a further climb in globalization to its peak just before the 2008–9 global financial crisis. Starting in the mid-1990s through the crisis, trade growth further outpaced GDP growth and gross international capital flows rose about three times faster than trade growth.⁵ Some have characterized the resulting trade and investment environment as “hyperglobalization” (Rodrik 2011; Subramanian and Kessler 2013). Yet the advance of globalization has stalled since the global financial crisis—a reflection of, among other factors, the financial sequelae of the crisis as well as tensions in the multilateral trade system. There has been growing skepticism about the benefits of free trade and multilateralism in some countries, most notably in the United States—ironically, the chief architect of the postwar global economic order. Ongoing stresses in the multilateral trading system owing to new tariffs, retaliatory measures, and growing protectionist discourse—notably in the tensions among the United States, China, and Europe—have clearly weighed on global trade. Having grown about twice as fast as global GDP in the five decades through the eve of the 2008–9 global financial crisis, global trade grew only slightly faster than GDP in 2018 (actually shrinking in the final quarter of that year) and seems likely to slow even further in the near term (WTO 2019). These developments make it unwise to rule out the risk of an outright reversal in the postwar globalization trend.

As seen in the interwar period, however—and also (albeit less dramatically) during the belle époque leading up to World War I—threats to globalization in the form of tariff hikes, immigration restrictions, and nationalist-populist politics are not new.⁶ As in the past, today's

gives a reasonably accurate picture of trends in global trade openness. Douglas Irwin (1995) describes trends in global trade volume and real GDP since 1950 and their connection with tariff cuts following GATT negotiation rounds. Because construction of a fuller historical span of data on real trade relative to real GDP is fraught with price deflator issues, we chose to use nominal trade and nominal GDP data in figure I.1. For a breakdown of more recent trade volume trends between advanced countries and emerging and developing economies, see IMF/WB/WTO 2017, figure 1.

⁵ According to OECD (2011) estimates, gross cross-border capital flows rose from about 5 percent of world GDP in the mid-1990s to an all-time high of 20 percent in 2007.

⁶ On the anatomy of pre-World War I backlashes, see Williamson 1998; O'Rourke

threats are rooted in the fact that globalization's full economy-wide benefits may take time to materialize and are almost always unevenly distributed anyway, thus necessarily producing winners and losers. As the literature documents, discontent among the losers tends to rise with income inequality, large trade imbalances, slower productivity growth, and mounting unemployment. Thus, it is no surprise that perceptions of free trade as a zero-sum game rise precisely during periods of uneven or weak economic gains as well as import competition, feeding antiglobalization politics (see O'Rourke and Williamson 2001; Hays 2009). This historical regularity does not make the risks less important this time, however. Rather, parallels with the past bring the risks of the present economic context into sharper relief. How policy makers manage the benefits and downsides of globalization is therefore as critical as ever.

Against that background, this book provides an up-to-date appraisal of the benefits and costs of globalization and its current challenges, seeking to shed new light on how policies can tip such a cost-benefit balance so that the proglobalization "economic calculus" is better aligned with the "political calculus" that makes globalization viable. Building on an October 2017 conference titled "Meeting Globalization's Challenges" at the IMF in Washington, DC, the book brings together eighteen essays by leading thinkers on the anatomy of globalization. They address the following main questions:

- How big are the aggregate gains that globalization offers to countries that embrace it, and what are the sources of the gains?
- Why have globalization's aggregate benefits been high for some countries, but seemingly lower for others, with the most fortunate ones achieving impressive income convergence with richer peers while others have been less successful?
- Why have income gains been especially uneven within some countries over the past three decades?
- To what extent (and how) have rising inequality and other developments contributed to antiglobalization politics and policies?

and Williamson 2001. For an early and influential study of German agricultural protection in this period and its political consequences, see Gerschenkron 1943.

- What types of policies can mitigate the downsides of globalization, and to what extent?
- What are the main challenges to globalization lying ahead?

Because the phenomenon of globalization is multifaceted, some narrowing of focus is inevitable. This book concentrates on trade and technology, and the various economic and sociopolitical challenges that exposure to them poses. The focus is appropriate and timely for several reasons. First, international trade has been the key engine of global economic (and political) integration since time immemorial, and dramatically so over the past two hundred years. Second and importantly, challenges to the multilateral trading system have increased sharply in prominence among other challenges to globalization, and a better understanding of how to meet them clearly warrants urgent attention. Third, trade and technology have historically underpinned the internationalization of capital and labor, and continue to do so via offshoring and the spread of global supply chains, rather than the other way around.⁷ Fourth and more practically, given the space already needed for an adequate treatment of trade, to go meaningfully beyond the limited coverage of financial globalization and immigration in this volume would require another book (or two) altogether.⁸

The book contains five parts. Part I offers a foundation for subsequent analyses with technically accessible and up-to-date synopses of research on two main mechanisms through which trade delivers welfare gains: global production efficiency, and technology promotion and diffusion. Part II turns to some of the downsides of globalization. One of them is the unevenness of trade gains across countries. The essays in this part ask how export-led development policies have worked, what sets their limits, and what dangerous imbalances might be generated. No less

⁷ Absent trade, international financial transactions are impossible (as there would be no way to transfer real resources between countries in payment of net financial obligations). In addition, history has witnessed periods of rising trade globalization without substantial capital mobility (as during the Bretton Woods system of 1945–71) as well as periods of rising globalization with impaired labor mobility (as in much of the twentieth century). Thus, a process of economic globalization necessarily must encompass as its *sine qua non* lower trade barriers and rapidly expanding trade.

⁸ Moreover, several other surveys of globalization challenges take up financial globalization. See, for example, Rodrik 2011; Wolf 2015; Ostry, Loungani, and Berg 2019; Clausing 2019.

important, the discussion in part II also touches on the timely issue of how far globalization has been shaping both within-country and cross-country income inequalities.

Part III extends the scope of the analysis by taking up a much-discussed source of wage inequality within countries—namely, the deindustrialization associated with the greater penetration of manufacturing imports from low-wage countries. Building on recent insights into employment and wage responses to “shocks” in trade exposure, part IV looks at policy options to facilitate the economy’s adjustment at the lowest possible economic and social cost. It does so by exploring the practical problems in discerning the various ways that factors additional to trade can cause job and wage-income losses, and reappraising the performance of past adjustment assistance policies. Part V explores the political background to trade backlashes. Finally, part VI concludes the book with an overview of pending challenges due to health care needs, regulation, automation, job uncertainty, and the task of reconciling globalization with national sovereignty and democratic political processes.

In what follows, we summarize the main takeaways.

GAINS FROM TRADE AND INNOVATION

Estimating the full gains from trade in macroeconomic models is not easy. In chapter 1, Andrés Rodríguez-Clare explains why this is an important endeavor and where the current literature stands. He first posits a parsimonious framework in which trade gains depend on only two key parameters: how much a country trades (its openness) and the price elasticity of substitution between traded goods (a measure of how much consumers gain from having access to a broader variety of traded goods). In general equilibrium models with multiple sectors and input-output relationships, this formula yields gains that, while not quantitatively trivial, are still short of being empirically realistic. Trade gains can, however, reach more realistic levels once one extends the simplest models to include some key imperfections in market functioning to allow for complementarities between trade and foreign investment, and encompass substitution elasticities with a sounder empirical basis. These alternative gains turn out to be especially high for smaller open econo-

mies as well as those that cannot produce primary inputs essential to production and consumption. A paradox, though, is that while poorer open economies stand to gain the most from trade, they often forgo those gains because they trade far less than predicted by theory. Possible reasons include high exporting costs, which may owe, not only to protectionism, but also to distance from final markets, infrastructure bottlenecks, and currency controls (at times leading to an overvalued currency and excessive spending on non-tradable goods). Thus, policy improvements on all these fronts seem crucial for poorer countries to benefit fully from globalization, thereby closing more of their income gap with richer countries.

From the very foundation of classical economics in the eighteenth century, a much-touted benefit of globalization has been its promotion of technology and productivity gains through specialization along with the spread of best practice. Yet productivity and output gains from trade have been disparate across countries. An uneven international dispersion of new productive processes and ideas, as well as diverse capacities to absorb and bring them into practice, are at play. This heterogeneity raises the central question of the determinants of innovation, its impact on economies, and the roles of globalization and national policies and institutions in the generation and transmission of technological progress across borders.

In chapter 2, reporting novel research based on data for US regions and sectors since 1840, Ufuk Akcigit highlights the existence of positive causal relationships under which innovation drives both growth and social mobility. He shows that these relationships are stronger in more globalized regions, defined as those with cheaper transportation costs and higher labor mobility vis-à-vis the outer world, including through the inflow of migrant investors. Chapter 2 also asks what governments can do to foster innovations within their national borders and benefit from them. Tariffs appear to have at best only short-lived positive effects on innovation, whereas research and development (R & D) subsidy policies are far more effective in the longer term. Akcigit also demonstrates how innovation responds positively to schooling and household income. Overall, chapter 2 thus establishes the existence of a virtuous circle connecting globalization, innovation, and income growth, while also positing an important role for human capital-enhancing policies in strengthening these connections.

TRADE AS A DEVELOPMENT TOOL: WHAT HAVE WE LEARNED?

Mounting evidence on the effectiveness of international trade as an engine of economic growth led many emerging market and developing economies (EMDEs) that pursued inward-looking development policies before the 1990s to open their economies. Yet growth outcomes have been mixed across different countries. This mixed record suggests that lower trade barriers and greater trade openness can be facilitators of rapid economic growth, but may well not be sufficient by themselves to produce it. Dani Rodrik argues in chapter 3 that *how* countries open up matters. This dependency is apparent from the recent success of Vietnam—as well as the earlier successes of China and other Asian EMDEs—compared with the disappointing outcomes in much of Latin America, despite much of that region having lowered trade barriers dramatically. To understand the contrast, Rodrik posits a model economy comprised of high-productivity, middle-tier, and low-productivity occupations. Asian countries opened up aggressively on the export side, but only gradually on the import side, thereby protecting incomes and mitigating job losses in the middle-tier sector. In contrast, Latin America's liberalization was sweeping and swift on the import side, leading to abrupt employment losses in the middle-tier sector and pushing jobs into the low-productivity informal sector. A highly dual economy emerged, bringing aggregate productivity down despite higher productivity at the top tier. *When* a country opens up also matters—that is, whether it does so when global trade is expanding faster or slower. The bottom line is that successfully deploying the foreign trade engine to promote income convergence toward richer economies requires the right strategy at the right time. But what else do we know about what strategies are likely to work best?

China's impressive export-led growth experience could obviously provide some clues, along with cautionary lessons. In chapter 4, Keyu Jin stresses the role of extensive state control of the financial system in mobilizing household saving, and directing it at below-market interest rates to infrastructure and capital formation in export industries. Coupled with capital account controls that have often helped the authorities to limit currency appreciation as well as foreign direct investment regulations that fostered technology transfers, this strategy has been

successful in lowering exporting costs and producing higher trade surpluses, thereby boosting overall economic growth. But such state interventions have also generated enormous resource allocation distortions that have been slowing productivity growth, creating an economy more dependent on nonmarket stimuli. Moreover, this growth model generates large global trade imbalances that make China more vulnerable to protectionist reactions from its trade partners—impulses that are exacerbated by the perception that China’s distinctive economic framework and policies have created an uneven playing field for trade and investment. That said, some ingredients of the Chinese export promotion strategy—if combined with sensible exit strategies from intervention, better social safety nets, and concern to avoid negative spillovers on trading partners—could still produce better domestic outcomes than precipitous unilateral import liberalization. In some EMDEs, the latter has too often led to greater incentives for conspicuous consumption at the expense of capital accumulation, and thus to unsustainable current account deficits and financial excesses likely to trigger financial crises (see Gourinchas and Obstfeld 2012; Catão and Milesi-Ferretti 2014).

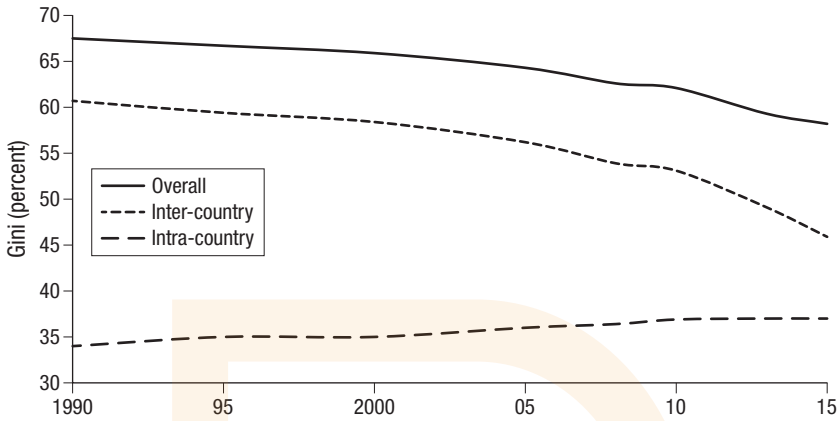
DO TRADE AND GLOBALIZATION BREED INEQUALITY?

Recent years have seen much debate on the extent to which globalization has bred income inequality, and through which channels. To answer these questions, it is useful to distinguish between inter- and intracountry inequality—with *global* inequality (the income difference between any two persons anywhere on the globe) being a combination of inter- and intracountry inequality. Figure I.3 depicts trends in global inequality since 1990, together with the respective inter- and intracountry components, according to the standard Gini coefficient metric.⁹

Start with *across*- or intercountry inequality (depicted by the higher dashed line in the figure below). While some EMDEs have shown only limited convergence toward advanced economy income levels despite

⁹ We choose the 1990 starting point owing to limited data availability, particularly for emerging markets. The post-1990 data used in the figure cover no less than 90 percent of world income and population.

Figure I.3. Global Inequality Measures



Note: Data updated by François Bourguignon based on preliminary estimates for 2013 and 2015.

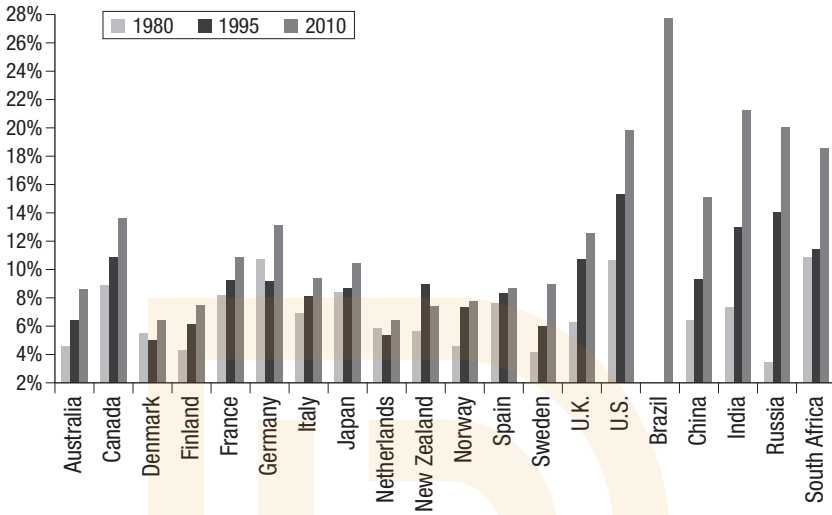
Source: Bourguignon 2015.

opening to world markets, as noted above, the good news is that several large and populous EMDEs have scored impressive income gains (China and India most notably). Their successes pushed down the intercountry Gini coefficient, thus helping reverse the secular trend toward greater intercountry inequality lamented by some economists in the past when looking at pre-1990 data.¹⁰ Importantly, income convergence by these large EMDEs, because of both their low initial per capita incomes and enormous populations, has led to a dramatic fall in the share of world population living below the poverty line. And as Angus Deaton points out in his chapter, even in countries where income convergence has been more limited, other welfare indicators—for example, child mortality and longevity—have improved dramatically over the past decades, reflecting the international diffusion of new products and knowledge that globalization has allowed.

The bad news, though, is that average *within*- or intracountry income inequality has risen (as measured by the Gini coefficient and shown by

¹⁰ For documentation of the secular trend toward global divergence and cross-country inequality prior to the 1990s, see, among others, Pritchett 1997; Bourguignon and Morrison 2002; Baldwin 2016. It is, however, important to bear in mind that considerable convergence in per capita incomes did occur within some country groups prior to the 1990s (notably within the group of then-OECD members; see Williamson 2005).

Figure I.4. Share of Top 1 Percent Earners in National Income



Sources: World Inequality Database (<https://wid.world/>) and authors' calculations.

the lower dashed line in figure I.3). Further, it has been accompanied by a startling and nearly universal rise in the national income share held by the top 1 percent of income earners—that is, the extremely rich (figure I.4). While high-income concentration at the top of the distribution has been historically common in EMDEs, it has been a striking new development in the modern history of advanced democracies.

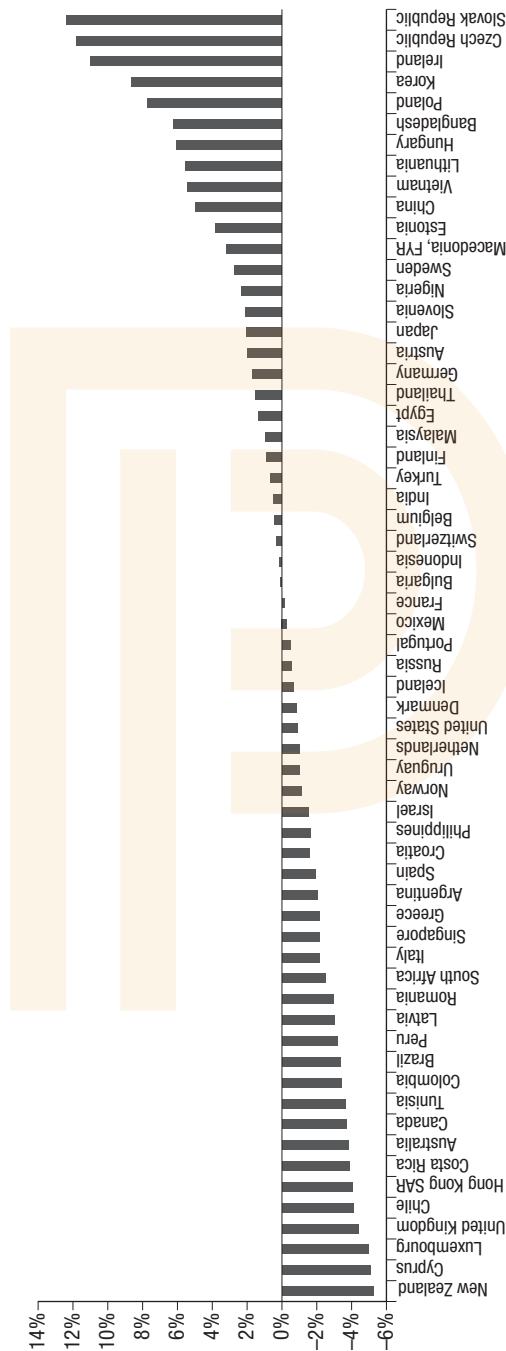
Is globalization to blame? A popular answer is affirmative: by fostering the shift in low-skilled jobs from the rich world to labor-abundant, low-wage countries, globalization drove down the between-country component of global inequality while driving up within-country inequality in advanced economies. Many economists point to skill-biased technical change as another contributor to higher within-country inequality—in emerging as well as advanced economies—although trade policy and changes in production technologies often interact (Acemoglu 2003; Goldberg and Pavcnik 2007; IMF 2017). Some recent research (Egger, Nigai, and Strecker 2019) suggests that since the mid-1990s, globalization has induced a redistribution of tax burdens away from high earners, and toward middle and lower incomes. In chapter 5, François Bourguignon challenges this generalization by noting that trends in intracountry inequality have been quite

diverse over the past three decades, notwithstanding countries' common exposure to globalization and technology. In Bourguignon's telling, domestic policy reforms that strengthened the power of capital relative to labor seem to be a main culprit. Even though external competitiveness concerns may have motivated these domestic policies in the first place, the evidence is suggestive of a subtler link between globalization and intracountry inequality than is frequently portrayed. Bourguignon's discussion also highlights the striking decoupling between the relatively mild and nonmonotonic increase in *overall* inequality in many advanced economies, and the popular perception that inequality has been rising dramatically everywhere. He suggests that such public reactions may reflect higher aversion to inequality when it manifests as income concentration at the top of the distribution. Other factors may have added to the growing public sensitivity to top-income inequality in recent years: financial sector bailouts, fiscal austerity, and a legacy of higher unemployment and compressed real wages in much of the advanced world following the global financial crisis of 2008–9 (Tooze 2018). Recent evidence points to the emergence of “superstar” firms as a correlate of the fall in labor's share and, presumably, more extreme top incomes (see Autor et al. 2017). While globalization may provide more scope for superstars to emerge, technology (for example, through network effects) is clearly an essential factor.

Globalization, Deindustrialization, and Job Losses: A New Consensus?

Notwithstanding the heterogeneity of intracountry inequality trends that Bourguignon's chapter documents, it remains a fact that inequality has risen in some systemically important countries, most notably in the United States and other Anglo-Saxon advanced economies over the past thirty years or so. This rise has coincided with massive losses of industrial jobs and a falling share of manufacturing output in GDP—what some have called “deindustrialization” for short—the flip side of which has been the growing significance of the manufacturing sector in manufacturing-exporting EMDEs, notably Asia and eastern Europe (figure I.5). So, it is crucial to probe into what role trade may have played in deindustrialization and wage inequality (see also IMF 2018).

Figure I.5. Changes in the Manufacturing Share in GDP (1995–2016, constant prices)



Source: United Nations Unido database (available at: <http://stat.unido.org/database/MVA%202018;%20Manufacturing>); authors' calculations.

A standard analytic tool to explore the link between trade and the gains and losses of some sectors and production factors relative to others is the famous Stolper-Samuelson theorem. This theorem shows how trading with a relatively labor-abundant, low-wage economy can reduce real wages in the import-competing sector (like manufacturing) of a capital-abundant country (like most advanced economies), and that this can happen even if national income grows owing to expanded trade. As Paul Krugman notes in chapter 6, many studies using this analytic framework and pre-1995 data found only a modest *economy-wide* effect of trade in explaining the sharp rise in income inequality in the United States starting in the 1970s. Skill-biased technical change was seen to have played a much larger role. A main basis for this reasoning was the still relatively small size of manufacturing imports from EMDEs compared with the sizes of advanced economies, even as late as the mid-1990s (around 2 percent of the GDP of advanced economies). As import penetration of cheaper manufactures from EMDEs nearly tripled (relative to advanced countries' GDP) between the mid-1990s and 2008, however, the consequences became far more significant. The proliferation of global supply chains (which ensured that some of the value-added of imports continued to be generated within advanced economies) may have had a dampening effect. Nonetheless, the net adverse effects on employment, wages, and income distribution could no longer be ignored, and they would naturally be felt more strongly in advanced economies with more accommodating trade policies as well as lower job and social protection.

The United States provides perhaps the leading case study in the disruptive effects of advanced economy trade with EMDEs, not only because of the sheer magnitude of the manufacturing trade deficit and attendant job losses, but also because of the comparatively early start of manufactured import penetration.¹¹ In chapter 7, Gordon Hanson dissects the impact of the so-called China shock on US regional labor markets. Unlike competition from higher-wage manufacturing powerhouses like Japan and Germany through the early 1990s, the China shock was more concentrated in terms of time and felt more widely across manufacturing subsectors. With manufacturing being a source

¹¹ Prior to about 1982, the United States posted surpluses in its manufacturing trade balance, averaging about 1 percent of GDP after the early 1960s. See Rowthorn and Ramaswamy 1997, chart 2b.

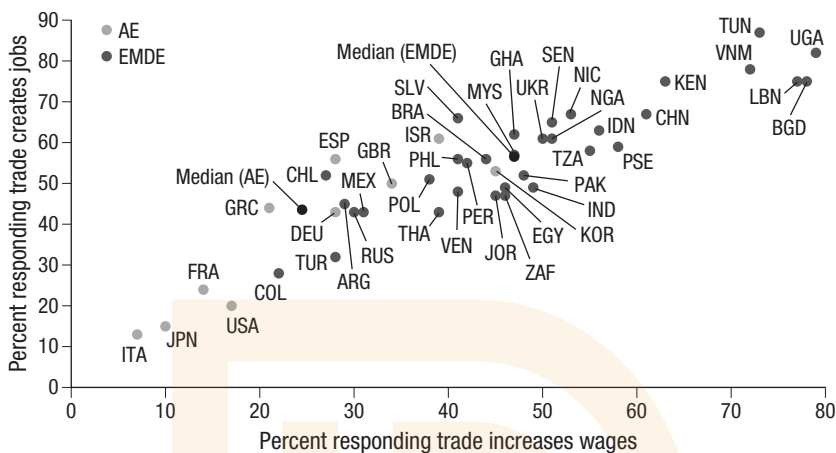
of relatively high-paying jobs to lower-skilled and longer-tenured middle-aged segments of the US male labor force, the social and political reverberations were more readily felt. Hanson cites the key quantitative finding of a cumulative decay in earnings of displaced workers, averaging about 20 percent over a decade, and further magnified for workers dismissed during the 2008–9 recession. In their influential work, Hanson and coauthors also document a powerful income multiplier effect at the level of local communities: geographically concentrated job losses depress local government revenue, undermining public services and raising unemployment even in sectors not directly affected by trade. The ripple effects therefore extend far beyond manufacturing, and include depressed home prices, higher male mortality, and broken families—hence feeding social malaise and antitrade politics (see, for example, Autor and Dorn 2013; Autor, Dorn, and Hanson 2013, 2018; Autor, Dorn, Hanson, and Majlesi 2016a, 2016b).

While the effects of trade shocks on advanced economies have dominated attention recently because of the domestic trade backlash they have provoked, economic theory suggests—and the data bear out—that trade liberalization could similarly have disruptive effects in EMDEs. As figures I.4 and I.5 make apparent, deindustrialization and the potentially inequality-generating effects of trade and technology are not the exclusive preserves of advanced economies. Yet trade is not usually seen as the main driver of income inequalities in EMDEs. This is partly because EMDE income inequalities are high to begin with (due to colonial heritage and highly skewed land ownership), and partly because intra-EMDE inequality is often masked by faster growth and Stolper-Samuelson effects that tend to lift the wages of low-skill workers (the more abundant production factor in poorer economies). Both considerations possibly help to explain the more favorable attitudes toward trade in EMDEs relative to advanced economies according to comparable public opinion surveys across countries (figure I.6).¹²

Despite the diversity of country-specific trends, however, Nina Pavcnik argues in chapter 8 that we should not ignore the unequalizing effects of trade openness in EMDEs. Slicing the evidence by sectors

¹² Econometric analyses of data sets on individual workers corroborate a generally less favorable attitude toward trade among the lower skilled in advanced countries (Scheve and Slaughter 2001; Mayda and Rodrik 2005; Walter 2017).

Figure I.6. Perceived Impact of Trade on Jobs and Wages in Surveyed Countries



Notes: The horizontal axis measures the percentage of survey respondents choosing “trade increases wages” out of a set of four possible responses including also “trade decreases wages,” “trade does not make a difference,” and “I don’t know.” The same applies to the trade and jobs question as measured on the vertical axis. Survey results for 2018, albeit spanning fewer countries, display a similar pattern.
Sources: IMF/WB/WTO 2017, based on Pew Foundation data and IMF staff calculations.

and firms, Pavcnik shows that easier access to external markets has allowed the most productive firms and sectors to take better advantage of export possibilities, increasing revenue and the wages they pay to their workers too. Trade thus widens within- as well as across-sector wage inequality. The significance of this wage effect depends on skill level, education attainment, and location, and as regional mobility remains strikingly low in EMDEs, regional trade shocks to job and wages have had a much greater effect on economy-wide inequality than previous research has acknowledged.

In chapter 9, Rafael Dix-Carneiro presents evidence on Brazil that echoes Pavcnik’s conclusions. The chapter focuses on the dynamics of manufacturing wages and jobs in Brazil following a trade liberalization round in the 1990s. This policy change was virtually a controlled experiment in that the decision to liberalize was deliberate and unilateral, and trade protection was high to begin with, making attendant labor market effects clearly discernible as manufacturing output and employment shrank relative to other sectors (as well as other manufacturing-

exporting EMDEs; see figure I.5).¹³ That episode is also informative for policy makers going forward, as the scope for further trade liberalization in Brazil and many other EMDEs remains considerable—in contrast to the one-off nature of the China shock for advanced economies. Strikingly, much as in the United States, manufacturing jobs and wages in Brazil took a prolonged dive, with the effects taking about a decade to die out, and the earnings of displaced workers stabilizing then at significantly lower levels. As with the China shock in the United States, the effects were geographically concentrated. But unlike the US case, the informal job market played a key role in absorbing redundant labor, possibly mitigating the kind of sociopolitical backlashes seen in the United States. Yet growing informality also contributed to labor market dualism (as productivity and product wages are typically lower in informal jobs) and had other adverse social effects, including higher crime rates in affected regions. Importantly, once one accounts for the effects of slow transitions into more precarious jobs, the economy-wide welfare gains from trade liberalization are lower by up to a quarter.

Compensation and Labor Market Adjustment Policies

Economists have long known that trade can increase the dispersion in domestic incomes: it creates winners and losers, and hence more inequality if the losers are not better off to begin with. Mindful of the social welfare consequences of unequalizing effects from trade reforms, economists have long invoked principles whereby compensatory transfers ensure that no one ends up worse off. But those principles are notoriously difficult to implement in practice.¹⁴

This difficulty raises two questions. First, if compensation is imperfect or itself costly in practice, and especially if adjustment to trade shocks has costs, then what is the trade-off between market efficiency and equity? Second, given that policy makers decide to embrace trade liberalization, what compensation and adjustment assistance mechanisms might be available and effective?

¹³ As shown in figure I.5, Brazil was not unique in losing manufacturing jobs to other EMDEs, as there was also a massive reallocation of manufacturing out of EMDEs with apparent comparative advantage in commodity production, including most notably Chile and much of Latin America. For further discussion, see Wood 2017.

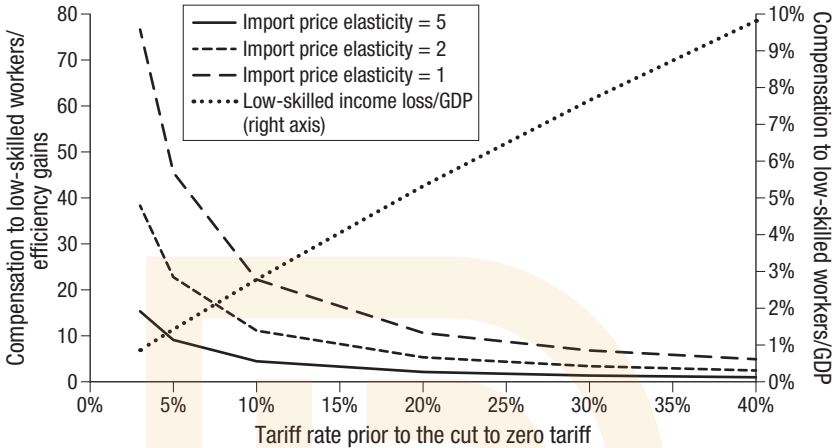
¹⁴ For a review of the utilitarian criteria and other social justice principles that could justify compensation/redistribution policies, see Trebilcock 2015, 9–30.

On the first question—the trade-off between the gains from freer trade and the challenge of compensating losers—much may depend on the starting point, as Rodrik (2018) has pointed out. At high tariff levels, a move to free trade (or low tariffs) tends to yield big efficiency benefits for both producers and consumers. While it also leads to a large income loss for the factor that the import-competing industry uses more intensively (think of it as low-skill labor in advanced economies), the political and economic (deadweight) costs of compensating those losers may be small relative to the aggregate efficiency gain. On the other hand, small tariff reductions may yield quite trivial efficiency gains compared with the cost of transferring resources from the winners to compensate losers. Rodrik (2018) argues on this basis that once trade barriers are low enough, the aggregate efficiency benefits from reducing them further may well fail to justify the costs of shielding the losers from harm.

Figure I.7 illustrates a situation in which tariff reduction yields net overall benefits to the economy but reduces the real wages paid to low-skill labor, as indicated by the upward sloping dotted line. The wage loss is the amount of compensation low-skill workers must receive to avoid being worse off: the bigger the tariff reduction is, the more the winners must be taxed to compensate the losers. The situation with initially high (40 percent) tariffs corresponds to the figure's southeast corner. There, the net aggregate efficiency benefit of tariff elimination covers much of the real wage loss (which at this point is at its maximum of just under 10 percent of GDP). In fact, the aggregate gain will exceed the wage loss for a sufficiently high price elasticity of imports. A favorable ratio of net benefit to gross wage loss becomes increasingly less likely as the initial tariff declines, however. This is because the incremental efficiency benefit of eliminating tariffs declines very rapidly as tariffs near zero, while the absolute cost of the compensation (equal to the decline in the low-skill wage times the share of low-skill employment in GDP) does not fall toward zero nearly as fast. This finding therefore suggests that trade liberalization might well go too far when compensating losers is costly relative to the additional efficiency gains of further tariff cuts.

To be sure, the simple model and numerical computations underlying figure I.7 omit important benefits of full trade liberalization. One is to reduce wasteful rent seeking of tariff revenues and other lobbying

Figure I.7. Size of Compensation of Low-Skilled Workers Due to Tariff Elimination

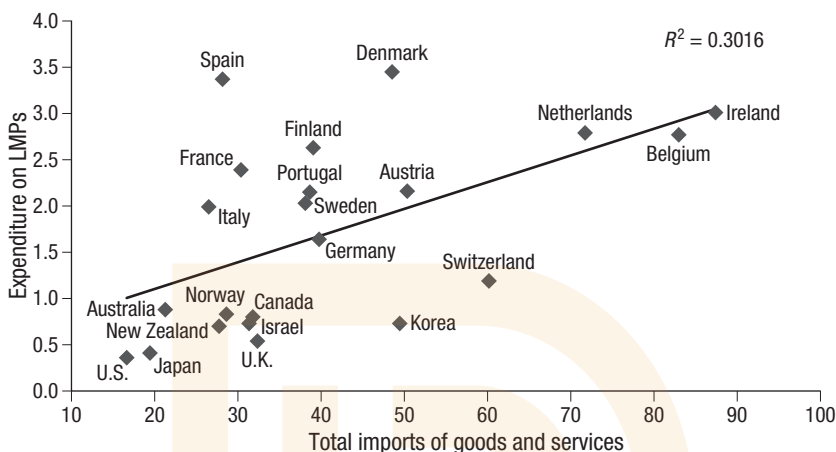


Note: Authors' calculations based on a standard two-sector trade model with the import-competing sector intensive in unskilled labor, as in Rodrik 2018.

costs (see, for example, Krueger 1974). Indeed, it is precisely *because* the redistributions that trade policies can cause are significant, that it is worthwhile for lobbyists to expend considerable resources on seeking protection. The other cost of protection missed by this model is that tariff rates are rarely (if ever) applied uniformly across product varieties. Protection can entail prohibitive tariff rates for certain varieties, limiting consumers' choices and weighing heavily on consumer welfare (Feenstra 1992). This simple model and the Rodrik argument also abstract from dynamic gains. Moreover, when offshoring is extensive, so that the production of a final good in one country depends on multiple border crossings by intermediate inputs, even relatively low tariffs can be quite costly (Yi 2003). Finally, the Rodrik setup has a powerful but perhaps less obvious implication: if tariffs are initially high, and the policy choice is between full and partial tariff elimination, full elimination will be preferred. In other words, if it is worth cutting tariffs at all, it is worth cutting them immediately to zero (Catão and Obstfeld 2019).

Nonetheless, the Rodrik assertion lays bare how compensation costs can loom large. Coupled with the problem of *how* to transfer resources from winners to losers—especially if government revenues shrink with globalization—the end result is possibly to make full compensation

Figure I.8. Expenditure on Active and Passive Labor Market Policies and Import Penetration (Percent of GDP)



Sources: OECD and IMF World Economic Outlook database; authors' calculations.

prohibitively high. This difficulty perhaps helps explain why compensation in the form of “active” or “passive” labor market policy remains a relatively small fraction of GDP (uniformly below 4 percent and as low as 0.5 percent), even in rich countries. Figure I.8 shows a conspicuously positive cross-country correlation between openness and spending (as a share of GDP) on labor market policies, which is surely a reflection of two-way causality: the social safety net facilitates policies to promote openness, while less trade protection generates the political demand for more social protection.

Disaggregated econometric analyses certainly support the first of these mechanisms: countries (and regions within countries) that devote more resources to compensation and reemployment policies seem to fare significantly better in sustaining protrade attitudes (see Rodrik 1998; Hays 2009; Margalit 2011). Indeed, the symbiosis between elements of the welfare state and trade liberalization goes back to the late nineteenth century (Huberman 2012; Williamson 2005; O’Rourke 2018).

Against this background, we return to the second question raised earlier—how to maximize the effectiveness of policies that compensate trade’s losers. One approach is to promote labor market adjustment. As

Anne Krueger notes in chapter 10, it can be difficult or impossible to discern which job and wage losses owe purely to trade, as opposed to technology changes or other causes (like macro policies, business mismanagement, or bad luck). Krueger argues that the desire to qualify for trade-specific compensation programs can incentivize unsuccessful workers and managers to collude and misleadingly blame business failure on trade. Moreover, subsidizing firms and jobs that would otherwise be lost to import competition is often simply to delay the inevitable. Krueger concludes that general labor market policies that do not single out trade-related job and wage losses are preferable. A better approach is to protect people, not jobs.

While other authors subscribe to this view, the evidence in chapters 7 to 9 that trade-related losses could be distinct in important respects leads some to see a case for special treatment, as argued by Lori Kletzer in chapter 11. The case may be especially strong when a trade shock arises from specific, easily identifiable government policy changes—for example, the United States' grant to China of permanent normal trade relations status, or US entry into the North American Free Trade Agreement (NAFTA). Still, it seems to be the case that those advanced economies with more extensive social safety nets have suffered less backlash against trade per se (though clearly immigration has been another matter).

If general labor market policies—targeted or not—are a necessary complement to sustaining trade openness, the next question is: How effective have they been in practice? A first obstacle to answering this question is the diversity of these policies.¹⁵ A second is that performance evaluations are far from foolproof, partly because they are so dependent on the choice of statistical methodology (Heckman, Lalonde, and Smith 1999). One illustration comes from Benjamin Hyman's (2018) recent work using more convincing identification than in some previous studies of the effects of the US Trade Adjustment Assistance (TAA) program. He finds that TAA has perhaps been more successful in the short

¹⁵ The OECD (2018) classifies them as training, employment incentives, sheltered and supported employment and rehabilitation, direct job creation, start-up incentives, out-of-work income maintenance and support, and early retirement. The latter two categories encompass so-called general or passive labor market policies, whereas the others are usually labeled active labor market policies, with all categories including sector-targeted and untargeted programs.

to medium term in raising earnings than earlier assessments indicated (see the discussions in Krueger’s, Kletzer’s, and Hanson’s chapters), but acknowledges that its success in raising human capital and earnings has been rather modest in the long run. This perception is reinforced by recent results of quasi-controlled experiments on regional training programs using detailed US data (Manolli, Michaelides, and Patel 2018). The latter are more optimistic about outcomes than were earlier studies, but that said, one must still be prepared to accept that the weight of the evidence to date points to the *economic* cost-benefit balance of such programs being less favorable than one might wish in the longer term.

There is nonetheless some agreement that to maximize the effectiveness of compensation, governments should combine passive with active labor market policies, as they complement one another by offsetting potential moral hazards through reskilling and job-search incentives (IMF/WB/WTO 2017). Existing evidence also supports calibrating the intensity of support to business cycle conditions and macro stabilization policies, given that wage losses tend to be higher and more persistent when job losses occur during downturns (as noted in Hanson’s and Kletzer’s chapters). Finally, and consistent with the evidence that trade-related income losses may be special in their geographic and sectoral concentration as well as through spillovers to other sectors, there is a case for fine-tuning active labor market policies to those specificities.¹⁶ Such fine-tuning could include redirecting assistance toward small communities and regions rather than individuals, fostering spatial labor mobility, and possibly giving wage subsidies to those who lose jobs to import penetration (as Kletzer advocates in chapter 11).

Overall, part of the answer to Rodrik’s challenge about the cost of compensation is to expand the range of social safety nets to make them more automatic and therefore less costly, at least with respect to the transaction costs of repeated political decisions to help the losers from trade. In any case, other structural shocks to labor markets—for example, due to technology change—already provide ample justification for such expansion. The latter are set to intensify due to developments

¹⁶ One criticism of the US TAA program lies in its failure to target spillover effects on communities, which often are more clearly visible than effects on individuals, who must show direct harm from imports. Jeffrey Frieden makes this point in chapter 12.

already on the horizon, such as the proliferation of future technologies based on artificial intelligence.

The Political Economy of Trade Backlash

As noted above, we know from history that the losers from trade have at times succeeded in mobilizing the political process to stop or even reverse aspects of integration with world markets. Mancur Olson (1965) offered a key reason why: gains from trade openness in many cases are spread widely and thinly across agents, and thus may be relatively small or less visible for most individuals, while losses tend to be concentrated in distinctive groups that are better able to organize to pressure the government. Added to that, there is a widespread perception that trade dislocations emanate from trade agreements designed by corporate elites and mainstream politicians, sealed in countries' capitals, far from the immediate concerns of working people. (The perception prevails even though, in reality, much of the actual trade displacement would probably have taken place even in the absence of any such agreements).¹⁷ As Jeffrey Frieden argues in chapter 12, this perceived failure of the political establishment to represent the interest of broad segments of the electorate—as he calls it, a *failure of representation*—once combined with the *failure of compensation* accumulated over decades, makes many voters more likely to support populist and extreme political parties (or extreme candidates within mainstream parties). This tendency has been extensively documented for the United States (Autor, Dorn, Hanson, and Majlesi, 2016a and 2016b) as well as some other advanced economies (Becker, Fetzer, and Novy 2017; Clarke, Goodwin, and Whiteley 2017; Colantone and Stanig 2018), and certainly lies behind the United Kingdom's Brexit travails. Whereas immigration rather than import penetration has been the relatively stronger trigger for such reactions in continental Europe and the United Kingdom, recent research (surveyed by Frieden in his chapter) also shows that UK areas hit harder by trade competition, and particularly from Chinese import penetration, were more likely to vote for Brexit. Importantly, job losses connected with trade appear to have an adverse impact on incumbent politicians that is about twice as large as the impact of job losses due to other factors.¹⁸

¹⁷ Alan Blinder (2018) also makes this point.

¹⁸ In many of the UK regions where majorities supported Brexit, however, there was long-standing industrial decline, predating China's rise and driven also by the

Anger at a failure of representation also applies, of course, to the *cultural* aspect of globalization backlash. Cultural backlash channels a resentment of global forces, and “elite” groups seen to threaten traditional values and the sense of community self-identity, which can add to welfare (Grossman and Helpman 2018). It is unclear what compensation would look like in this case—although nationalism and populism, including resistance to immigration, and in some extreme cases, demands for the expulsion of foreigners, can result. While this form of backlash goes far beyond economics, it is intimately tied to the economic forces that trade helps to unleash, which promote production agglomeration, and thereby a more pronounced urban–small town gradient in productivity and opportunity (Eichengreen 2018; Velasco 2018).

The potential for backlash against trade, however, seems to be considerably lower in countries with more organized and arguably more balanced bargaining between labor and management—as in the small, open economies of Scandinavian countries, which also spend far more (as a percentage of GDP) on labor market programs (recall figure I.8). This response to trade compares unfavorably with countries where labor-capital bargaining is fragmented and governments lack a tradition of working consensually with social partners. In those cases, the political system seems to offer greater latitude for policies that seek to shift the cost of globalization to foreigners through the pursuit of beggar-thy-neighbor trade policies—as opposed to policies that internalize the cost of adjustment. As Edward Alden observes in chapter 13, it is thus unsurprising that many US voters saw their endorsements of Donald Trump in 2016 as a unique opportunity to send a message on import penetration and globalization in general, given Trump’s long-standing views about the United States being a victim of its trading partners. In a highly integrated trade system, such political developments are clearly

overall shift in the British economy toward services, notably financial services based in London. The Blackburn with Darwen district in Lancashire, the subject of Robert Dore’s (1982) study of adjustment in a onetime textile town, favored leaving the European Union by 56.3 percent—actually a slimmer margin than for Lancashire as a whole (where all fourteen districts favored Brexit). Of course, the rise of London has had the side effect of exacerbating regional income inequalities and fueling resentment toward “elites.” Echoing the US experience discussed in Hanson’s chapter and the various references cited above, Eleonora Alabrese and coauthors (2018) find that one could also successfully predict Brexit voting based on voters’ low education background, employment status, age, and overall life dissatisfaction.

not just a matter of national concern. As recent events show, the domestic repercussions of globalization can reshape a country's foreign economic policies around the question of which governments bear most of the burden of adjustment to trade and technological change. As Alden notes, relative to previous US administrations since Franklin Delano Roosevelt's, the emphasis in US policy shifted starting in 2017 from trade policies aiming to expand the global pie to those seeking to grab a larger slice for the United States. That shift, in turn, implies a turn away from the post-World War II focus on a rule-based multilateral system under the GATT and then WTO, to a preference for serial bilateral trade negotiations—in which bigger economies have more bargaining power. A move toward more flexible multilateral trading rules can be welcome—as Michael Trebilcock argues in chapter 14—but a zero-sum stance on trade negotiations will clearly undermine the gains from trade on a global basis and possibly reverse cross-country value chain linkages, with sizable deadweight losses (as also pointed out by Krugman in chapter 6). At a minimum, US bilateralism would confront other countries—as Peterson Institute economist C. Fred Bergsten pointed out at the conference—with a fundamental question of how far to proceed with trade liberalization without the cooperation of a key founding member and leader of the postwar global trading system. Some countries outside the United States could build their own rules-based trade arrangements without it—witness the Comprehensive and Progressive Agreement for Trans-Pacific Partnership covering eleven of the twelve original TPP countries, or the European Union (EU) pacts with Japan and Canada. Alternatively, some countries might be pushed to strike exclusive bilateral deals with the United States. The global trading system could evolve into a fragmented patchwork of both bilateral and plurilateral arrangements.

In short, the failure to represent politically and compensate economically the losers from globalization and other long-term structural changes has placed the postwar global trading system in peril.

Other Challenges and Policies

Income growth and its distribution are widely used measures of welfare, yet their correlations with other relevant metrics of social well-being are imperfect, and those metrics may have an important story of their own to tell. In chapter 15, Deaton shows that economic growth in the

United States over the past three decades has been accompanied by worse performance along several dimensions compared with other advanced economies: stagnant median wages, low workforce participation, and for non-Hispanic, non-college-educated whites, sharply deteriorating quality-of-life indicators relative to other social groups.¹⁹

What role has globalization played? Deaton argues that import penetration and job migration to low-wage EMDEs are not likely major culprits, as developments in the United States have been distinct compared with other rich countries that have been similarly exposed to global economic forces. While globalization has been correlated with a long-term decline in the pretax/pretransfer share of labor in national income in other advanced economies (IMF 2017), social outcomes have been distinctively worse in the United States.

Policies that have increased the cost of the US health care system well above international comparators, while also degrading its quality, have been important. So have policies that have further shifted the power balance from labor to capital (including a lower tax burden on capital, erosion of real minimum wages, and business-friendly deregulation)—a point that applies across a broader set of countries, as argued by Bourguignon, but that is especially relevant for the United States. Deaton maintains that rectifying the imbalance in worker power would go a long way toward creating an economic environment in which the benefits of globalization and technology are more widely shared, in turn raising political support for globalization in the United States.

How to manage the labor market effects of automation poses another critical challenge to globalization going forward, as noted above. For decades, economists have debated how much “pure” technology versus “pure” trade effects contribute to growing inequality and structural transformation—a distinction increasingly difficult to draw, as discussed earlier, and also evident from the large variance of existing estimates on the relative contributions. There is some consensus that automation has been no less important than trade in explaining job and wage losses in advanced economies, particularly in manufacturing (see Lawrence and Edwards 2013; IMF 2017; DeLong 2017; Helpman 2018; Krugman’s chapter in this volume). One implication is that trade restrictions

¹⁹ For a striking illustration of the long-term stagnation of median household income, see US Census Bureau 2015.

can have only limited mitigating effects on job and wage losses as labor-saving technologies advance. Nonetheless, trade is certain to remain central to debates over automation's effects, if only because trade and technology are intimately intertwined, and moreover, the same policies that promote adjustment to trade shocks are needed to respond to new technologies.

Against this background, Laura Tyson addresses two important questions in chapter 16:

1. What patterns of wage and employment change should be expected as automation advances?
2. What can policy do to mitigate the likely adverse job market consequences?

Regarding the first question, Tyson reminds us that both theory and historical experience support the view widely held by economists that automation is unlikely to produce mass unemployment over the long term. As with any technical progress, automation raises productivity, incomes, and hence demand for new products and jobs, so that job losses in some sectors should eventually be compensated by job creation in others. Yet massive changes in employment composition can still be economically disruptive in real time, particularly if much of the labor force has skills that do not match well with those demanded in emerging areas of employment. The result could be substantial and prolonged frictional as well as structural unemployment.

Absent effective policy intervention, Tyson expects labor market changes to evolve along two dimensions. First, as automation continues to eliminate routine tasks typically performed by low- and medium-skill labor, further economic and political polarization may ensue: workers will continue to face stagnating real median wages, while non-college-educated workers in particular will see declines in real earnings relative to workers with college or higher educations. Overall income inequality would accordingly rise further.

Second, the varying pace of automation and the spread of artificial intelligence raise uncertainty about the scope of employment changes—uncertainty that is already borne out by the wide range of new estimates.²⁰ Especially disturbing is the feasibility of artificial-intelligence-

²⁰ In addition to the references cited in Tyson's chapter, specific country studies are included in Acemoglu and Restrepo 2018; Dauth et al. 2017.

driven automation extinguishing many higher-skill jobs, which are traditionally a sizable share of middle-class occupations.²¹

What can policy do? As always, macro policies to sustain aggregate demand and job growth are important. Macro policies, however, can do only so much to counter automation-driven unemployment. Policy makers must seek other policies. It is useful to group these into labor supply, labor demand, and enhanced risk-sharing policies. On the labor supply side, policies that improve education and increase the supply of high-skill labor can help counter the effects of skill-biased automation on inequality (see, for example, Goldin and Katz 2009).²² On the labor demand side, policies that expand investment in infrastructure, alternative energy, and paid care for the aging can help absorb low- and middle-skill workers displaced by automation. To deal with greater uncertainty about the future nature and sectoral composition of employment, better risk sharing through broader social safety nets and reemployment programs seems key.²³ In addition, Tyson notes, because the rapidly changing nature of technology demands greater adaptability of skills, lifelong learning needs to become a reality. This change, in turn, calls for the redesign of some workforce training programs and other changes at all levels of education. Finally, because tax and compensatory transfer policies are costly, politically contentious, and susceptible to wasteful lobbying, it is important that such risk-sharing arrangements be institutionalized and rules based. All these goals make for an ambitious policy agenda going forward.

²¹ According to artificial intelligence expert Vivienne Ming (2018), “The global professional middle class is about to be blindsided.” She cites the result of a recent competition at Columbia University between human lawyers and their artificial counterparts, in which both read a series of nondisclosure agreements with loopholes in them. “The AI found 95 per cent of them, and the humans 88 per cent,” she says. “But the human took 90 minutes to read them. The AI took 22 seconds.”

²² Such supply policies include better and more accessible university education, wider and better mid-career training programs, and immigration policies geared to high-skill workers.

²³ A question in this connection is why risk sharing is not more effectively done by the private sector. For instance, more efficient and solid financial systems can greatly aid risk sharing. Empirical evidence that risk sharing across US households has been much higher than usually thought (Schulhofer-Wohl 2011), despite a limited social welfare network, is suggestive of this possibility. In most circumstances and in particular for shocks that are more long lasting (like technological unemployment), there is a clear case, however, that governments need to take a hand in achieving more efficient risk pooling.

GLOBALIZATION, DEMOCRACY, AND NATIONAL SOVEREIGNTY

The rise of populism and political extremism in the new millennium imparts a sense of urgency to the policy agenda outlined above and further elaborated in the remainder of this volume.²⁴ Given that populism thrives on antiglobalization discourse, economic and other forms of nationalism, and more autocratic governance, its gain in traction precisely during hyperglobalization raises two questions. Does globalization itself weaken liberal democracy by sowing the seeds of political backlash? And is there really an inherent conflict between globalization and national sovereignty, as populist manifestos seem to indicate? The influential work by Rodrik (2000, 2011, 2018) offers one unified answer. It postulates a trilemma involving globalization, democracy, and sovereignty: a country can combine any two of the three, but never have all three simultaneously and in full force.

Martin Wolf and Ernesto Zedillo discuss this hypothesis in the last two chapters of the book. They contend that such a trilemma is not typically binding—the more so if countries pursue the right policies.

To understand their reasoning, consider first the relationship between globalization and democracy. Wolf argues that both, ideally, give everyone equal opportunities: to achieve economic success in the market regardless of national boundaries (in the case of economic globalization) or have a voice in public affairs (in the case of democracy). Like democracy, globalization depends on the rule of law (national and international). But in other key respects, the similarity breaks down. Critically, democratic authority is defined on a national basis and rests on citizenship, while global business is transnational. Globalization erodes the

²⁴ Rodrik (2018, figure 1) shows that the share of votes going to populist parties (defined as those with electoral strategies emphasizing cleavages between in- and out-groups, which include anti-immigrant parties in Europe, Trump in the United States, and left-wing nationalists in Latin America) trended up worldwide from about 10 percent in 1996–2000 to 25 percent in 2011–15. David Autor, David Dorn, Gordon Hanson, and Kaveh Majlesi (2016a) show that vote polarization in the United States has been on the rise since the 2002 midterm elections. Our own calculations based on international survey data from the Pew Foundation (for specifics, see IMF/WB/WTO 2017, 16–18) also show a worldwide deterioration about the perceived benefits of free trade starting around 2002.

accountability of global firms and investors to national authorities and indeed national polities.

Thus, globalization and democracy can be mutually supportive, but they can also come into conflict. In practice, historical data indicate a net positive long-term comovement, reflecting that globalization propels growth through trade and innovation, while growth, in turn, tends to breed democratic stability.²⁵ As the latter in turn helps spur productivity, growth, and support for further globalization, a virtuous circle can ensue.

Such a benign outcome presumes, of course, that globalization's net economic benefits are not so unevenly shared as to become themselves a destabilizing political force. In general, a favorable alignment of globalization and democracy requires that domestic policies and institutions align voters' interests broadly with globalization. The increasing perception that this has not been the case has contributed to the recent backlash.

Globalization and sovereignty, likewise, may be mutually supportive, or not. Clearly, if the former entails some commitment to multilateral rules by all countries, it actually could enhance the sovereignty of smaller ones seeking to embrace globalization. Smaller countries typically have less bargaining power in bilateral negotiations, so multilateral agreements on trade, immigration, and financial and environmental regulations can protect them from potential "bullying" by mightier nations, thereby empowering—rather than weakening—their sovereignty. More generally, mutual supportiveness will depend on consistency of the sovereign's preferences with the need for economic openness and institutions that encourage an efficient international allocation of production. If the sovereign's preferences are derived from a democratic process, however, the previous discussion suggests that the result will be sensitive to the domestic policy environment. A noninclusive policy

²⁵ On the long-term association between globalization (measured by trade openness) and democracy, see figure 17.1 in chapter 17. For documentation of the positive association between democracy and growth, see Friedman 2006; Acemoglu et al. 2019. Friedman's discussion also speaks to a related and recent literature on the effects of economic prosperity on happiness, trust, and the stability of democratic institutions. On this, see Algan and Cahuc 2014; Brueckner, Chong, and Gradstein 2015. For an early argument that openness and democracy can be mutually consistent, see Garrett 1998; for a recent one, see Iverson and Soskice 2019.

setting will more likely lead to voter rebellion against the constraints that globalization places on national sovereignty. On the other hand, effective inclusive policies can make this outcome less likely.

Thus, the constraints imposed by globalization can potentially bind preferred sovereign policies. But this result is not predestined; the right policies—policies that reliably compensate those hurt by trade—could create an environment in which the three elements of the trilemma can be reconciled.

Reconciliation is of course facilitated if trade partners can commit credibly to international rules that prevent national free riding, and if voters see those rules as promoting their best interest. In addition to sound domestic policy frameworks, the other key element to make globalization work is therefore a globally comprehensive multilateral system that allows nations to contain the greater potential for negative externalities that globalization brings. Cooperation on trade rules, financial stability, immigration spillovers, climate change—the key area of international taxation—and a host of other issues is an essential complement to national action to ensure that economic growth is inclusive. Michael Huberman (2012) argues that in the latter part of the pre-World War I era, reciprocal international agreement to enhance labor protections sometimes promoted market opening. Such standards (as well as other safeguards) can also be part of the picture, as they are in a number of current trade agreements, including within the European Union.

The difficulty with this mode of reasoning is that in democratic societies, the domestic policies and international commitments that could ease trilemma trade-offs must *themselves* result from the democratic process, and be permanent enough that they are a reliable foundation for economic and political stability. Put another way, conditions favorable to navigating the trilemma have to emerge *endogenously*, with success dependent on initial, historically determined conditions. In some situations, it could unfortunately be the case that as in the old New England saying, “You can’t get there from here.” One can think of at least four different political equilibriums that could emerge from democratic processes (figure I.9), with only two of them favorable to globalization, and the second of those possibly politically unstable (as some would argue the recent US experience shows):

Figure I.9. Political Ideologies and Trade Policy

	Left	Right
Freer trade	Moderate social democracies	Laissez-faire conservatism
Trade interventionism	Left-wing populism	Right-wing populism

Source: Authors.

1. Voters embrace egalitarian policies (high progressive taxation financing an extensive social safety net), which can then facilitate trade and financial openness, and even some immigration (for example, classic European social democracy).

2. Voters do *not* want policies to address inequality directly (through higher progressive taxes and extensive social transfers), but economic openness is still the chosen policy. The latter could occur because of voter beliefs or ideologies positing the superiority of free market resource allocation—for instance, a belief that trade benefits trickle down to everyone even in the absence of redistributive policies. (More cynically, openness may be chosen despite a lack of redistributive fiscal policies when trade’s winners can use their resources to guide political outcomes, including by influencing the electorate’s views). Examples of voters choosing such laissez-faire approaches include Reaganism in the United States and Thatcherism in the United Kingdom.

3. Voters do not demand policies to address inequality directly, and government successfully deflects blame for inequality toward other countries, rolling back globalization and trying (insofar as possible) to extract rents from foreigners through higher import tariffs, the discouragement of offshoring, and tighter immigration rules, both to raise domestic employment as well as wages and possibly to appease xenophobic sentiment. This is the pattern under right-wing populism. In

this model, trade restrictions rather than explicit redistributive policies are the tool of choice to support the political base.

4. Voters do want policies to address inequality directly, and the government chooses to redirect resources, both through taxation that is more progressive and taxes on foreign trade as well as business, and by restricting immigration to raise domestic employment and wages (the case of left-wing populism).

Of the first two, globalization-friendly outcomes, the second may well be politically unstable, as losers from globalization become progressively disillusioned. In either case, however, both Wolf and Zedillo agree that globalization can backfire if not managed well. For them, a salient destabilizing force is the unwillingness or inability of governing elites to adopt policies that reverse current inequality trends and mitigate concentrated losses from structural change. As Zedillo reminds us, policy failures leading to growing inequality, economic crises, and streamlining pressures on the welfare state were already apparent in many countries prior to hyperglobalization (see also Berger 2000). The roots of political outcomes, as noted above, run deep. But such failures are potentially much costlier today because globalization raises the downsides from bad policies and governance. This factor, in turn, makes it easier and more tempting for political leaders to make globalization the scapegoat for their own shortcomings—resulting in a transition from the second outcome above to the third or fourth outcomes.

The bottom line is that globalization can bring enormous benefits to all citizens, but their realization is strongly dependent on having the right complementary policies. Whether governments do enact those policies, however, will depend on electorates' choices. The big question must be, "How can we get there from here?" One part of the answer, however partial, must be an informed and rigorous analysis of globalization's effects along with the policy options for addressing dislocations and spreading benefits more widely. We hope that this volume helps readers to identify where and why policy upgrades are needed, and how political leaders should go about making them.

REFERENCES

Acemoglu, Daron. 2003. "Patterns of Skill Premia." *Review of Economic Studies* 70, no. 2 (April): 199–230.

- Acemoglu, Daron, and Pascual Restrepo. 2018. “Automation and New Tasks: The Implications of the Task Content of Technology for Labor Demand.” Unpublished manuscript, November.
- Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, and James A. Robinson. 2019. “Democracy Does Cause Growth.” *Journal of Political Economy* 127, no. 1 (January): 47–100.
- Alabrese, Eleonora, Sascha O. Becker, Thiemo Fetzer, and Dennis Novy. 2019. “Who Voted for Brexit? Individual and Regional Data Combined.” *European Journal of Political Economy* 56 (January): 132–50.
- Alden, Edward. 2017. *Failure to Adjust: How Americans Got Left Behind in the Global Economy*. Lanham, MD: Rowman and Littlefield.
- Algan, Yann, and Pierre Cahuc. 2014. “Trust, Growth and Happiness: New Evidence and Policy Implications.” In *Handbook of Economic Growth*, edited by Philippe Aghion and Steven Durlauf, 2: 49–120. Oxford: North Holland.
- Autor, David H., and David Dorn. 2013. “The Growth of Low Skill Service Jobs and the Polarization of the U.S. Labor Market.” *American Economic Review* 103, no. 5 (August): 1553–97.
- Autor, David H., David Dorn, and Gordon H. Hanson. 2013. “The China Syndrome: Local Labor Market Effects of Import Competition in the United States.” *American Economic Review* 103, no. 6 (October): 2121–68.
- . 2018. “When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men.” NBER Working Paper 23173. Cambridge, MA: National Bureau of Economic Research.
- Autor, David H., David Dorn, Gordon Hanson, and Kaveh Majlesi. 2016a. “Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure.” NBER Working Paper 22637. Cambridge, MA: National Bureau of Economic Research.
- . 2016b. “A Note on the Effect of Rising Trade Exposure on the 2016 Presidential Election.” Unpublished manuscript, November.
- Autor, David H., David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen. 2017. “The Fall of the Labor Share and the Rise of Superstar Firms.” NBER Working Paper 23396. Cambridge, MA: National Bureau of Economic Research.
- Baldwin, Richard. 2016. *The Great Convergence: Information Technology and the New Globalization*. Cambridge, MA: Harvard University Press.
- Becker, Sascha, Thiemo Fetzer, and Dennis Novy. 2017. “Who Voted for Brexit? A Comprehensive District-Level Analysis.” *Economic Policy* 32, no. 92 (October): 601–50.
- Berger, Suzanne. 2000. “Globalization and Politics.” *Annual Review of Political Science* 3 (June): 43–62.
- Blinder, Alan S. 2018. *Advice and Dissent: Why America Suffers When Economics and Politics Collide*. New York: Basic Books.
- Bourguignon, François. 2015. *The Globalization of Inequality*. Princeton, NJ: Princeton University Press.
- Bourguignon, François, and Christian Morrisson. 2002. “Inequality among World Citizens: 1820–1992.” *American Economic Review* 92, no. 4 (September): 727–44.
- Brueckner, Markus, Alberto Chong, and Mark Gradstein. 2015. “Does Economic Prosperity Breed Trust?” CEPR Discussion Paper 10749. London: Center for Economic Policy Research.

- Carter, Susan B., Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright. 2006. *Historical Statistics of the United States: Millennial Edition*. New York: Cambridge University Press.
- Catão, Luís A. V., and Gian Maria Milesi-Ferretti. 2014. "External Liabilities and Crises." *Journal of International Economics* 94, no. 1 (January): 18–32.
- Catão, Luís A. V., and Maurice Obstfeld. 2019. "Trade Liberalization: Aggregate Gains versus Sectoral Losses, and the Perils of Partial Reform." Unpublished manuscript.
- Chandy, Laurence, and Brina Seidl. 2016. "Is Globalization's Second Wave about to Break?" Global View Paper 4. Washington, DC: Brookings Institution.
- Clarke, Harold D., Matthew Goodwin, and Paul Whiteley. 2017. *Brexit: Why Britain Voted to Leave the European Union*. Cambridge: Cambridge University Press.
- Clausing, Kimberly. 2019. *Open: The Progressive Case for Free Trade, Immigration, and Global Capital*. Cambridge, MA: Harvard University Press.
- Colantone, Italo, and Piero Stanig. 2018. "Global Competition and Brexit." *American Political Science Review* 112, no. 2 (May): 201–18.
- Dauth, Wolfgang, Sebastian Findeisen, Jens Suedekum, and Nicole Woessner. 2017. "German Robots—The Impact of Industrial Robots on Workers." CEPR Discussion Paper 12306. London: Center for Economic Policy Research.
- DeLong, J. Bradford. 2017. "Where US Manufacturing Jobs Really Went." *Project Syndicate*, May. <https://www.project-syndicate.org/commentary/manufacturing-jobs-share-of-us-economy-by-j-bradford-delong-2017-05?barrier=accessreg>.
- Dore, Robert. 1982. "Adjustment in Process: A Lancashire Town." In *Import Competition and Response*, edited by Jagdish N. Bhagwati, 293–320. Chicago: University of Chicago Press.
- Egger, Peter H., Sergey Nigai, and Nora M. Strecker. 2019. "The Taxing Deed of Globalization." *American Economic Review* 109, no. 2 (February): 353–90.
- Eichengreen, Barry. 2018. *The Populist Temptation: Economic Grievance and Political Reaction in the Modern Era*. Oxford: Oxford University Press, 2018.
- Estevadeordal, Antoni, Brian Frantz, and Alan M. Taylor. 2003. "The Rise and Fall of World Trade, 1870–1939." *Quarterly Journal of Economics* 118, no. 2 (May): 359–407.
- Federico, Giovanni, and Antonio Tena-Junguito. 2017. "A Tale of Two Globalizations: Gains from Trade and Openness, 1800–2010." *Weltwirtschaftliches Archiv* 153, no. 3 (August): 601–26.
- Feenstra, Robert. 1992. "How Costly Is Protectionism?" *Journal of Economic Perspectives* 6, no. 3 (Summer): 159–78.
- Ferrie, Joseph, and Timothy Hatton. 2015. "Two Centuries of International Migration." In *Handbook on the Economics of International Migration*, edited by Barry Chiswick and Paul Miller, 53–88. Oxford: Elsevier, 2015.
- Friedman, Benjamin. 2006. *The Moral Consequences of Economic Growth*. New York: Random House.
- Garrett, Geoffrey. 1998. "Global Markets and National Politics: Collision Course or Virtuous Circle?" *International Organization* 52, no. 4 (Autumn): 787–824.
- Gerschenkron, Alexander. 1943. *Bread and Democracy in Germany*. Berkeley: University of California Press.
- Goldberg, Pinelopi K., and Nina Pavcnik. 2007. "Distributional Effects of Globalization in Developing Countries." *Journal of Economic Literature* 45, no. 1 (March): 39–82.

- Goldin, Claudia, and Lawrence F. Katz. 2009. *The Race between Education and Technology*. Cambridge, MA: Harvard University Press.
- Gourinchas, Pierre-Olivier, and Maurice Obstfeld. 2012. “Stories of the Twentieth Century for the Twenty-First.” *American Economic Journal: Macroeconomics* 4, no. 1 (January): 226–65.
- Grossman, Gene, and Elhanan Helpman. 2018. “Identity Politics and Trade Policy.” Unpublished manuscript, Harvard University, December.
- Hatton, Timothy J., and Jeffrey G. Williamson. 1998. *The Age of Mass Immigration: Causes and Economic Impact*. Oxford: Oxford University Press.
- Hays, Jude C. 2009. *Globalization and the New Politics of Embedded Liberalism*. Oxford: Oxford University Press.
- Heckman, James, Robert Lalonde, and Jeffrey Smith. 1999. “The Economics and Econometrics of Active Labor Market Programs.” In *Handbook of Labor Economics*, edited by Orley C. Ashenfelter and David Card, 3: 1865–2097. Oxford: Elsevier.
- Helpman, Elhanan. 2018. *Globalization and Inequality*. Cambridge, MA: Harvard University Press.
- Huberman, Michael. 2012. *Odd Couple: International Trade and Labor Standards in History*. New Haven, CT: Yale University Press.
- Hyman, Benjamin G. 2018. “Can Displaced Labor Be Retrained? Evidence from Quasi-Random Assignment to Trade Adjustment Assistance.” Unpublished manuscript, University of Pennsylvania, January.
- IMF (International Monetary Fund). 2017. “Understanding the Downward Trend in Labor Income Shares.” *World Economic Outlook*, chapter 3. Washington, DC: International Monetary Fund.
- . 2018. “Manufacturing Jobs: Implications for Productivity and Inequality.” *World Economic Outlook*, chapter 3. Washington, DC: International Monetary Fund.
- IMF/WB/WTO (International Monetary Fund, World Bank, and World Trade Organization). 2017. “Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment.” Washington, DC: International Monetary Fund.
- Iversen, Torsten, and David Soskice. 2019. *Democracy and Prosperity: Reinventing Capitalism through a Turbulent Century*. Princeton, NJ: Princeton University Press.
- Irwin, Douglas A. 1995. “The Gatt in Historical Perspective.” *American Economic Review* 85, no. 2 (May): 323–28.
- Krueger, Anne. 1974. “The Political Economy of the Rent-Seeking Society.” *American Economic Review* 64, no. 3 (June): 291–303.
- Krugman, Paul. 1995. “Growing World Trade: Causes and Consequences.” *Brookings Papers on Economic Activity* 1: 327–62.
- . n.d. “The Interwar Trade Decline.” <https://www.princeton.edu/~pkrugman/interwartrade.pdf>.
- Lane, Philip, and Gian Maria Milesi-Ferretti. 2007. “The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970–2004.” *Journal of International Economics* 73, no. 2 (November): 223–50.
- Lawrence, Robert Z., and Lawrence Edwards. 2013. “US Employment Deindustrialization: Insights from History and the International Experience.” Policy Brief PB 13-27. Washington, DC: Peterson Institute for International Economics.

- Manolli, Dayanand S., Marios Michaelides, and Ankur Patel. 2018. "Long-Term Effects of Job-Search Assistance: Experimental Evidence Using Administrative Tax Data." Cambridge, MA: NBER Working Paper 2442.
- Margalit, Yotam. 2011. "Costly Jobs: Trade-Related Layoffs, Government Compensation, and Voting in U.S. Elections." *American Political Science Review* 105, no. 1 (February): 166–88.
- Mayda, Anna Maria, and Dani Rodrik. 2005. "Why Are Some People (and Countries) More Protectionist Than Others?" *European Economic Review* 49, no. 6 (August): 1393–430.
- Ming, Vivienne. 2018. "The Professional Class Is about to Be Blindsided by AI." *Financial Times*, July 27. <https://www.ft.com/content/3aac2330-8f38-11e8-b639-7680cedcc421>.
- Nye, John V. C. 2007. *War, Wine, and Taxes: The Political Economy of Anglo-French Trade, 1689–1900*. Princeton, NJ: Princeton University Press.
- Obstfeld, Maurice, and Alan M. Taylor. 2004. *Global Capital Markets: Integration, Crisis, and Growth*. Cambridge: Cambridge University Press.
- OECD (Organization for Economic Cooperation and Development). 2011. "International Capital Flows: Structural Reforms and Experience with the OECD Code of Liberalisation of Capital Movements." Report from the OECD to the G20 Sub-Group on Capital Flow Management. Paris: Organization for Economic Cooperation and Development. <https://www.oecd.org/economy/48972216.pdf>.
- . 2018. "The Scope and Comparability of Data on Labour Market Programs." Paris: Organization for Economic Cooperation and Development. <https://www.oecd.org/els/emp/ALMPdata-Scope-and-Comparability.pdf>.
- Olson, Mancur. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press.
- O'Rourke, Kevin H. 2018. "Economic History and Contemporary Challenges to Globalization." NBER Working Paper 25364. Cambridge, MA: National Bureau of Economic Research.
- O'Rourke, Kevin H., and Jeffrey G. Williamson. 2001. *Globalization and History*. Cambridge, MA: MIT Press.
- Ostry, Jonathan D., Prakash Loungani, and Andrew Berg. 2019. *Inequality: How Societies Can Choose Inclusive Growth*. New York: Columbia University Press.
- Pritchett, Lant. 1997. "Divergence, Big Time." *Journal of Economic Perspectives* 11, no. 3 (Summer): 3–17.
- Rodrik, Dani. 1998. "Why Do Open Economies Have Bigger Governments?" *Journal of Political Economy* 106, no. 5 (October): 997–1032.
- . 2000. "How Far Will International Economic Integration Go?" *Journal of Economic Perspectives* 14, no. 1 (Winter): 177–86.
- . 2011. *The Globalization Paradox: Democracy and the Future of the World Economy*. New York: W. W. Norton.
- . 2018. "Populism and the Economics of Globalization." *Journal of International Business Policy* 1, no. 1–2 (June): 12–33.
- Rowthorn, Robert Eric, and Ramana Ramaswamy. 1997. "Deindustrialization: Causes and Implications." IMF Working Paper 97/4. Washington, DC: International Monetary Fund.
- Scheve, Kenneth F., and Matthew J. Slaughter. 2001. "Labor Market Competition and Individual Preferences over Immigration Policy." *Review of Economics and Statistics* 83, no. 1 (February): 133–45.

- Schulhofer-Wohl, Sam. 2011. "Heterogeneity and Tests of Risk Sharing." *Journal of Political Economy* 119, no. 5 (October): 925–58.
- Subramanian, Arvind, and Martin Kessler. 2013. "The Hyperglobalization of Trade and Its Future." Working paper WP 13-6. Washington, DC: Peterson Institute for International Economics.
- Tooze, Adam. 2018. *Crashed: How a Decade of Financial Crises Changed the World*. New York: Penguin Random House.
- Trebilcock, Michael. 2015. *Dealing with Losers: The Political Economy of Policy Transitions*. Oxford: Oxford University Press.
- United Nations. 2017a. "International Migration Flows to and from Selected Countries: The 2015 Revision." UN Department of Economics and Social Affairs, Population Division. <http://www.un.org/en/development/desa/population/migration/data/empirical2/migrationflows.shtml>.
- . 2017b. "World Population Prospects 2017." UN Department of Economics and Social Affairs, Population Division. <https://population.un.org/wpp/Download/Standard/Migration/>.
- US Census Bureau. 2015. "Real Household Income at Selected Percentiles: 1967 to 2014." September 16. <https://www.census.gov/library/visualizations/2015/demo/real-household-income-at-selected-percentiles--1967-to-2014.html>.
- Velasco, Andrés. 2018. "Policymaking in the Time of Populism." Presentation at the London School of Economics. <http://www.lse.ac.uk/school-of-public-policy/assets/Documents/Professor-Andr%C3%A9s-Velasco-SPP-Launch-Speech-.pdf>.
- Walter, Stefanie. 2017. "Globalization and the Demand-Side of Politics: How Globalization Shapes Labor-Market Risk Perceptions and Policy Preferences." *Political Science Research and Methods* 5, no. 1 (January): 55–80.
- Williamson, Jeffrey G. 1998. "Globalization, Labor Markets and Policy Backlash in the Past." *Journal of Economic Perspectives* 12, no. 4 (Fall): 51–72.
- Williamson, Jeffrey G. 2005. "Winners and Losers over Two Centuries of Globalization." In *Wider Perspectives on Global Development*, edited by UNU-WIDER, 136–74. London: Palgrave Macmillan.
- Wolf, Martin. 2015. *The Shifts and the Shocks: What We Have Learned—and Have Still to Learn—from the Financial Crisis*. New York: Penguin Random House, 2015.
- Wood, Adrian. 2017. "How Globalisation Affected Manufacturing around the World." Vox: CEPR Policy Portal. March 18. <https://voxeu.org/article/how-globalisation-affected-manufacturing-around-world>.
- WTO (World Trade Organization). 2019. "Global Trade Growth Loses Momentum as Trade Tensions Persist." Press Release 837, April 2. https://www.wto.org/english/news_e/pres19_e/pr837_e.htm.
- Yi, Kei-Mu. 2003. "Can Vertical Specialization Explain the Growth of World Trade?" *Journal of Political Economy* 111, no. 1 (February): 52–102.