

The Hyperglobalization of Trade and Its Future

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Abstract

This paper describes seven salient features of trade integration in the 21st century: Trade integration has been more rapid than ever (hyperglobalization); it is dematerialized, with the growing importance of services trade; it is democratic, because openness has been embraced widely; it is criss-crossing because similar goods and investment flows now go from South to North as well as the reverse; it has witnessed the emergence of a mega-trader (China), the first since Imperial Britain; it has involved the proliferation of regional and preferential trade agreements and is on the cusp of mega-regionalism as the world's largest traders pursue such agreements with each other; and it is impeded by the continued existence of high barriers to trade in services. Going forward, the trading system will have to tackle three fundamental challenges: In developed countries, the domestic support for globalization needs to be sustained in the face of economic weakness and the reduced ability to maintain social insurance mechanisms. Second, China has become the world's largest trader and a major beneficiary of the current rules of the game. It will be called upon to shoulder more of the responsibilities of maintaining an open system. The third challenge will be to prevent the rise of mega-regionalism from leading to discrimination and becoming a source of trade conflicts. We suggest a way forward—including new areas of cooperation such as taxes—to maintain the open multilateral trading system and ensure that it benefits all countries.

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1. INTRODUCTION

The post-World War II period witnessed a rapid rise in trade between nations, reminiscent of the integration that occurred before World War I (see WTO 2013 and Krugman 1995). This evolution was facilitated partly by reductions in policy barriers—first in the advanced economies, under the auspices of the then General Agreement on Tariffs and Trade (GATT), and later in developing countries, through unilateral liberalization actions or under programs with the International Monetary Fund (IMF) and World Bank. Trade was also facilitated by technological advances, especially in shipping and transportation. By the end of the 1980s and early 1990s, global trade integration had reverted to levels last seen before World War I.

The postwar period also saw a number of growth successes, beginning with Japan (and Europe), followed by the East Asian tigers and then China, and more recently by India. Along the way, a few countries in sub-Saharan Africa and Latin America also succeeded in raising their standards of living.

In the late 1990s, however, a striking change occurred in the economic fortunes of countries: Economic growth took off across the world, a phenomenon that is best described as convergence with a vengeance. Until the late 1990s, only about 30 percent of the developing world (21 of 72 countries) was catching up with the economic frontier (the United States), and the rate of catch-up was about 1.5 percent per capita per year (table 1.1).¹ Since the late 1990s, nearly three-quarters of the developing world (75 of 103 countries) started catching up, at an accelerated annual pace of about 3.3 percent per capita. Although developing country growth slowed during the global financial crisis (2008–12), the rate of catch-up with advanced countries was not materially affected and remained close to 3 percent.

At around the same time, perhaps just preceding this convergence phase, world trade surged, ushering in an era of hyperglobalization. That rising globalization (hereafter used interchangeably with *trade integration*) is associated with stronger growth, and is a prerequisite for improving the situation of average citizens all over the world, which is reason enough to seek to sustain it. This integration need not continue at the torrid pace of recent years; it should be sustained at a relatively steady rate and any serious reversal, which could set back the prospects of the average global citizen, must be avoided.

This paper is divided into six sections. The next section documents some of the salient features of this era of hyperglobalization. Section 3 discusses three key areas where the trading system is seen as inadequate. The problems are illustrative of the proximate challenges and possible solutions, but in important ways they cannot be solved unless the more fundamental challenges of globalization are addressed. Section 4 explores these deeper challenges. Section 5 suggests possible policy responses at the

1. All growth figures in this paragraph use a GDP measure in purchasing power parity terms

national and international levels that could help sustain globalization. Section 6 offers brief concluding remarks.

The paper is not comprehensive: It focuses on the trade aspects of globalization. It does not discuss other important forms of globalization relating to the movement of finance and people. Rather, it focuses on the major challenges, emphasizing aspects and arguments that have perhaps received less attention thus far.²

2. SEVEN IMPORTANT CHARACTERISTICS OF THE MOST RECENT WAVE OF GLOBALIZATION

This section describes seven major features of the current era of hyperglobalization and of today's trading system:

- hyperglobalization (the rapid rise in trade integration)
- the dematerialization of globalization (the importance of services)
- democratic globalization (the widespread embrace of openness)
- criss-crossing globalization (the similarity of North-to-South trade and investment flows with flows in the other direction)
- the rise of a mega-trader (China), the first since Imperial Britain
- the proliferation of regional trade agreements and the imminence of mega-regional ones
- the decline of barriers to trade in goods but the continued existence of high barriers to trade in services

Hyperglobalization

Since the early 1990s, the world has entered into an era of what might be called hyperglobalization (figure 2.1). The years between 1870 and 1914 have been described as the first golden age of globalization. World trade as a share of GDP surged from 9 percent in 1870 to 16 percent on the eve of World War I. This was the era that John Maynard Keynes waxed eloquently about, noting that an inhabitant of London “could order by telephone, sipping his morning tea in bed, the various products of the whole earth, in such quantity as he might see fit, and reasonably expect their early delivery upon his doorstep” (Keynes 1920, 11).

The period between 1914 and the end of World War II witnessed the great reversal of globalization, as the combustible mix of isolationism, nationalism, and militarism ignited protectionist policies. World

2. For this reason, notable features such as the decline in transportation costs and improvements in information and communication technologies, which have been widely noted, are not studied in depth here (for discussions of these issues, see WTO 2013).

trade plunged to a low of 5.5 percent of world GDP just before World War II began (O'Rourke and Williamson 1999, Frieden 2006, and Irwin 2011).

A third era, starting after World War II, saw the restoration of world trade, aided by declines in transportation costs and trade barriers. Only by about the mid- to late-1970s did world trade revert to the peaks seen before World War I.

The world is now in a fourth era—of hyperglobalization—in which world trade has soared much more rapidly than world GDP. Merchandise exports-to-GDP ratios soared from 15 percent to 26 percent, and goods and services exports to about 33 percent,³ over the course of the last two decades. This rapid increase is somewhat surprising, because transportation costs do not appear to have declined as rapidly as in earlier eras (Hummels, Ishii, and Yi 2001 and Baldwin 2011a). The cost of information and communications did decline significantly, however.

Part of the increase in trade reflects the fragmentation of manufacturing across borders—the famous slicing up of the value-added chain—as individual production stages are located where the costs of production are lowest. This phenomenon, whereby technology no longer requires that successive stages of manufacturing production be physically contiguous or proximate, has been dubbed the “second unbundling” (Baldwin 2011a).⁴

This real technological impetus to trade tends to artificially inflate recorded trade. Because value is added at each stage of the production chain, it is recorded as exports at successive links in the chain. Gross export flows therefore overstate real flows of value added (exports net of imported intermediate goods). Figure 2.1 shows that, even though value added-based exports of goods and services are about 5 percentage points lower than exports measured on a gross basis, their trajectory (i.e., for total trade in goods and services) has been similar to that of conventionally measured exports. More recently, value added as a share of exports has not declined substantially or across all trading regions (Hanson 2012 and WTO 2013).⁵

A related feature of this era of hyperglobalization is the rise of multinational corporations and the sharp surge in flows of foreign direct investment (FDI), which have both caused and been caused by cross-border and other flows of goods and services. Since the early 1990s (broadly coinciding with the era

3. Throughout this paper, we use trade data as currently measured, on a gross basis. Wherever possible, and as a cross-check, we also present results for trade data measured on a value-added basis. Appendix A explains how these values are calculated.

4. The first unbundling reflected in the quotation from Keynes is the separation of the producer from the consumer that increased trade permits.

5. Koopman, Wang, and Wei (2013) further refined the measurement of value-added trade by distinguishing where countries are (upstream versus downstream) in the value-added chain. The aggregate value-added measures reported here are computed as in their paper.

of hyperglobalization), FDI flows have surged, growing substantially faster than GDP (figure 2.2). Global FDI as a share of world GDP, which hovered around 0.5 percent, increased sevenfold, peaking at close to 4 percent just before the onset of the recent global financial crisis. Even discounting the two surges of 1997–2000 and 2005–08, the general trend is steadily increasing. Global FDI stocks (which are less volatile than flows) jumped from less than 10 percent of GDP in the early 1990s to 30 percent in 2011. FDI flows, and stocks, now surpass levels achieved in the first golden era of globalization, before World War I. By 2009, there were more than 80,000 multinationals, accounting for about two-thirds of world trade (UNCTAD 2010).

Dematerializing Globalization

The rapid increase in trade has occurred in both goods and services. Based on conventional (gross) trade data, services trade represented about 17 percent of world trade in 1980 and about 20 percent in 2008. Measured in value-added terms, the corresponding numbers are 30 percent and 43 percent. The apparent paradox that we seek to explain in this section is that services trade, which represents 6 percent of world GDP on a gross basis, is actually 40 to 50 percent larger when computed in value-added terms. This phenomenon arises because services are not always directly tradable but are embodied in the production of goods that are traded. In traditional trade statistics, such a service is not counted as traded, whereas in value-added terms it is considered as such, since the production of this service took place in one country while the service was consumed in another country. Traditional measures of services trade underestimate its importance in global trade.

Two underlying factors can explain the “dematerialization” of trade. First, as Johnson and Noguera (2012) show, the ratio of value-added exports to gross exports in manufacturing goods decreased in the last 30 years (from 60 percent in 1980 to 45 percent in 2009), as a result of the rising importance of global value chains in this sector. Second, as explained in the previous paragraph, trade in services is larger and growing faster in value-added terms than traditional statistics show. Soon, trade in services could eclipse trade in goods, less because services are traded directly, but more because services are increasingly embodied in goods. Trade will actually be dematerializing—moving from “stuff” to “fluff” (intangibles—although the manifestation will be, and the data will record, the opposite effect).

Value added-based trade data reveal how much of total value added in a sector is traded globally. Table 2.1 shows world exports (gross and value added) of goods as a share of world value added in goods (defined to include agriculture and industry), as well as similar numbers for services. During the period of hyperglobalization, value-added exports of goods as a share of total value added in the sector (agriculture and industry) increased from about 33 percent to 47 percent, and services as a share of value added in the services sector increased from 11 percent to 16 percent. Thus, the pace at which services is becoming tradable mirrors that in merchandise.

The slower rise in the tradability of goods than services in the era of hyperglobalization may partly reflect the differential rise in the costs of transportation versus information and communications technologies (ICT). After plummeting sharply between about 1940 and 1980, transportation costs appear to have stabilized (Baldwin 2011a and Hummels 2007). In contrast, after 1990, the use of ICT-related technologies and applications surged. A consequence could have been a differential fillip to more sophisticated goods and especially services.

Democratic Globalization

Part of the increase in trade also reflects convergence and the wider distribution of output and income: That is, trade has grown because output has become more widespread and “democratic.” Basic gravity theory implies that smaller countries tend to trade more than larger ones.⁶ A world made up of two equal-size countries will experience more trade than a world in which the larger country accounts for 95 percent of world output. Over time, the world is becoming less unequal in terms of the distribution of the underlying output that generates trade.⁷ For example, between 1970 and 2000 the world was constituted by about 7.0–7.5 country equivalents (with fluctuations) (figure 2.4). Since 2000, as more countries have started catching up with the rich, world output has become more dispersed: Today, it is as if there were 10 country-equivalents in the world. In the era of hyperglobalization, roughly a third of the increase in trade can be accounted for by this democratization of world output (figure 2.3).

Even if the rise in world trade is caused by spreading prosperity, is this rise itself broadly spread? The numbers in figure 2.1 are in effect a GDP-weighted average of individual country’s export-to-GDP ratios. We can, instead, calculate export-to-GDP ratios that are unweighted or weighted by population to measure the reach of globalization across countries and across people, as done in figure 2.4.

Figure 2.4 shows that in 1913, the peak of the first golden era of globalization, the unweighted average export-to-GDP ratio in the world was close to 15 percent. In 2010, it was 21.5 percent. The population-weighted export-to-GDP ratio was about 6 percent; by 2010, it was more than 15 percent. Hyperglobalization has thus come about not just because some rich countries are becoming more open

6. The gravity model of trade is theoretically well-established and empirically validated. It shows that trade between two countries is proportional to their economic size and inversely proportional to their distance. Other things equal, a large country will trade more than a small one but will be less open (trade/GDP will be smaller).

7. As Anderson (2011) shows, in a world without trade frictions, the share of trade in world output is given by $1 - \sum_j b_j^2$ where b_j is the share of a country in world output. Inverting the expression gives the number of country-equivalents in the world, which increases with convergence. Baier and Bergstrand (2001) find a statistically significant effect of convergence on trade.

but also because openness is being embraced more widely.⁸ Keynes' paean to globalization was thus both imperialist and elitist.^{9, 10}

Criss-Crossing Globalization

Trade has been increasing steadily. But one of the unique features of the most recent phase of hyperglobalization is the fact that similar kinds of goods (and capital) are criss-crossing global borders. In other words, it is less and less the case that a country's imports and exports are very different.

Three manifestations of such criss-crossing globalization can be discerned. In the immediate aftermath of World War II, the industrial countries increasingly started to export and import manufactured goods (for example, Japan, Germany, and the United States all exported and imported cars), a phenomenon at odds with classic Ricardian model. Models of monopolistic competition (Helpman and Krugman 1985) combined with consumers' love for variety (differentiated products) provided the theoretical basis for the phenomenon of intraindustry trade that related to trade in final goods. Melitz and Trefler (2012) show that the share of intraindustry trade in total trade increased by nearly 20 percentage points. But this increase occurred between 1960 and the mid-1990s rather than over the most recent period of hyperglobalization. In fact, since the 1990s, this share of intraindustry trade has stabilized (Brühlhart 2009).

For the rapidly growing emerging market countries of Asia, criss-crossing globalization has taken the form of greater two-way flows of parts and components than of final goods. This phenomenon is related to the slicing up of the value-added chain and the unbundling noted above.

The share of parts and components in trade offers one measure of criss-crossing globalization. For the world as a whole, this share increased from about 22 percent in 1980 to 29 percent in 2000. Since then, intermediate goods trade declined to about 26 percent of total trade, suggesting that the internationalization of production may have peaked (WTO 2013). Indeed, this form of globalization was really observed only in Asia, and even there intermediate trade has declined since 2000. Even in China, reliance on imports has declined markedly. In the computer sector (broadly defined), for example, exports

8. One potential problem with figure 2.4 is that the sample is not constant over time. The finding that trade has become more democratized holds even for the constant sample of countries (not reported here). The unweighted average is above the population-weighted average because populous countries tend to trade less.

9. Even within the United Kingdom, the benefits of globalization were not broadly accessible. In 1912, for example, there were 0.6 million telephone subscribers in the United Kingdom, the population of which was about 46 million.

10. Another way of describing this democratization is to note that the trade of low- and middle-income countries has grown more rapidly than their incomes and more rapidly than the trade of high-income countries and that a bulk of this growth is trade among low- and middle-income countries (Hanson 2012).

were only 1.6 times imports in 1994, indicating substantial intermediate trade; by 2008, this ratio had climbed to 4.2 (Hanson 2012).

The third (and perhaps least remarked on) dimension of criss-crossing globalization, with potentially important effects for globalization policies, relates to two-way flows of FDI. It is one of the unique aspects of this era of hyperglobalization that developing countries (especially the larger ones) are exporting FDI (which embodies sophisticated factors of production, including entrepreneurial and managerial skills and technology)—and not just to other developing or countries (Mattoo and Subramanian 2010). Figure 2.5 plots a Grubel-Lloyd index of two-way flows of FDI at the global level.¹¹ Depending on the weighting, this index climbed from about 0.3 in 1970 to almost 0.7 by 2011.

The Rise of a Genuine Mega-Trader: China

When Krugman (1995) surveyed the evolution of world trade, he noted as one of the distinctive features the rise of a number of Asian super-traders, including Singapore, Hong Kong (China), and Malaysia, all of whose exports exceeded 50 percent of GDP, a feature never seen in the first era of globalization (in 1913, the United Kingdom's ratio of export to GDP was 18.5 percent). But mega-traders can be defined in two senses: globally (relative to world trade) and nationally (relative to a country's own output). Krugman clearly applied the latter criterion. Had he applied the former, one mega-trader he would have identified would have been Japan in the 1980s, which accounted for about 7.5 percent of global trade at its peak. Based on this criterion, none of the other East Asian Tigers would have been noteworthy, despite their astonishing performance: The small economies of Singapore, Hong Kong (China), Taiwan (China), and Malaysia accounted for a very small share of world trade at their peaks.

Since 1990, a true mega-trader has emerged: China. It qualifies as such under both definitions of the term. Its integration to world trade has accelerated with its accession to the WTO in 2001, and transformed the country into the world's largest exporter and importer of manufactured goods, having surpassed the United States in 2012 (table 2.2).

China's exports as a share of GDP are now almost 50 percent. When its size and income level are taken into account, it is a substantial over-trader, comparable to the United Kingdom in the heyday of its empire and a vastly bigger trader than the United States, Japan, or Germany at their peaks.

For example, in 1975, the United States' trade-to-GDP ratio was 16.1 percent (table 2.3). Given the size and income level of the United States, that number represented under-trading of about 35 percent. Japan in 1990, with a trade-to-GDP ratio of 20 percent, under-traded by about 50 percent. In

11. The Grubel-Lloyd index, which can take values between 0 and 1, measures the degree of two-way flows for a given country or industry. An index of 0 denotes that a country's exports and imports are perfectly dissimilar—that is, a country is either fully an importer or an exporter of a good (or, in this specific case, a type of capital flow). An index of 1 denotes that a country's exports and imports are similar—that is, a country exports and imports of a certain good are identical in magnitude.

contrast, China's trade-to-GDP ratio in 2008 was 62.2 percent, which represented over-trading of nearly 60 percent. Only Imperial Britain was a mega-trader in both senses of the term. In 1913, its exports represented 18.5 percent of world exports. Its export-to-GDP ratio was 12 percent, which represented over-trading of about 84 percent. China is thus the first mega-trader since Imperial Britain.

If trade continues to grow in line with income, China's dominance in world trade will become even greater. According to simple calculations in Subramanian (2011), by 2030 China could account for about 16 to 17 percent of world exports, nearly three times the share of the United States (see table 2.2).¹² Even at the height of US dominance, around 1975, it did not account for as large a share of world trade or have as great an edge over its nearest competitors (in 2000, the United States accounted for about 16 percent of world exports compared with 8 percent for Germany and about 7 percent for Japan). Any discussion of trade and the trading system going forward must recognize this development (discussed further below).

Growing Regionalization, Preferential Trade, and Impending Hyperregionalization

The era of hyperglobalization has been accompanied by a proliferation of preferential trade agreements (PTAs). Today, about half of the exports of the top 30 exporters go to preferential trade partners. Between 1990 and 2010, the number of PTAs increased from 70 to 300 (figure 2.6). In the mid-1990s, about 75 percent of PTAs were regional; by 2003, this share had dropped to about 50 percent. All World Trade Organization (WTO) members except Mongolia have concluded at least one PTA; some, such as the European Union, Chile, and Mexico, have concluded more than 20. Some of the large traders have already concluded agreements with each other or are about to do so (examples include the European Union and Mercosul, Japan and Mercosul, the European Union and India, and India and Japan).

The fact that nearly half of world trade is covered by preferential agreements does not mean that a comparable figure enjoys preferential barrier reductions. Carpenter and Lendle (2010) estimates that only about 17 percent of world trade is eligible for preferences; the remaining 83 percent either enjoy zero nondiscriminatory tariffs (nearly 50 percent) or are excluded from preferential agreements. Moreover, where preferences can apply, margins are low. For example, less than 2 percent of world imports enjoy preferences greater than 10 percentage points.

An interesting new dimension of these PTAs is the extent to which they feature "deep integration" (Lawrence 1996)—that is, liberalize not only tariffs and quotas but other "behind-the-border" barriers, such as regulations and standards, as well. In the last 10 years, for example, nearly 40 agreements have included provisions on WTO+ issues (competition policy, intellectual property rights, investment, and the movement of capital). This figure is four to five times greater than comparable agreements in the pre-WTO era (WTO 2011) (see figure 2.6 and table 2.4).

12. The WTO (2013) projection for 2035 is exactly in line with the estimate in Subramanian (2011). The WTO's mean estimate is that China will account for 17 percent of world trade in 2035, with a range of 11 to 23 percent.

In part because of these deep integration agreements, it would be wrong on the basis of the tariff evidence to underestimate the potential discriminatory effect of preferential arrangements. In agriculture and some manufacturing sectors, such as textiles, tariffs are still high. In services, any future deepening of preferential agreements could create significant discrimination against outsiders, because most favored nation (MFN) levels of protection are significant and there is considerable scope for the preferential recognition of standards, licensing, and qualification requirements (Chen and Mattoo 2004). Strong exclusionary effects could also arise from “deeper integration” along other dimensions: Preferential agreements increasingly have provisions on investment protection, intellectual property rights, government procurement, competition policy, and technical barriers to trade.

On regional agreements, seismic changes are under way, with the possible negotiation of mega-regional agreements between the United States and Asia (the Trans-Pacific Partnership) and the United States and Europe (the Transatlantic Trade and Investment Partnership). Trade between these groups of countries accounts for about \$2 trillion to \$3 trillion a year in world trade, signifying a potentially major jump in the volume of trade covered by preferential agreements. These PTAs would represent the first between the top four major regions of the world (China, the United States, Europe, and Japan), with consequences that will be discussed below. If the Transatlantic Trade and Investment Partnership and Trans-Pacific Partnership (to the extent that it includes Japan) are concluded, about 20 percent of global trade will be covered by those deeper regional agreements. It is not unforeseeable to think of an era in which nearly all trade becomes regional.

Lower Formal Barriers in Goods, High Barriers in Services

The world has become much less protectionist. Globally, MFN tariffs have declined from more than 25 percent in the mid-1980s to about 8 percent today. Border barriers (tariffs and nontariff measures) in manufacturing in the Organization for Economic Cooperation and Development (OECD) countries are less than 4 percent. The US International Trade Commission (USITC 2011) estimates that the welfare gains in the United States from eliminating all remaining tariffs are close to zero. Border barriers in the larger emerging markets are higher, but they have declined considerably, from about 45 percent in the early 1980s to just over 10 percent in 2009 (figure 2.7).

But barriers to trade in services remain high.¹³ Borchert, Gootiz, and Mattoo (2012) calculate trade restrictiveness indexes for services. They cover five major sectors—financial services, telecommunications, retail distribution, transportation, and professional services—and the different modes of delivering these services across borders and via investment abroad). The index ranges from 0 (completely free) to 100 (completely restricted).

13. There are no data on barriers to trade in services going back in time that would allow a quantitative description of changes in barriers.

Barriers vary across service sectors, but the average level is high (figure 2.8).¹⁴ Barriers are relatively low in telecommunications and relatively high in transportation and professional services. They also vary across regions: Latin America is nearly as open as OECD countries, whereas Asia and the Middle East have high barriers. In fact, as in goods, barriers are correlated with a country's level of development (figure 2.1). What this means is that international negotiations will increasingly focus on services and FDI.

Two points are worth noting. First, barriers to trade in goods and services have declined sharply over time; the world as a whole is thus becoming less closed. But the composition of world trade is shifting toward the poorer countries (especially toward China and India), and these countries are on average more protectionist (as figures 2.7 through 2.9 illustrate). The composition of world output is also shifting toward services and away from manufacturing. Both these compositional shifts make the world as a whole less open and attenuate the liberalization trend that stems from all countries reducing barriers.

Second, the integration of goods and services markets is nowhere close to completion. One way of assessing how far from full globalization the world still is might be to compare actual trade with what is predicted by a simple gravity model without frictions. As Krugman (1995) and Anderson (2011) show, under frictionless trade, the world trade share is inversely related to the distribution of GDP across countries: the more equal the distribution, the greater the world trade share. In 1970, actual trade was about 10 percent of the theoretical maximum predicted by the frictionless gravity model. In 2011, it was about 40 percent (perhaps less if trade is calculated on a value-added basis). Thus, although actual trade is rapidly catching up with trade in a frictionless world, there is still some way to go.¹⁵

3. THREE PRESSING PROXIMATE CHALLENGES

This section discusses three recent challenges that have emerged in the trading system and proposes potential solutions to each of them. The proposed solutions can never be reached on their own, however, unless the deeper and more fundamental challenges, discussed in subsequent sections, are addressed.¹⁶

Trade and Currency Wars

Mercantilism and Self-Insurance: The Dual Origins of Reserve Accumulation

In the late 1990s, in the aftermath of the Asian financial crisis, a number of emerging market countries, especially in Asia, adopted an economic strategy that was dubbed Bretton Woods II (Dooley, Folkerts-Landau, and Garber 2003). This strategy had two motivations and one manifestation. Reeling from the

14. This index cannot strictly be compared with tariffs, but the farther away the number is from zero, the less open a country is.

15. An implication of this finding on unrealized globalization is that going forward, this potential is likely to be greater in services than in goods.

16. The next section, on trade and currency wars, draws on Mattoo and Subramanian (2009).

disruption that sudden withdrawal of foreign capital had caused to their economies and chafing at the political humiliation of having to borrow from the IMF, they decided to self-insure against future crises.¹⁷ Self-insurance took the form of building an arsenal of foreign exchange reserves (see Allen et al. 2013; Goldstein 2009). The second motivation was mercantilism, a strategy that made trade surplus the engine of growth.

Both motivations translated into a common manifestation: Countries moved from being large net importers of finance (running large current account deficits) to being less reliant on finance, or in some cases, notably China, Malaysia, and Taiwan (China), to becoming net exporters of finance (running current account surpluses). These motivations also translated into—actually require—a policy of undervaluing the exchange rate in a fixed or managed peg regime, aided by intervention in foreign exchange markets. A few countries in East Asia (China and Malaysia in particular) tended to maintain restrictions on capital inflows as a way of sustaining a competitive exchange rate.

Bergsten and Gagnon (2012, 2) argue that more than 20 countries have been intervening in foreign exchange markets for several years “at an average rate of nearly \$1 trillion annually... to keep their currencies undervalued and thus boost their international competitiveness and trade surpluses.” These countries include China and a number of East Asian countries, oil exporters, and some advanced countries, including Israel and Switzerland.

This problem is not new. Similar issues of undervaluation arose relating to the Deutsche mark in the 1960s and the yen in the 1970s and 1980s. The mercantilism or currency wars of today are related to the much deeper problem—and some would argue the greatest design flaw in the Bretton Woods system—of the asymmetric adjustment between surplus and deficit countries in the international monetary and trade system. Bergsten and Gagnon (2012, 10) write that “it is a huge irony that the Bretton Woods system was created at the end of the Second World War primarily to avoid repeating the disastrous experiences of the inter-war period with competitive devaluations, which led to currency wars and trade wars that in turn contributed importantly to the Great Depression, but that the system has failed to do so.”

Consequences of Mercantilism

Why are current account surpluses combined with undervalued exchange rates a problem for the international economic system? The consequences or problems can be categorized as cyclical mercantilism, structural mercantilism, and macro-mercantilism.

Cyclical mercantilism arises when the economy is depressed relative to trend growth; such a situation is characterized by idle resources, underutilized capital, and unemployment. Mercantilism by

17. The perceived humiliation was captured in the picture of the IMF Managing Director at the time, Michel Camdessus, looking over a head-bent President Suharto signing the economic adjustment program with the IMF.

one country threatens deflation in partner countries facing idle resources. This concern preoccupied Keynes, who argued that because of international liquidity constraints, there would always be greater pressure on debtors (countries running deficits) to adjust than on creditors. This asymmetry would impart a deflationary bias, because debtor countries would have to cut demand without surplus countries having to undertake the offsetting reflation. He therefore proposed that pressure be exerted on creditor countries by forcing them to pay instead of receiving interest on their positive balances (see Williamson 2011).

In the current context, the deflationary impact of Chinese policies on the United States, quantified by Cline (2005), has prompted some commentators to call for aggressive trade action by the United States against China and other countries practicing mercantilism (Krugman 2010 and Bergsten and Gagnon 2012). Persistent surpluses by Germany and their deflationary impact, especially within Europe, have sparked similar calls for action (Wolf 2010).

Structural mercantilism arises when a country pursues policies such as undervalued exchange rates as development or growth policy for an extended period of time. Such policies can have long-run effects on partner countries. An undervalued exchange rate is both an import tax and an export subsidy; it can have adverse effects on trading partners. One way structural mercantilism is transmitted is by depressing the medium-run price of manufactured products, reducing opportunities for specialization in manufacturing and manufactured exports in partner countries. The concerns expressed in sub-Saharan Africa and Latin America relate to structural mercantilism. Mattoo, Mishra, and Subramanian (2012) show, for example, that a 10 percent depreciation of China's real exchange rate reduces a developing country's exports of a typical product to third markets by about 1.5 to 2.0 percent. Such a decline can have long-run growth effects.

Macro-mercantilism was most evident in the recent crisis in the creation of the so-called savings glut (Bernanke 2005, 2007). Large and growing aggregate current account surpluses increase global liquidity, leading to easy credit and lending, which can easily morph into imprudence, financial excess, and asset bubbles, threatening financial stability. The savings glut hypothesis is by no means uncontested; many economists argue that monetary and regulatory policies in borrowing countries should bear the brunt of responsibility (Johnson and Kwak 2010 and Haldane 2010). How much blame the bartender should bear for plying alcohol on a drinker who binges will forever be disputed. But that excess liquidity was a factor and that Chinese mercantilist policies created excess liquidity are plausible deeper causes of the Lehman crisis (see Bernanke et al. 2011).

Currency wars or the resulting global imbalances are a systemic problem only if one or a few large countries pursue them. The possibility of collective action to prevent them must take account of this reality.

Exchange rates and foreign exchange intervention are centrally implicated in mercantilism. The international monetary system, under the auspices of the IMF, is therefore the best forum in which to

find a solution. The prospects for any serious reform remain slim, however, because of the inherent limits to international monetary cooperation. Systemic threats arise from the policies of the largest countries, in particular when policies pursued in self-interest conflict with the collective interest. But, by definition, it is difficult for the rest of the world to change the incentives of the large country to give more weight to the collective interest. Successful cooperation is fated to falter if not fail—and the history of the IMF in this matter has often resulted in failure.

As Mussa (2007) makes clear, “In *none* of these consultations has the Executive Board ever concluded that a member was out of compliance with its obligations regarding its exchange rate policies or any other matter” (emphasis in the original).¹⁸

Williamson (2011, 1) notes that “it has been 80 years since John Maynard Keynes first proposed a plan that would have disciplined persistent surplus countries. But the Keynes Plan, like the subsequent Volcker Plan in 1972–74, was defeated by the major surplus country of the day (the United States and Germany, respectively), and today China (not to mention Japan or Germany) exhibits no enthusiasm for new revisions of these ideas.” The question is whether there is anything that the rest of the world could have done—by way of sticks or carrots—to have persuaded the United States in 1944, Germany in 1973, or China in 2007 to change its positions or policies for the collective good.

The IMF’s ineffectiveness is a proximate manifestation of deeper structural causes related to leverage and legitimacy. Although the IMF has been able to effect changes in member country policies in the context of financial arrangements, it has not been influential without the leverage of financing. In its key surveillance function (which involves no financing), the IMF has rarely led to changes in the policies of large creditor countries, even when such policies have had significant spillover effects on countries; it has not been able to persuade large creditor countries to sacrifice domestic objectives for systemic ones. There seems to be an implicit “pact of mutual nonaggression,” to use Mussa’s phrase, in IMF surveillance. Perhaps as a result, the IMF has had a history and tradition of nonadversarial dialogue between its members and has not had to develop a real dispute settlement system.¹⁹

18. Keynes himself recognized the asymmetry of IMF leverage between creditor and debtor countries in the discussion in the lead-up to the creation of the IMF.

19. A corollary of the observation that cooperation is least likely where the self-interest of the largest countries are at stake is that the prospects for successful cooperation are greater where these countries are less affected and when the demands on them are minimal. Building global safety nets by providing greater and more expeditious access to crisis financing is one area where the greatest progress has already been made. The IMF’s lending ability tripled after the crisis, and it may increase further. For the large countries, it is both desirable and effective to push for larger safety nets. The costs are relatively small—involving larger financial contributions rather than any major change of domestic policies—and the rewards are great, because the system as a whole is strengthened while the individual clout of the large countries is increased (see Goldstein 2009).

Compounding this problem of limited leverage is the IMF's eroding legitimacy. Although its role and importance were rehabilitated with the recent global financial crisis, the perception of the IMF as an unreliable interlocutor in emerging market countries—Asia in particular—endures. A good example is the IMF's new conditionality-lite financing facility, which has few takers because some emerging market countries do not want to be seen as even potential borrowers from the IMF. Indeed, in 2009, a number of emerging market countries—Brazil, Singapore, and the Republic of Korea—preferred to get lines of credit from the US Federal Reserve rather than from the IMF.

The WTO seems to be different on these two counts of legitimacy and leverage, because it works on the basis of the exchange of concessions, which ensures that all players feel that they have derived a fair political “bargain.” Reciprocity ensures political buy-in to cooperation. Periodic negotiations in the GATT/WTO have updated this political contract between countries, redressing some old grievances and papering over others, with the implicit understanding that there will be a future occasion to take up the unsolvable problems of the day.

A consequence of reciprocity and the periodic updating of the political contract to cooperate—and another reason why the WTO works—is that this process creates incentives to adhere to the dispute settlement contract. Dispute settlement by the WTO is effective largely because countries feel that they have previously (and recently) made a reasonably advantageous, fair, and equitable bargain, to which they must adhere. WTO governance works because negotiations to create the rules and agree on liberalization are perceived as fair and broadly equitable in outcome, rendering subsequent compliance possible.²⁰

Trade, Climate Change, and Green Growth

Do the institutions and ideology of globalization come in the way of tackling climate change? In one very important respect, they may.²¹

Consider two episodes from 2012. In late 2012, the United States and the European Union sanctioned the use of antidumping duties against Chinese exports of solar panels on the grounds that Chinese manufacturers were “dumping” (selling below cost) solar panels manufactured in China. In the presidential debates, President Obama was on the defensive against Mitt Romney, who tried (with some success) to tar him with the “failed industrial policy” brush in relation to government support for clean energy and Solyndra, a producer of solar panels that filed for bankruptcy two years after receiving substantial government loans and guarantees. These examples illustrate how international rules and ideology (which underlie rules) could interfere with efforts to tackle climate change.

20. Experience suggests that the mere prospect of retaliation, as well as the reluctance to be seen as a rule breaker, is sufficient to ensure compliance and that there is rarely need for action.

21. This section is based on Mattoo and Subramanian (2013).

Mattoo and Subramanian (2012b) argue that only radical technological change can reconcile climate change goals with the development and energy aspirations of the bulk of humanity. Technological change requires the deployment of the full range of policy instruments that would raise the price of carbon and provide incentives for research and development of noncarbon-intensive sources of energy and related green technologies. With notable exceptions, countries have shown great reluctance to raise the price of carbon directly.

International rules severely restrict the use of subsidies. Under current WTO rules, domestic subsidies for the development and production of clean energy and related energy technologies are actionable by partner countries if those countries feel that their domestic production or exports are adversely affected. Until 2000, some of these subsidies were deemed nonactionable, but the exemption has not been renewed. Moreover, all forms of export subsidy involving clean energy and/or green technologies are prohibited. These rules are in place because of the ideology that imbues globalization—the notion that subsidies and all forms of industrial policy are dubious.

In relation to climate change, these rules are doubly bad. There is, of course, a logic to curtailing subsidies: Even if they confer domestic benefits, those benefits are outweighed by the damage to partner countries. A multilateral rule to which there is general adherence reduces that damage, potentially leaving countries better off. But in the case of climate change, because spillovers are global, any subsidy that promotes clean energy and development confers a benefit to partner countries. On balance, therefore, rules should err on the side of promoting rather than restricting subsidies.

There is a second, arguably bigger, political economy benefit. Prospects for climate change action in the United States in the form of a carbon tax or cap-and-trade are not bright. President Obama's grand rhetoric in his 2013 State of the Union speech is unlikely to be matched by bold action because of the lack of bipartisan support in Congress. This state of affairs reflects a combination of factors—climate change denial, the strength of the carbon energy industries, and weak economic prospects. There is probably only one development that could galvanize action in the United States: the threat that China will capture green technology leadership. The United States needs a Sputnik moment of collective alarm at the loss of economic and technological ascendancy.

The problem is that China is currently constrained by WTO rules, as the actions against its firms in 2012 illustrate.²² China and all countries that are not straitjacketed by the tyranny of the subsidies-

22. In fact, China stopped providing subsidies to its solar power companies in response to trade action by the United States. "The U.S. Trade Representative's Office responded by filing a complaint in December with the WTO saying China violated rules of the Geneva-based trade arbiter. China's Special Fund for Wind Power Manufacturing required recipients of aid to use Chinese-made parts and amounted to a prohibited subsidy, the U.S. said. Before the WTO acted on the complaint, China made it moot by ending that aid in June, according to the U.S." (<http://www.bloomberg.com/news/2011-09-23/blame-china-chorus-grows-as-solyndra-fails-amid-cheap-imports.html>).

are-bad ideology and that have the financial means to do so should be allowed to deploy industrial policy to promote clean energy and green technologies. If doing so leads to a subsidy war because partners feel threatened, that is a war that should be promoted, as it will ignite the race for the development and production of an undersupplied global public good. From this perspective, WTO rules should allow not only domestic but, perhaps also export subsidies under some conditions; current rules circumscribe the use of domestic and prohibit the use of export subsidies.²³

Trade and Scarcity of Food and Resources

The 2007 global food crisis was severe.²⁴ According to the World Bank, about 100 million people are estimated to have been thrown back into the ranks of the poor because of increases in the price of food. Riots occurred in a number of countries. The Bank identified 33 countries as especially vulnerable. The poor were especially vulnerable because they spend the largest portions of their income on food. In the United States, the poor spend an estimated 18 percent of their income on food; a similar measure for households earning less than \$1 a day is about 72 percent in Peru and South Africa, 66 percent in Indonesia, and 50 percent in Mexico (Banerjee and Dufflo 2011).

But pressure on food supplies, and associated high food prices, could be a medium- to long-term reality, because some of the driving factors—rising prosperity in the developing world, which creates more demand, high fuel prices, stagnant agricultural productivity, and climate change-induced pressure on agricultural supplies, including through the depletion of water—could be of a durable nature. These fundamentals are being exacerbated by export restrictions on foodstuffs. According to a World Bank report, in the 2007 crisis, 18 developing countries imposed some form of export restrictions (Zaman et al. 2008). Each country tried to keep domestic supplies high, on the grounds of food security. But as more countries implemented export controls, global supply contracted, pushing prices up and exacerbating global food insecurity. The global rice market was particularly affected by trade restrictions.²⁵

23. Another area in which trade restrictions should be permitted is border tariffs against imports from countries that do not tax carbon in the manner that the importing country does. Such tariffs would help overcome opposition from energy-intensive industries in countries wishing to raise the price of carbon on the grounds that they would be rendered uncompetitive relative to imports from countries that do not tax carbon. A final area in which WTO rules need to be clarified is export restrictions on natural gas, which is becoming an important fuel. The United States currently limits its exports to countries with which it does not have a free trade agreement. If greater global use of natural gas is desirable (because it is cleaner than substitutes such as oil and coal), then restrictions on exports may be deleterious for global energy emissions.

24. This section draws on Mattoo and Subramanian (2012a).

25. Food security goals are best served not by restricting trade but by deploying domestic policy instruments such as targeted safety nets. The existence of such safety nets would dilute the political economy bias in favor of trade interventions.

There are few restrictions on the use of export taxes in the WTO, and its disciplines on export restrictions are incomplete. The GATT does prohibit quantitative restrictions on exports, but temporary restrictions are permitted in order to prevent critical shortages of food or other goods.

This permissiveness on export taxes and restrictions is resulting in the worst of all possible worlds. Under “normal” agricultural conditions, costly taxpayer support reduces imports and encourages production and exports, creating huge distortions. Under abnormal conditions, such as are prevailing now, the opposite occurs: Countries liberalize their imports but prevent exports. What is needed is a system in which both imports and exports remain free to flow in good times and bad. Such a system is especially important if trade is to remain a reliable avenue for food security. If in bad times importing countries are subject to the export-restricting actions of producing countries, they will consider trade an unreliable way of maintaining food security and reconsider how to manage their agriculture. As a result, there will be a greater temptation to move toward more self-reliance as insurance against the bad times.²⁶

The Doha Round of trade negotiations did not address these problems. It was devoted to traditional forms of agricultural protection—trade barriers in the importing countries and subsidies to food production in producing countries—which are now becoming less important as food prices have soared and import barriers declined. The trade agenda needs to be enlarged, so that trade barriers, on both imports and exports, are put on the trade agenda.

Trade policies have also exacerbated the scarcity of nonfood resources. Concerns have already arisen over China’s restriction of exports of rare earth metals, for some of which (for example, scandium and yttrium) it accounts for more than 70 percent of the world’s exports. It also accounts for a large share of exports of other key raw materials, including various forms of bauxite, magnesium, and zinc.²⁷

4. FUNDAMENTAL POLICY CHALLENGES

The period of hyperglobalization has been associated with the most dramatic turnaround in the economic fortunes of developing countries. Regardless of the view one takes about this association, it is safe to say that a broadly open system is good for the world, good for individual countries, and good for average citizens in these countries. Going forward, even if the pace of hyperglobalization slows, the aim of policy

26. Not surprisingly, WTO members that depend heavily on world markets for food (for example, Japan and Switzerland in 2000; the Democratic Republic of Congo, Jordan, and the Republic of Korea in 2001) have pushed for disciplines on export controls and taxes. Recognizing that importers’ concerns about the reliability of supply could inhibit liberalization, some exporting countries have advocated for multilateral restrictions on the right to use export restrictions (examples include the Cairns Group and the United States in 2000 and Japan and Switzerland in 2008, see the International Economic Law and Policy Blog 2008).

27. In an earlier case, a WTO panel ruled against certain export restrictions China had maintained on a number of raw materials, including bauxite, coke, fluorspar, magnesium, and zinc.

at the national and collective level must be to sustain steady and rising globalization and avoid sharp reversals.

The previous section illustrated some of the proximate challenges. They can be addressed only if the deeper challenges are recognized and addressed.

One way of approaching these more fundamental policy challenges is suggested in table 4.1, which helps identify the problems and hence to prioritize the policy response. This schematic can be applied to three broad groups of countries (high, middle, and low income), the challenges and responses for each of which may differ.

What are the really important challenges for the open trading system, and how should they be responded to? If the next couple of decades mimic or come close to mimicking the last two in terms of globalization, success will have been unambiguous. The challenge is thus simply to maintain the status quo and allow the forces that have shaped globalization over the last few decades to play themselves out.

Alternatively, one could argue that globalization needs to advance on a number of different dimensions—because, for example, impediments remain to the prospects of average citizens, especially in low-income countries. The need for further globalization could also stem from the perception that in some respects, the current system is unsustainable, because it is differentially open and the burden of providing open markets is not equally shared, especially by China.

A third logical possibility is that the forces that will push against globalization are, or will become, so strong that a retreat from current globalization is inevitable. The challenge then will be to manage this retreat in a way that minimizes the costs to countries and citizens around the world.

The responses to each of these challenges can occur at the national level, at the international level, or through some combination of national and collective action. The responses to these challenges are discussed below.

The West's Challenge: Hyperglobalization Meets Economic Decline

The Bad News

Public support for free trade agreements in the United States is at its lowest point since 2006, according to the Pew Center (2010)—and the decline occurred quickly. In 2009, the share of people who supported free trade agreements exceeded the share who opposed it by a margin of 11 percentage points. In 2010, opponents of free trade outnumbered supporters by 8 percentage points. Surprisingly, among Republican-leaning voters, the turnaround was even more dramatic: The margin in 2009 was 7 percentage points in favor of free trade agreements; the margin in 2010 was 26 percentage points against free trade agreements. This weakening collective perception of the benefits of openness is matched, mirrored, or validated by intellectual opinion.

Samuelson (2004) argues that the rise of developing countries such as China and India could compromise living standards in the United States, because as they move up the technology ladder, they provide competition for US exports, reducing their price. Krugman (2008) focuses on the impact of imports from developing countries, particularly China, on the distribution of income in the United States and the wages of less-skilled workers. His conclusion is that “it is likely that the rapid growth of trade since the early 1990s has had significant distributional effects” and that “it is probably true that this increase (in manufactured imports from developing countries)... has been a force for greater inequality in the United States and other developed countries” (Krugman 2008, 134–35).

Blinder (2009) draws attention to the employment and wage consequences of the outsourcing that has been facilitated by technological change and trade in services. He estimates that 22 to 29 percent of all US jobs will be offshored or offshorable within the next decade or two.

Summers (2008a, 2008b) has highlighted the problems stemming from increasing capital mobility. Hypermobility US capital creates a double whammy for American workers. First, as companies flee in search of cheaper labor abroad, American workers become less productive (because they have less capital to work with) and hence receive lower wages; the “exit” option for capital also reduces the incentive to invest in domestic labor. Second, capital mobility impairs the ability of domestic policy to respond to labor’s problem through redistribution because of an erosion in the tax base as countries compete to attract capital by reducing their tax rates.

Spence and Hlatshwayo (2012) argue that almost the entire increase in employment—27.3 million jobs in the United States between 1990 and 2008—was in the nontradable sectors, where productivity growth was much slower than in the manufacturing and tradable sectors, explaining the long-term stagnation of wages in last segment of the workforce.

That a constellation of intellectuals—instinctively cosmopolitan and ideologically liberal—talks like this is an important signal, not least because the objective circumstances have changed. One might call this challenge that of the irresistible force of globalization and hyperglobalization meeting the immovable object of weakening economic and fiscal fortunes in the West.

In the United States, except for a brief spell in the late 1990s, median wages have stagnated for three decades; inequality has been sharply rising, particularly because of rising incomes at the very top of the income spectrum (Piketty and Saez 2003); and mobility has declined (Haskins, Isaac, and Sawhill 2008). Worse, as in all industrial countries, indebtedness has risen (average debt in the G-7 is now about 80 percent of GDP), prospects for medium-term growth in the future are not bright (according to the latest *World Economic Outlook* forecast), and aging and entitlements add to the serious fiscal pressures looming ahead. These objective conditions are not the most propitious for sustaining globalization.

This structural malaise is captured in the following metaphor that Larry Katz, of Harvard, uses: “Think of the American economy as a large apartment block. A century ago—even 30 years ago—it was the object of envy. But in the last generation its character changed. The penthouses at the top keep getting larger and larger. The apartments in the middle are feeling more and more squeezed, and the basement has flooded. To round it off, the elevator is no longer working. That broken elevator is what gets people down the most” (quoted by Luce 2010).

The policy challenge in the advanced countries is that sustaining current levels of openness will require addressing these domestic challenges at the very time when growth could be slowing and the ability to effect redistribution is being impeded by broader medium-term fiscal concerns. In this light, the changing attitudes to globalization and free trade cited above are not surprising.

We focus here on what is now different in the West’s ability to sustain globalization. A starting point is the view, described in Rodrik (1998), that sustaining openness requires a domestic social consensus in its favor, which in turn requires mechanisms of social insurance to cushion domestic actors against globalization-induced shocks. Rodrik (1998) provides evidence showing that this domestic consensus can be captured in the relationship between the size of government (a proxy for social insurance mechanisms) and openness.

More direct evidence of the importance of social insurance comes from a paper by Autor, Dorn, and Hanson (2013), who show that rising exposure to Chinese imports increases unemployment, lowers labor force participation, and reduces wages in local labor markets. They estimate that the exogenous component of this shock explains one-quarter of the contemporaneous aggregate decline in US manufacturing employment. They estimate that rising exposure to Chinese import competition explains about 16 percent of the decline in US manufacturing employment between 1991 and 2000 and 27 percent of the decline between 2000 and 2007. Transfer payments for unemployment, disability, retirement, and health care also rise sharply in exposed labor markets. They estimate the increase in annual per capita transfers attributable to rising Chinese import competition at \$32 in the first 10 years and \$51 in the last seven years of the sample, which translates into total expenditure of about \$5 billion in the 1990s and almost \$15 billion in the 2000s. The deadweight loss of financing these transfers is one-third to two-thirds as large as US gains from trade with China.

Can the West sustain these social insurance mechanisms? According to Summers (2008a), globalization both increases the need for social insurance and undermines the government’s ability to provide it, because it renders more factors, especially capital and high-skilled labor, more mobile and less easy to tax.

Has capital become less easy to tax? Figure 4.1 plots the marginal effective tax rates on capital in some important OECD countries and for the OECD as a whole. These rates have been sharply declining, and there is little pressure to reverse these trends.

For the OECD as a whole, the average marginal tax rate declined from about 55 percent to almost 40 percent, a 15 percentage point decline. These declines were witnessed across most, if not all countries. In the United States, rates declined from 65 percent to just over 50 percent; in Germany they fell from about 60 percent to less than 50 percent. Of course, these declines reflect pressures other than globalization and the attendant difficulty of heavily taxing mobile capital, but these pressures have been important.

A new development adds to the problems. Across the OECD, the share of the economic pie accruing to capital has been increasing from about 35 percent to 40 percent in the last few years (figure 4.2). This increasing share has prompted several commentators, including Krugman, to argue that the debate about inequality and trade and inequality in the 1990s, which related to inequality within types of labor (skilled versus unskilled), should now be viewed through a different lens, because inequality is increasingly between capital (and those who own it) and labor.

For the purposes of our argument, what is important is this: Not only is the ability to finance mechanisms of social insurance being undermined by weak growth and the burden of debt (Ruggie 1998); slippery, mobile capital is now accounting for a larger share of the economic pie. The funding of social insurance through taxation is thus going to become more difficult.

The Good News: The Protectionist Dog That Barked but Did Not Bite

Several commentators have remarked on the fact that despite suffering perhaps the biggest global trade shock in the recent global financial crisis, the world did not succumb to protectionism. This response stood in stark contrast to the experience of the 1930s. Explanations for the difference have included the facts that (a) countries could use macroeconomic policy instruments (monetary and exchange rate), which adherence to the gold standard initially prevented in the 1930s (Eichengreen and Irwin 2009); (b) automatic stabilizers were in place, by way of transfers and unemployment benefits (Autor, Dorn, and Hanson 2013); and (c) the deeper integration created by modern production chains rendered protectionism self-defeating (Baldwin and Evenett 2009).

The bigger puzzle is this: How did the West, and the United States in particular, adjust to arguably the biggest structural trade shock in its history—namely, rising imports from China—without any serious recourse to protectionism? Why was there less protectionist outrage in the United States against China than there was against Mexico in the 1990s or Japan in the 1980s? The domestic uproar against China did not match the backlash created in the context of the North American Free Trade Agreement (NAFTA),

and actual protectionist actions did not come remotely close to the actions taken against Japan (the Reagan era witnessed the greatest upsurge in trade barriers in the postwar period; see Destler 1992).

The differences cannot be explained by the relative magnitude of the three shocks, as the Chinese shock was orders of magnitude larger than the early shocks. Figure 4.3 plots imports from Mexico, Japan, and China as a share of US domestic consumption between 1962 and 2011. At their peaks, Japan accounted for 3.6 percent of U.S. consumption, whereas China accounts for about 5.2 percent.²⁸

Table 4.2 quantifies the trade shocks to the United States from the three countries. The shock is computed in three ways (each scaled by the working-age population in the United States or the domestic consumption of manufacturing): (a) average imports over the relevant period (for convenience, all shocks are considered to extend over a 20-year period: Japan 1970–90, Mexico 1980–2000, and China 1990–2010); (b) the change in imports over the period;²⁹ and (c) both average changes and changes calibrated by per capita GDP in each country.

As table 4.2 shows, depending on the measure used, the Chinese shock was either 4 to 5 or 10 times as great as the Japanese and Mexican shocks. Calibrated by per capita GDP, it was even greater. (One reason to calibrate by per capita GDP is that trade with low-income countries is of the Heckscher-Ohlin variety. It therefore imposes greater domestic political costs [than, say, trade in similar goods between countries at similar levels of development], in particular because these costs are disproportionately borne by unskilled labor, which competes more directly with foreign imports.³⁰)

Several explanations are possible for the differential response to the China shock. One could be that the measure of recorded imports exaggerates the trade shock because of the difference between gross flows and value-added flows. Chinese exports embody less value added than the exports of many other countries because of the large volume of intermediate inputs it imports and transforms into exports. Even making allowances for this distinction, however—and the problem was arguably as acute in relation to Mexican *maquiladora* exports to the United States—would hardly make a dent in the numbers presented above.³¹

A second explanation could be that in the case of Mexico, the uproar was exaggerated because there was a focal point: a trade agreement that had to be passed by the US Congress. But in the case of China,

28. Appendix figure A.3 plots the same data but for a shorter period for which value-added trade data can be computed. Gross exports overstate value-added exports for China, but they overstate them even more for Mexico.

29. Trefler (1993) shows that cross-industry differences in protection are associated with the change in import penetration, not its absolute value. Autor, Dorn, and Hanson (2013) use import penetration as a share of working-age population as the measure of trade shock.

30. Krugman (1995) elaborated on the reasons for intra-industry trade posing fewer political problems compared with Heckscher-Ohlin trade.

31. In appendix table A.1, the figures for China are recomputed based on value-added trade data (we cannot do the same for the Mexican and Japanese shocks, which would bias the comparison in favor of understating the China shock). The size of the Chinese shock declines, but it remains orders of magnitude larger than the earlier shocks from Japan and Mexico.

there has also been an identifiable target and identifiable policies: currency manipulation. Moreover, Mexico was an ally, whereas China is a potential adversary and competitor to big power status, which should have increased the outcry and concerns in domestic US politics.

A third explanation is that by the time the China trade shock arrived, the United States had specialized so much away from unskilled labor that there was less to disturb domestically. For example, the number of workers employed in the US clothing sector declined from 900,000 in 1990 to 150,000 in 2013. In technical terms, the United States is no longer in the cone of diversification (Edwards and Lawrence 2013). The estimates of employment disruption by Autor, Dorn, and Hanson (2013) for the Chinese case suggest that this argument cannot be a full, or even an important, explanation, however.

A fourth argument for the relatively muted domestic response is that the size of the Chinese market and the strategy of openness to US FDI essentially co-opted US companies and capital, which had an incentive to support rather than criticize China. The Japanese experience was different from the Chinese experience in two important respects: Trade conflict with Japan reflected head-to-head competition in some specific industries (steel, cars, semiconductors) rather than conflict based on unequal endowments. It was US capital rather than labor that was the victim in the Japan episode; as it had unusual influence in the political process, there was correspondingly more of a response. In addition, Japan had not created the same stake for US companies in Japan as China had.

Finally, it is possible that the underlying macroeconomic situation was better when the Chinese export juggernaut arrived.

One conclusion from all this is that if US domestic politics could survive a shock as great as that from China, there may be an underlying resilience (helped considerably by government insurance mechanisms) that should not be underestimated. Moreover, it could be argued that structural shocks similar to China's are unlikely to repeat themselves. This fact should temper unremitting pessimism about the future of globalization.

One can generalize the Chinese experience in the United States more broadly to other advanced countries. Figures 4.4 and 4.5 illustrate the change in OECD country imports in favor of developing countries. They plot the average income level of manufactured imports into the United States, Japan, and the Europe Union. The per capita GDP level of each source country, measured relative to that of the importing country, is weighted by its share in total manufactured imports of the reporting country (in figure 4.4, the per capita GDP and import share are contemporaneous; in figure 4.5, the per capita GDP is fixed at the 1980 level). In all cases, imports from the early 1990s are being sourced progressively from poorer countries, suggesting an increase in competition from lower-wage countries. In the European Union, for example, the average income level of imports drops from 100 percent to 75 percent. The

point is that all advanced economies have experienced large trade shocks, without recourse to serious protectionism.³²

The China Challenge: Bretton Woods Rules or Hyperglobalization Rules?

China will play a critical role in shaping the future of globalization, just as the United States did in the immediate aftermath of World War II. Its economy is as large as the United States' (in purchasing power parity terms), and its merchandise trade is larger. Over time, unless China implodes, the differential in economic strength will widen in its favor. Under reasonable assumptions about growth, China will become the dominant economic trader, accounting for twice as much trade as the United States and four times as much as Germany in 2030.

The China challenge will be twofold. As it becomes the world's largest economy and trader, its markets will become more important for other countries, especially low-income ones. China will thus matter to globalization not just as an exporter, but also as an importer.

This tension has been best exemplified in recent years by China's mercantilist growth strategy. In this millennium, China's growth and exports have been underpinned by an undervalued exchange rate, a policy that has been successful for China from a domestic perspective. By increasing the global export supply and depressing the global price of tradables, this policy may have set back the diversification possibilities of other poorer countries, however (Mattoo, Mishra, and Subramanian 2012).³³

The China challenge is more broadly applicable to middle-income countries. On the one hand, these countries will continue to rely on trade and foreign markets as a means of increasing their growth. On the other hand, these countries and their markets are becoming big enough (as the projection for China suggested) to offer opportunities for the average citizen in other poorer parts of the world. If China's actions are market opening, there will be little conflict between its domestic imperatives and the demands of an open system. If, however, it uses its policy space to implement beggar-thy-neighbor policies, conflict with other countries, including poorer ones, will ensue.

A second, possibly more important challenge from China's rise will pertain to the openness of the global system. After World War II, the United States initially bequeathed an open, rules-based trading system. Subsequently, reasonably successful cooperation between the two dominant trading powers—the United States and Europe—was achieved in the GATT/WTO through reciprocal exchange of market-opening commitments. Can this same mechanism be effective going forward with China as a dominant

32. The value-added counterpart of figures 4.4 and 4.5 are appendix figures A.2 and A.3. The broad trends remain the same.

33. Undervalued currencies are in effect both an import tax and an export subsidy; countries that maintain them wind up reducing the profitability of industries in countries with which they trade.

trader? Will it be possible to get China to reduce its policy barriers, especially in areas not covered by WTO rules, such as government procurement, investment rules, technology indigenization, and services sector policies?

There may indeed be a structural problem limiting the scope for reciprocity. When the United States and European Union dealt with each other in the postwar period, their markets were largely open; in areas where they were closed, they were broadly closed to the same extent. This symmetry facilitated reciprocity. In the future, problems could arise because the United States and European Union are, in policy terms, more open than China (see figure 2.10 above).

China is highly open in terms of trade outcomes, and it has made great strides in removing policy barriers as part of WTO accession. It is, however, more closed in policy terms, especially outside the traditional goods area. In services, technology, and government procurement, closed policies take the form of continuing state control over a large share of economic activity. According to Borchert et al. (2012), China's services sector policies are about three times as restrictive as those of the United States. For example, in the retail sector, China limits foreign ownership to 49 percent if the retailer has set up 30 or more stores that sell multiple types and brands of goods. In any future bargain, the United States will, by virtue of previous liberalization, have less to offer China.

The paradox will be that China will have greater leverage in bargaining by virtue of its much larger volume of trade but will also have higher trade policy barriers. It is as if in a duel, one party offers a smaller target and has a pistol with longer range. By 2020, China's imports will be 1.5 times larger than the United States' imports and twice as large as Germany's, conferring the kind of power that comes with being able to determine access to its markets. Future bargaining will therefore be structurally imbalanced in China's favor, making reciprocity more difficult to achieve.

This structural imbalance will be a persistent source of tension between the United States and China. As US manufacturing sector hollows out, and the United States comes to rely to an even greater degree on services, it will seek to open markets overseas, especially in China. If China's future opening is slow, over time the United States may be increasingly tempted to play the unfairness card based on the disparate levels of policy openness: Why should our markets be more open than those of a rival and equal?

This imbalance in bargaining could remain at the level of sparring and skirmishing without systemic consequences. But suppose failures to address its structural economic problems—stagnating median household income, rising inequality, declining economic mobility—creates a large, disaffected, and beleaguered middle class in the United States and that the intellectual consensus in favor of openness becomes increasingly frayed, as it has in the last few years. Frustrated by China's unwillingness to open the new sectors of its economy and lacking the carrots to overcome its unwillingness, spurred by a weak economic climate and shifting intellectual certitudes, and goaded by perceptions that China is not making

its fair contribution to keeping markets open, the United States could be tempted to threaten to close its own market to China unless China further opens its own. In this scenario, especially if China cannot wean itself off mercantilism and state capitalism, the scope for trade conflict and tension could increase considerably, jeopardizing the openness of the global system.

Concerns about China's trade policies have not been confined to rich countries. The Chinese export juggernaut is a source of concern across the developing world. Brazil, India, Mexico, Korea, South Africa, and other emerging market countries chafe under China's mercantilist exchange rate policies. Most of the antidumping actions taken by developing countries have been against Chinese imports. And one of the dirty secrets of the Doha Round is that its collapse was caused in part by the reluctance of emerging market countries to liberalize their economies and expose themselves to Chinese competition.³⁴

So a big, first-order question for the open system is how to prompt China to adopt more open policies. The problem becomes acute if one recognizes China's economic dominance and the degree to which other countries have lost leverage to influence Chinese policies. A little over a decade ago, the West could essentially determine the terms of China's accession to the WTO; that is no longer the case today.

The Changing Global Governance of Trade: Mega-regionalism Meets China

For a variety of reasons, regional integration has been, along with unilateral liberalization, the preferred mode of liberalization. As a result, the governance of world trade has shifted decisively toward regionalism and away from multilateralism.

So far, preferential trade agreements (PTAs) have been North-South "deep" regional trade agreements, occasioned in part by the rise of supply chains. A Doha Round that was midwived in an unusual bout of post-9/11 world solidarity and saddled with an agenda of issues like agriculture and tariffs that have less relevance now than new issues (exchange rate mercantilism, services, government procurement, investment, export restrictions) also contributed to a preference for regionalism (Mattoo and Subramanian 2012a and Baldwin 2011b).

North-South PTAs have not posed a serious threat for globalization; in fact, they may have contributed to significant opening through a process of competitive liberalization. But this relatively

34. In 2009, China's share of imports in the most protected sectors was substantially larger than its share of overall imports and dwarfed that of any other supplier. Its share in these sectors was more than 70 percent in Japan; more than 60 percent in Korea; about 55 percent in Brazil; and about 50 percent each in the United States, Canada, and the European Union. Even in these protected sectors, China's share increased dramatically over the course of the Doha Round. In many importing countries (for example, Brazil, the European Union, and the United States), China's share more than doubled. Also striking is how much market share China has gained even in countries such as Canada, Mexico, and Turkey, which have free trade agreements with close and large neighbors. Thus, liberalization under the Doha agenda, especially in the politically charged, high-tariff sectors, is increasingly about other countries opening their markets to Chinese exports (Mattoo and Subramanian 2012a).

benign outcome cannot be taken for granted in the case of the mega-regionals looming on the horizon. On the one hand, they will involve deep integration and facilitate further globalization. After all, the world trading system is already multilayered in terms of levels of integration (the European Union, the European Free Trade Agreement, customs unions, other free trade agreements, and so forth). A Trans-Pacific Partnership and Transatlantic Trade and Investment Partnership will just add another layer of integration.

On the other hand, such agreements could be exclusionary, depending on the extent to which they conform to the principles of open regionalism. Their effect will depend, above all, on how outsiders—the middle-income countries, especially China—react. If China views these agreements as economic war and containment by other means, and retaliates by concluding its own regional agreements, excluding the large traders, fragmentation and conflict could lie ahead.

It is not that the WTO and multilateralism have become totally irrelevant. More and more countries, including Russia, want to join the WTO. Its dispute settlement system functions effectively, its basic rules are broadly respected. The question is whether it retains its relevance as a key forum for facilitating further liberalization or transforms itself into an institution that serves mainly as a court of trade law and an overseer of regional trade.

The (Non) Challenge of Low-Income Countries

The antiglobalization and anti-WTO crusade of the 1990s (culminating in the protests in Seattle in 1998) forced policymakers into a strenuous defense of the development friendliness of the trading system. The Doha Round, for example, was formally dubbed the Doha Development Agenda, which seems an overdone title.

The perception that the trading system is unfair to low-income countries stems from the fact that rich country trade barriers are highest in agriculture and low-skilled manufacturing (textiles, clothing, and footwear), which tend to be important exports for low-income countries. This situation changed over the last decade or so. Rich country barriers in these sectors declined in the aftermath of the Uruguay Round, with Canada, the European Union, the United States, and Japan all significantly improving preferential access to low-income countries, in terms of both country and product coverage (the European Union's Everything But Arms and the United States' Africa Growth and Opportunity Act are two notable examples). In some cases, these schemes also became less arbitrary.

As a consequence, low-income countries are, at worst, treated no worse than the typical country and, at best, treated better. Nearly all low-income countries ("least developed countries," in the jargon of the trading system) face lower trade barriers than most other countries, because they receive generous preferences (albeit with some problems, depending on which country is granting them). There are some exceptions to these preferences (Bangladesh and Cambodia in clothing; West African countries facing

rich country cotton subsidization). But even these exceptions create a situation only of parity with other countries. Increasingly, larger developing countries have also started granting preferential access to low-income countries, although the coverage and magnitude of this access are limited.

Hoekman and Nicita (2011) calculate that the average barriers facing exports of sub-Saharan Africa are very low and much lower than for other countries. The average level of restrictiveness (including nontariff measures) that exports from sub-Saharan Africa face in other markets—4.4 percent in high-income countries and 6.0 percent in upper-middle-income countries, taking account of preference margins—is consistently lower than for any group. The comparable numbers are 6.3 and 15.6 percent for high-income countries as exporters, and 5.7 percent and 11.8 percent for upper-middle-income countries as exporters. (An exception is South Asia, which faces higher barriers because its exports face higher MFN tariffs and because countries such as India and Bangladesh are not included in the major preferential schemes, especially in the United States.)

Low-income countries also receive considerable space to pursue their own policies. In relation to rules on subsidies, intellectual property, and local content requirements, the least developed countries face weaker obligations. Moreover, the thresholds for taking contingent protectionist action (countervailing and antidumping) against exports of low-income countries are generally higher.

So it is not clear what more could be done for low-income countries internationally that would materially alter their growth prospects (box 4.1). Their growth challenges are predominantly domestic, as indicated in Rodrik (2013). Even recognizing the important point that Baldwin (2012) makes—that these countries need to get on to the new supply chains—it is not clear what other countries might do to galvanize this process, especially if the supply chain phenomenon is to some extent about geography.

For low-income countries, a trading system that allows them policy space to pursue appropriate growth strategies and that at the same time keeps global markets open for their exports is critical. After all, such was the external environment that allowed today's middle-income countries to prosper. Despite the tightening of trade rules since the formation of the WTO, there remains enough policy space for these rules not to become a straitjacket for today's low-income countries. Apart from some specific issues (such as food security), the real concern will be whether the external environment will remain as benign as in the previous two decades, so that low-income countries can export their way to growth. The actions of high- and middle-income countries will be critical.

5. POLICY RESPONSES

The key challenges facing globalization are sustaining domestic support for it in the West and ensuring that China continues to open its markets. Open markets in China are an important part of China's domestic agenda for sustaining convergence. They also offer opportunities for poorer countries similar to

Box 4.1 Helping low-income countries in new ways

Discussions of trade by low-income countries increasingly focuses on supply chains. Summarizing a new report, *Enabling Trade: Valuing Growth Opportunities*, Hoekman (2013, 13) suggests that “reducing supply chain barriers could increase global GDP up to six times more than removing all import tariffs. Estimates suggest that an ambitious improvement in two key components of supply chain barriers—border administration and transportation and communications infrastructure—with all countries raising their performance halfway to global best practice (as observed in Singapore), would lead to an increase of approximately \$2.6 trillion (4.7 percent) in global GDP and \$1.6 trillion (14.5 percent) in global exports. By contrast, the gains available from complete worldwide tariff elimination amount to no more than \$400 billion (0.7 percent) in global GDP and \$1.1 trillion (10.1 percent) in global exports.”

The focus on supply chains, combined with the laudable aim of making the WTO more development friendly and helping low-income countries, has led concerned actors to push for “trade facilitation” and “aid-for-trade.” The argument for trade facilitation is that improving the procedures and institutions relating to trade and processing of trade would expand trade. Hoekman and Nicita (2011) claim that relatively limited actions to facilitate trade can boost the trade expansion effects by a factor of two, three, or more.

Leaving aside these eye-popping quantitative estimates, the real issue relates to the changes in policies and practices in low-income countries that need to be changed. One often cited area is customs administration and procedures. The assumption underlying trade facilitation initiatives is that reforming customs is relatively easy. In fact, corruption is so rife that customs administration is fiendishly difficult to reform. A policy prescription that calls for customs reform is not very different from its behind-the-border counterpart that calls for improving institutions—something that is not easily done.

Moreover, trade facilitation assumes that governments should devote their policy effort to reforming customs administrations as opposed to reforming the judiciary or civil services more broadly. Advocates of trade facilitation never explain why trade should be prioritized.

The same assumptions pervade calls for aid-for-trade. The question of why not aid for health or education or other spheres is never addressed. Nor is the issue of whether aid can be effective in improving customs administration. Moreover, it turns out that reducing supply chain barriers is really about customs reform and reform of services sector policies within these countries, which are largely domestic agendas with a relatively limited role for outsiders.

As Borchert et al. (2012) note, “Today, industrial countries provide ‘aid for trade’ to landlocked countries to improve their ports, airports, and telecommunications infrastructure. But they avoid the liberalisation that would let service providers compete to use these facilities. Their taxpayers and the development community need to push for services reform. Otherwise these ‘trade-facilitating’ investments will earn a poor return.”

those that China enjoyed in industrial countries over the last few decades. They are critical to keeping the trading system open and free of serious conflict. The challenge of mega-regionalism is related to the China challenge.

National Responses

Sustaining and furthering globalization will be determined at the national rather than the international level. For the United States and Europe, actions are needed to revive growth and address fiscal challenges, especially the challenges stemming from growing entitlements. For the United States, there is

the additional challenge of addressing the problems of stagnating wages, rising inequality, and declining mobility. Success on these fronts will provide a surer guarantee that globalization will proceed apace. Several studies note that the demand for trade protection is inversely and robustly related to the state of the economy (see Rodrik 1998).

For its part, China should have a stake in preserving the open system for the simple reason that its rapid economic transformation over the last three decades was predicated crucially on openness. That transformation is still far from complete: China's standard of living is still only 20 to 25 percent that of industrial countries. Completing that transformation is critical for the political legitimacy of China's policymakers. In these circumstances, disrupting the open system would amount to biting the hand that has fed China and its rulers.

Indeed, going forward, the Chinese agenda for reforms, as elaborated in the government-imprimatured 2012 World Bank report *China 2030*, should be entirely consistent with an open system: China's domestic needs are broadly outsiders' wants. For example, the nontransparent practices of the state enterprises and the financial repression and closed nature of China's capital account are a big concern for foreign firms trying to access the Chinese market and for firms around the world trying to compete with an undervalued Chinese currency. The more China reforms its state enterprises and state-owned banks, the easier it will be for foreigners to do business with China.

China 2030 calls on China to move more toward an innovation-based economy, which would require stronger protection of property rights, another key demand of outsiders. China needs to reduce its pollution and move toward a more carbon-efficient economy, which would allow it to play a constructive role in global climate change efforts. In all these cases, tensions will undoubtedly arise from differing senses of urgency about specific actions. But across the board, there is no fundamental conflict between what China needs to do domestically and what it needs to do to sustain an open system.

Of course, China could falter because its domestic problems—rising inequality and corruption, increased demands for accountability and participation, environmental deterioration—cannot be easily resolved. In this case, globalization would suffer.

International Responses to the Challenges Facing the West

International/collective responses can help in relation to both these challenges. In relation to the first, the increasing mobility of capital and its ability to escape taxation needs to be addressed. Rodrik (1997, 81) argues that this phenomenon “undercuts the revenue sources needed to maintain social and political cohesion and ultimately erodes support for free trade.” Two new developments have exacerbated this problem: Capital has become more mobile (reflected in growing financial globalization and increased FDI flows), and the distribution of income in most OECD countries has moved substantially in favor of capital (and also in favor of highly skilled people), increasing the size of the tax base that can elude taxation.

In many emerging markets as well, especially China and India, capital is accounting for a larger share of the pie (figure 5.1). The global tax base (not just that of the OECD) is becoming more slippery. If countries and companies exploit the mobility of capital, the global ability to provide social insurance will decline, creating problems for globalization. Hence, there needs to be much greater cooperation between rich and emerging market countries (and, of course, tax havens) on how to tax capital and how to share the taxes from capital (Summers 2008b). This cooperation can take the form of greater harmonization (which would be difficult and entail a degree of regulatory convergence that countries will find difficult). Or it can take the form of countries doing their best to allow other countries to better enforce their own tax rules (a recent example involved Switzerland relaxing its secrecy laws to allow the United States to go after its tax evaders).

International Responses to the Challenge of China and Mega-Regionalism

The China challenge is a broader problem of cooperation in the face of a shift in economic power from the United States and Europe toward a rising one. It is in this context that even the new attempt at mega-regional agreements (Trans-Pacific Partnership and Transatlantic Trade and Investment Partnership) must be seen. At one level, these agreements are about deepening integration at a time when the multilateral liberalization process has become moribund and the Doha Round remains in cold storage. At another level, the issue is how the United States and European Union deal with the rise of China.³⁵

At the risk of overgeneralizing, the challenge in the trade arena can be summarized as follows: China is happy with the status quo and the United States is not. China—and the other larger emerging markets, such as Brazil, India, and Russia—is reasonably content to have Bretton Woods rules apply to it and hyperglobalization rules apply to its large partners. China will liberalize and open up its markets in line with domestic rather than external imperatives. Its partners, especially the United States, will increasingly refuse to acquiesce in this status quo. But given China's dominance and the weakness of the United States, the United States' ability to force or induce China to change will be limited. The mega-regionalism demarche of the United States is an attempt to exert pressure on China.

How can these differing perspectives and positions be reconciled? The larger partners of the United States and China need to deploy a strategy that takes account of the possibility that China may occasionally be tempted into a less than-benign economic hegemony while reinforcing its incentives to act to preserve an open economic system.

The possibility of the misuse of hegemony would not be unique to China. It was famously said of the United Kingdom that Britannia ruled the waves by waiving the rules. The United States also

35. In the case of the Trans-Pacific Partnership, containment is more political. With the Transatlantic Trade and Investment Partnership, agreement by the United States and the European Union to common regulatory standards would preempt China from imposing its standards in international markets and even force China to adhere to these common standards.

occasionally succumbed to this temptation. In 1955, it excluded agriculture from GATT disciplines. In the early 1970s, it unilaterally blew up the Bretton Woods system when it became a straitjacket on domestic US policies. In the 1980s and 1990s, it cajoled and coerced developing countries to take on costly obligations (relating to intellectual property and capital flows, for example). In the dark Nietzschean view that “power is never held in innocence,” misuse of hegemony is intrinsic to hegemony. It is inevitable given the infinite capacity for countries to succumb to the delusion that John Adams memorably warned about, that “power always thinks it has a great soul.”

History suggests that the best defense against hegemony is multilateralism, which offers a modicum of protection for the weak against the dominant power. Keeping China tethered to the multilateral system, in which the United States and other major countries can exercise some countervailing influence, offers the best insurance against its unrestrained exercise of hegemony.

Multilateralism could work as a defense against China in several ways: in shaping rules, in promoting adherence to them, and more broadly in defining legitimate behavior. With China’s growing size, the balance of negotiating power will be with China rather than its partners. Multilateralism ensures that China’s trading partners will have enough heft to negotiate with China in a more balanced manner. For example, China might be willing to open its markets in return for the United States, European Union, India, and Brazil opening theirs. Its willingness to open up in a similar manner in negotiations with just the United States, or European Union, or with some less powerful combination is far from clear.

A similar argument carries over to enforcement and the incentives to adhere to previously agreed upon rules. China’s incentive to abide by multilateral rules will be stronger than its incentive to abide by a series of bilateral agreements, because the reputational costs of being seen as errant are much greater in the multilateral context. The opprobrium of being a deviant from multilateral norms is China’s great fear, rendering multilateralism the best weapon the world can deploy against a dominant China.

These arguments for multilateralism have an important corollary for the United States and other countries. They imply less recourse to bilateral and regional dealings with China and with each other. The more countries elevate the role of bilateralism in dealings with China, the less China will be anchored in the multilateral system and the more exposed countries will be to the exercise of Chinese dominance. One operational consequence, advocated by Lieberthal and Wang (2012), is to expand the US-China strategic economic dialogue to include the larger countries in the world—Europe, Japan, Brazil, and India, for a start—whose heft can be an effective counterweight to that of China.

These arguments in favor of multilateralism and against regionalism and bilateralism apply across the board in the fields of currency, finance, and trade. But they carry particularly important implications in the field of trade because of the current environment, in which the WTO appears moribund and regional initiatives are flourishing. The recent trade initiatives of the Obama administration—the Trans-Pacific and Transatlantic Partnerships—are regional initiatives. As box 5.1 suggests, they are particularly fraught in the context of a rising China.

Box 5.1 Multilateralism versus regionalism: The risks from the Trans-Pacific Partnership

In the old debate between regionalists and multilateralists, the divide was not about the end point: All parties wanted global free trade. Rather, the divide was over whether regional agreements would be, in Jagdish Bhagwati's words, a building block or a stumbling block in the way of that goal, with the regionalists falling in the former category and the multilateralists in the latter.

Regionalists would point to the evident success of regionalism in achieving deeper liberalization: In many or most cases, border barriers have been eliminated in goods and services, and in some, behind-the-border barriers have also been addressed. But both forms of regionalism involving China render this old debate less relevant.

No major country has yet embraced regional agreements with China (although the Association for Southeast Asian Nations [ASEAN] has embarked on this path). The arguments against regionalism are really the flip side of the arguments for multilateralism: negotiating with China will lead to agreements that are weighted in favor of China, because it has bargaining power. If the basic problem is the imbalance of leverage arising from China's size, regionalism will by definition be less effective than multilateralism. For the same reason, getting China to adhere to these agreements will also be difficult.

But countries are increasingly negotiating agreements around China, with the Trans-Pacific Partnership representing the best recent example. Advocates of regionalism have long relied on the competitive dynamic it creates: If two countries negotiate preferential reductions of barriers, one or several outsiders will be hurt. These outsiders will then have an incentive to negotiate preferential agreements themselves. This process will continue until the goal of global free trade is achieved—or so went the Bergsten-Zoellick theory of regionalism as promoting competitive liberalization.

But consider three ways in which the Trans-Pacific Partnership might play out. In the first, the United States embarks on a process of deep integration with a number of Asia Pacific countries without China. To avoid the dangers of hostile regionalism (that is, excluding China), Trans-Pacific Partnership countries could subscribe to the principle of open regionalism: Countries get all of the agreement's benefits only if they embrace its terms.

The problem with this approach is that China would never agree to fall in line with rules it did not participate in negotiating. For example, if Trans-Pacific Partnership members negotiated rules against undervalued exchange rates, China would probably stay away. If it did, the agreement would hardly achieve the objective of disciplining problematic Chinese policies that adversely affect the open character of the trading system.

In the second scenario, the United States invites China to the Trans-Pacific Partnership negotiating table to be part of the process of creating the rules. Would its participation really be superior to negotiating with China multilaterally, where the European Union, Brazil, and India would also be at the table? If the problem of a rising China is that it will have enormous bargaining power by virtue of its economic size and dominance, then a multilateral process will add more negotiating heft on the other side of the negotiation. How can it not help to have Brazil, India, and Europe as part of the group putting pressure on China to create better rules and to adhere to them? Of course, there is no guarantee that Brazil and India will always be on the side applying pressure on China. But where important interests are at stake, they are likely to do so.

In the much worse third scenario, China construes the Trans-Pacific Partnership as an act of hostile regionalism (Yao Yang's [2013] reaction is typical of this perception) and negotiates preferential agreements of its own—with, say, the European Union alone. Such a situation would create significant trade diversion for the United States and other exporters because of high Chinese levels of protection in certain areas. The Trans-Pacific Partnership could thus provoke China into playing the regionalism game in a way that could fundamentally fragment the trading system. Down this path lies the folly of the interwar years.

(continued on next page)

Box 5.1 Multilateralism versus regionalism: The risks from the Trans-Pacific Partnership *(continued)*

In sum, the Trans-Pacific Partnership will either exclude China (and open regionalism may have little sway in persuading China to join) or be less effective in engaging China, because it would exclude other large trading countries (the European Union, Brazil, and India), whose collective heft might be crucial in balancing the bargaining power of China. The lesson is that the success of regionalism in reducing barriers and generating the competitive dynamic for further liberalization simply cannot be applied to China. The successes of regionalism typically involved a big economic power (the United States, the European Union, Japan) negotiating with smaller countries. The smaller countries did most of the incremental liberalization, because the larger countries held the balance of negotiating power and influence. With China, the power balance is reversed, rendering many of the old arguments for regionalism obsolete.

Regional and discriminatory solutions carry greater risks. The challenge of anchoring China in the multilateral trading system—as well as providing a fillip to growth in industrial countries through further liberalization—can be addressed by embarking on a new and comprehensive multilateral initiative. This initiative would anticipate the changing interests and concerns of all the big trading nations in a way that the Doha agenda did not. It would also pave the way for a reciprocal liberalization mechanism—you open your markets in return for my opening mine—that has been the basis for previous successes in the trading system.

To achieve this reciprocity, first and foremost, the world should declare that the Doha Round is dead and place a wider range of issues on the agenda. China's trading partners remain concerned by Beijing's exchange rate policies, as well as the protection and discrimination that stem from China's state capitalism. China and other countries have an interest in ensuring that their exports are not subject to antidumping and trade restrictions, uncertainty from investment regulations, and international rules on subsidies in relation to climate change.

Everyone has an interest in preventing export protectionism, liberalizing trade in goods and services, and opening government procurement markets. To achieve these goals, Mattoo and Subramanian (2012a) call for a new China Round of multilateral negotiations focused on some of these issues, with participation (initially) by a core group or critical mass of large trading countries (Low 2012).

Any new initiative will have to break from the past in one key respect. Countries in the West have been the drivers of past trade negotiations. China and the other big emerging market countries must now take the lead in negotiating further multilateral liberalization (the alternative, an orderly retreat from globalization, is explored with some skepticism in box 5.2). If they do not, there is the risk that mega-regional agreements will spread, which would be detrimental to the excluded larger emerging markets.

Box 5.2 Is an orderly retreat from globalization possible?

In discussing the challenges of globalization, the possibility of a retreat from it must not be ignored. A meaningful and consequential retreat would have to be led by the major trading powers, especially the United States, Europe, and China. If it is sparked by political or security conflicts, there can by definition be no orderly retreat.

One recent historical example did represent a retreat from globalization. Although not close to the severity of protectionism seen during the 1920s and 1930s, the 1980s experience of US-Japan trade relations is nevertheless instructive. In the wake of the recessions in the early 1980s and the appreciation of the dollar through 1985, the United States became more protectionist (Destler 1992). This protectionism took several forms. Some actions were consistent with the letter if not the spirit of international rules (for example, recourse to antidumping and countervailing duties). Other actions clearly violated the rules (for example, getting Japan to impose voluntary export restraints) or involved the threat of illegal trade sanctions to persuade/coerce Japan to open up its own market. This experience suggests that it will be difficult to craft rules *ex ante* that bind the very players that have the power to violate or disregard them in the very circumstances that create the greatest incentives to do so.

6. CONCLUDING THOUGHTS ON THE FUTURE OF TRADE INTEGRATION AND COOPERATION

Can and will the ongoing process of hyperglobalization of goods and services continue? Or, to use Keynes' evocative phrase, might there be "serpents to the paradise" of the ongoing process of hyperglobalization?

Why Optimism About Globalization?

Although trade has been rising rapidly, the process is less than half complete. On a value-added basis, the world trade-to-GDP ratio is about 25 percent, but a simple frictionless gravity model predicts that the theoretical maximum should be substantially greater.³⁶ At least three forces will drive globalization toward and sustain it at higher levels: economic convergence; technology; and interests, ideas, and institutions.

Economic Convergence

As more countries continue to grow and to grow more rapidly, trade will increase, as figure 2.4 illustrates. Clearly, the pace of globalization will be affected by the pace of convergence. If Rodrik's more sober assessment prevails, the pace of globalization may slow, but it will not be reversed. If the pace described in table 2.1 is sustained, ongoing hyperglobalization will be as well.

Technology

Predicting the pace of technological progress is impossible. Revolutions in transportation, and then in information and communication technologies, have driven trade globalization. Even if the pace of new

36. Recall that this model suggests that the ratio of world trade-to-GDP should be 1 minus the sum of squared shares of countries in world output. With convergence and a sufficiently large number of countries, the sum of squared shares should converge to zero and the ratio of world trade to GDP should converge to one.

discoveries slows, there is scope for the spread of existing technologies, both directly and embodied in FDI. Mobile telephony, internet usage, and connectivity are still far from universal (Aker and Mbiti 2010).

Interests, Ideas, and Institutions

Bhagwati (1988) identifies a set of factors he calls the three Is: interests, ideas, and institutions. The very fact of hyperglobalization deepens the enmeshing of interests across countries, people, and companies. In the current phase, the additional reinforcing factor relates to the phenomenon of criss-crossing globalization discussed earlier.

One of the widely noted features of the global financial crisis was the drop in trade that exceeded the decline in the aftermath of the Great Depression. Yet unlike in the past, the world did not collapse into a protectionist spiral.³⁷ One reason why this collapse did not occur was that countries, no longer tied to the gold standard or otherwise straitjacketed, had broader macroeconomic policy options. Another reason was that the vertical integration of production via supply chains made it difficult and undesirable for countries to impose barriers that would undermine these chains and hence trading opportunities.

The supply chain phenomenon has a broader counterpart. Not only are goods moving back and forth—capital flows are, too. FDI flows no longer just flow downhill from rich to poor countries. Brazil, China, and India are all becoming large exporters of FDI. As capital relocates internationally, the political economy of protectionism also changes. US firms in China have lobbied strongly against US trade action against China. India can now less afford to repel FDI if Indian companies at the same time seek to operate in and from foreign markets (Mattoo and Subramanian 2010).

The recent crises provoked an existential debate about capitalism and finance, but the ideological near-consensus that trade in goods and services as well as FDI should flow relatively unimpeded has not been dented.

Is There Reason to Be Sanguine About Trade?

The cardinal sin of forecasting is to extrapolate the recent past, as Norman Angell, future Nobel Peace Prize winner, did in 1910, when he published *The Great Illusion*. This pamphlet-turned-book acquired cult status for propagating the view that Europe had become so interlaced economically through trade, credit, and finance that war was impossible. Twentieth century wars would be so economically devastating even to the aggressor that waging one would amount to self-inflicted folly.³⁸

37. Global Trade Alert (2012) suggests that there was an upsurge in protectionism after the global financial crises, the quantitative impact of which remains far from clear. Hufbauer et al. (2013) document the rise of local content requirements in a number of countries.

38. In the words of Lord Esher, Angell's most earnest disciple, the inevitable consequences of "commercial disaster, financial ruin, and individual suffering" would be "pregnant with restraining influences."

Notwithstanding the five influences discussed above, history's lesson is that we cannot be 100 percent certain that the enmeshing of interests will be strong enough to sustain the status quo. Nor is there a cast-iron guarantee that the current ideological embrace of markets as the predominant basis for organizing economic relations will survive the vicissitudes of intellectual fashion and the selective and self-serving interpretations of policymakers. There is tail-side risk (that is, a small, but nontrivial probability of catastrophic outcomes) that interests, ideology, and institutions, both domestic and international, will be inadequate to the task of preserving the current system. And then there is always the unforeseeable and the irrational. World War I, after all, did happen (Subramanian 2011, 170).

Section 5 discussed the factors that become serpents in the paradise of hyperglobalization. They include prolonged weakness in the West, a serious domestic shock in China that precipitates a retreat there, and the vacuum in international governance. The status quo power is in economic decline, and the rising power will prioritize domestic interests over international responsibilities to a greater degree than previous superpowers, because it is still only a middle-income country. Another unforeseeable factor is the politics and projects of militarism and imperialism (for example, a conflict between China and Japan), which could set back globalization.

Most of the actions that will allow positive influences to prevail over globalization-reversing ones will be at the national level: actions to address economic decline in the West and sustain growth in the Rest, especially China. Collective action should help strengthen the institutional underpinnings of globalization. These actions include ensuring that domestic social insurance mechanisms are not undermined by globalization and bolstering multilateral institutions to prevent conflict between the major trading partners. Greater cooperation on taxes may become necessary to preserve funding for these mechanisms. The world should declare the Doha Round dead in order to move to more meaningful multilateral negotiations to address emerging challenges, including any possible threats from new mega-regional agreements. The rising powers, especially China, will have a key role to play to resuscitate multilateralism.

The open, rules-based trading system has delivered immense benefits for all, especially today's emerging market economies. Preserving it will ensure that low-income countries can also make successful growth transitions. It is often overlooked that the international trading system has witnessed more successful cooperation, especially between the systemically important countries, than the international financial and monetary system. So cooperation to preserve globalization, even if not in its most hypercurrent incarnation, is of critical importance. It may also prove less difficult.

Table 1.1 Convergence: Growth of developing countries compared to growth in the United States

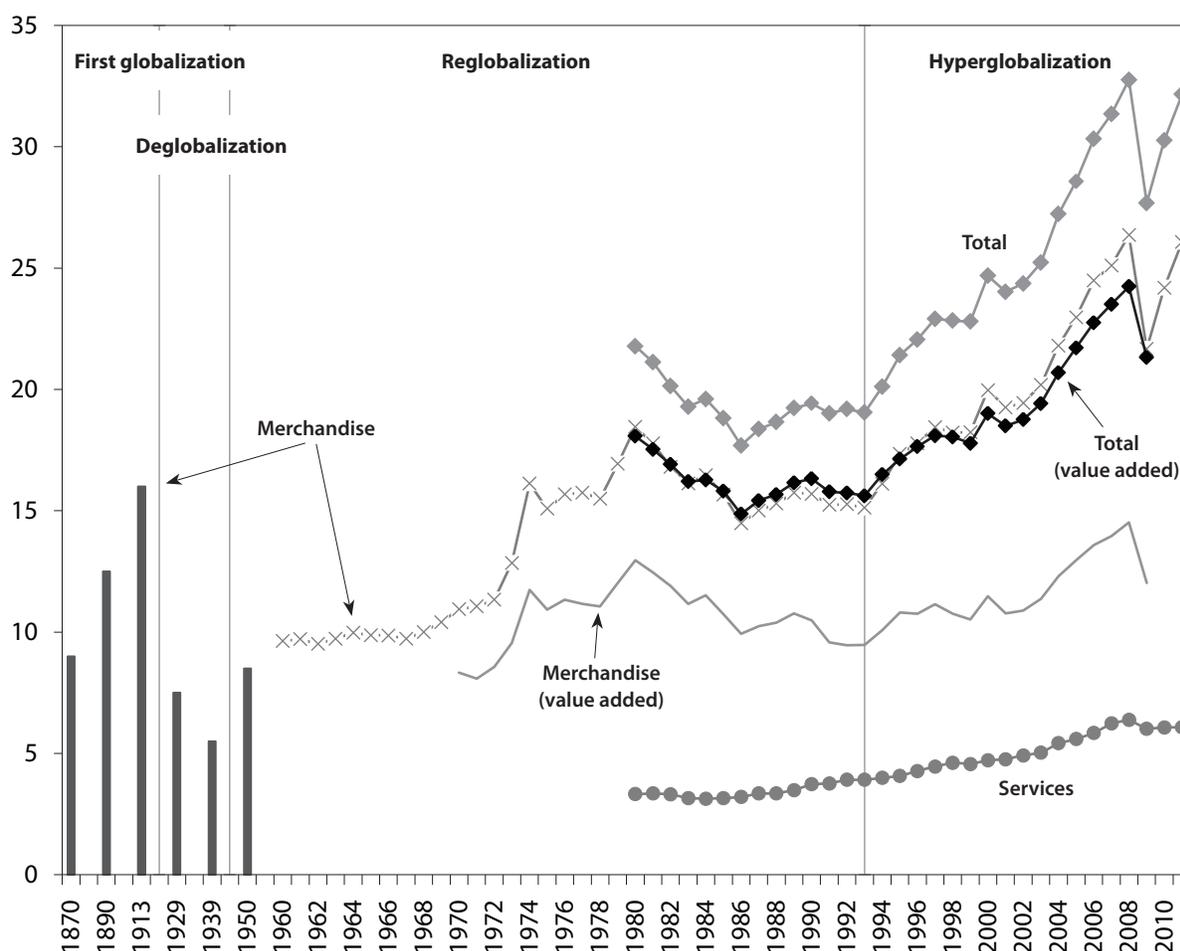
Indicator	1870–1960 (Maddison)	1960–2000 (Penn World Tables 7.1)	2000–07 (Penn World Tables 7.1)	2000–11 (World Development Indicators)	2008–12 (World Economic Outlook) ^a
US growth rate of GDP per capita (percent)	1.7	2.47	1.28	0.65	0.02
World growth rate of GDP per capita (percent)	1.3	2.75	3.17	2.28	1.73
Number of developing countries in which growth exceeded US rate	2	21	75	80	78
Percentage of developing countries in which growth exceeded US rate	5.3	29.2	72.8	89.9	83.9
Average excess over US growth (percentage points) ^b	0.02	1.53	3.25	2.94	3.03
Number of countries in sample	38	72	103	89	93

a. Based on GDP in constant dollars. Other columns use GDP in PPP terms

b. Computed as simple average growth of countries whose growth exceeds that of the United States.

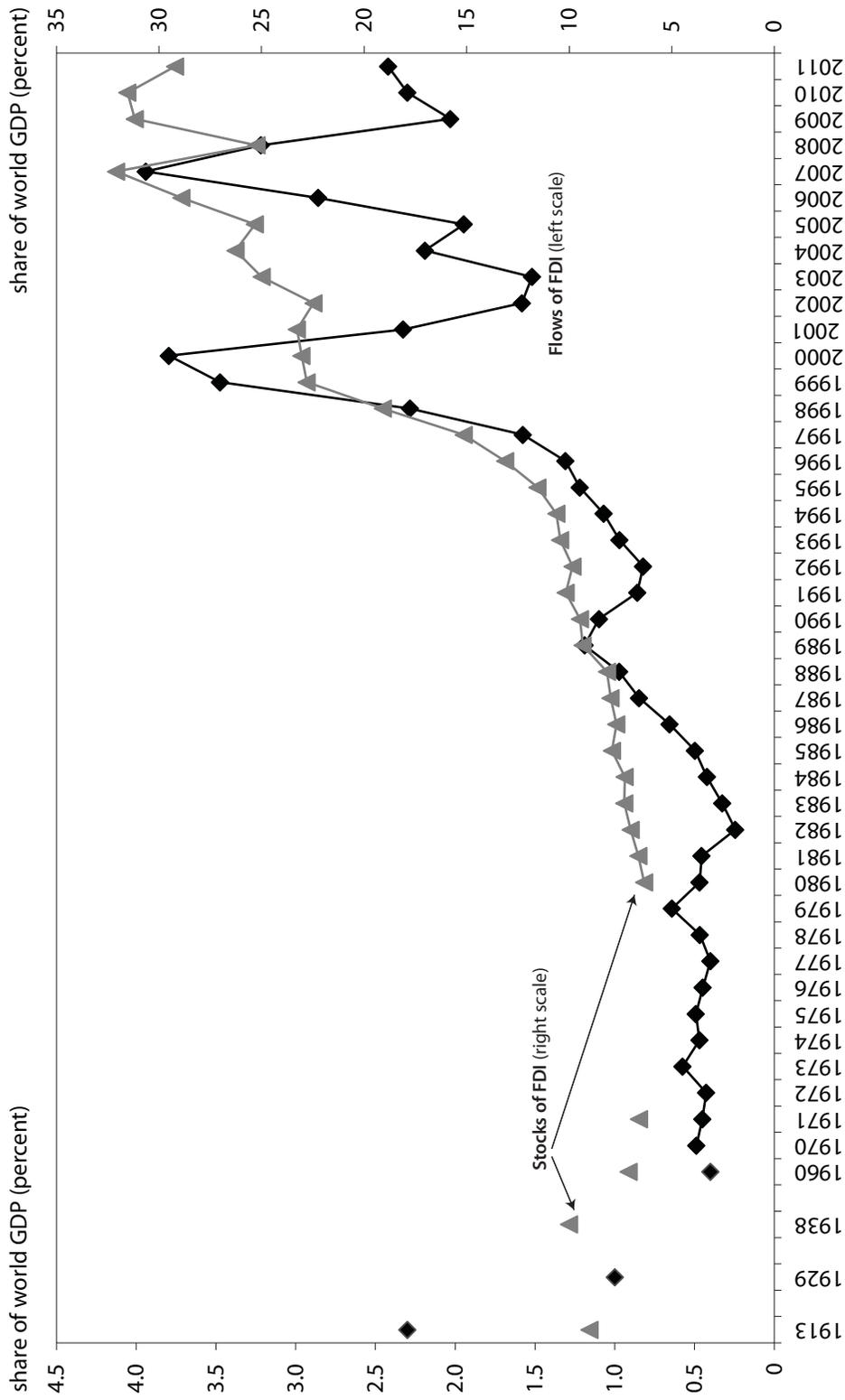
Note: Sample excludes oil exporters (as defined by the International Monetary Fund) and countries with populations of less than 1 million.

Figure 2.1 World exports, in current dollars, 1870–2011



Sources: Authors, based on Klasing and Milionis (2012) for historical estimates (1870–50), World Trade Organization for 1951–2011, and Johnson and Noguera (2012) for value-added exports estimates.

Figure 2.2 Stocks and flows of Foreign Direct Investment (FDI), 1913–2011



Sources: Authors, based on data from Bairoch 1996 for 1913–70, Dunning 1983 for stocks and UNCTAD various years for flows for 1970–2011.

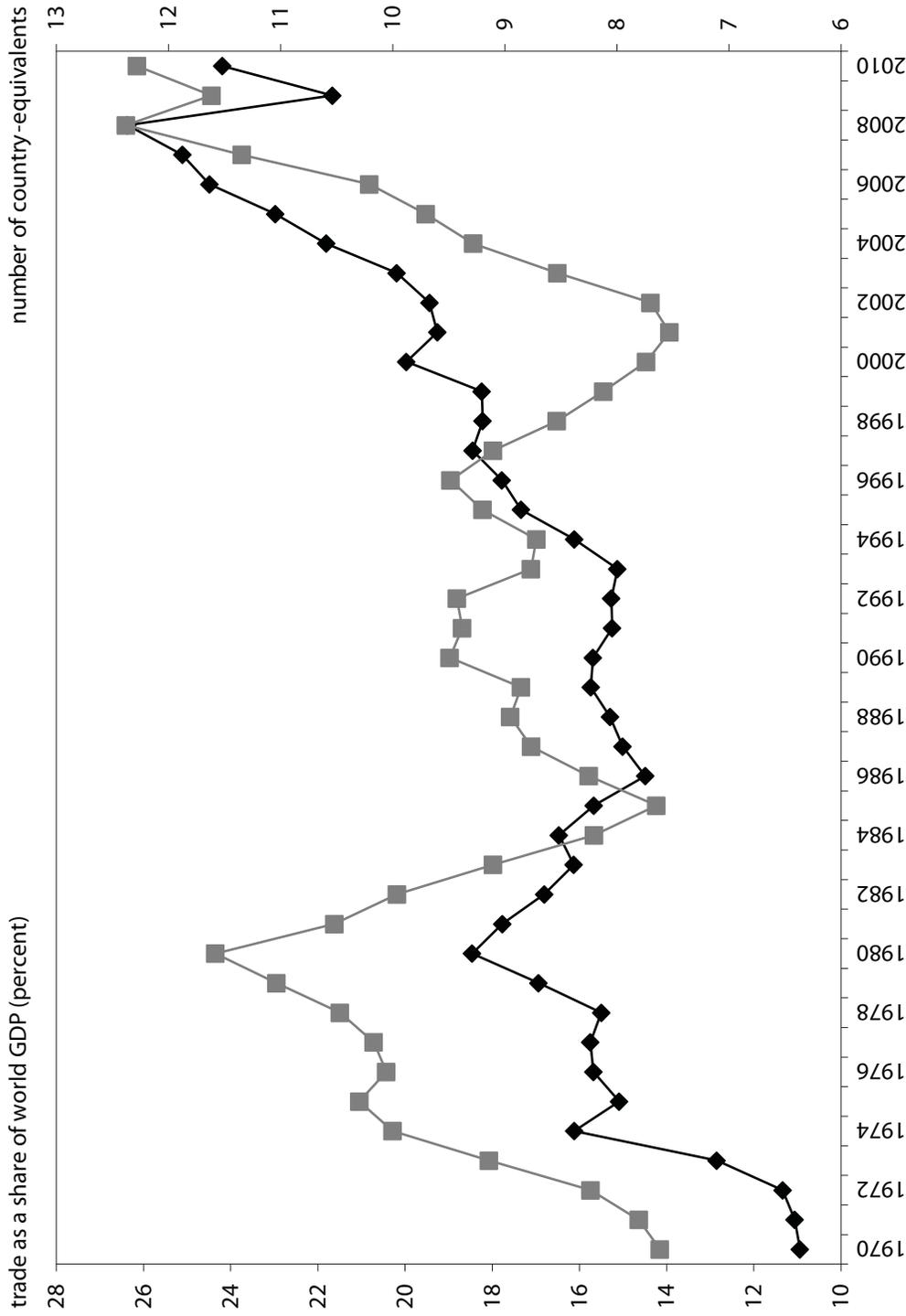
Table 2.1 Global tradability of goods and services, 1980–2008 (percent)

		By shares of world exports (percent)			Tradability (percent)			Evolution of tradability (percent)	
		1980	1995	2008	1980	1995	2008	1980– 1995	1995– 2008
Gross trade measure	Merchandise	83	80	80	43	53	85	25	59
	Services	17	20	20	7	7	10	–3	51
Value-added measure	Merchandise	71	62	57	30	33	47	10	43
	Services	29	38	43	10	11	16	7	46

Note: We define tradability of a sector as world trade divided by global value added in the sector.

Sources: Authors, based on data from World Bank, various years, and Johnson and Noguera (2012).

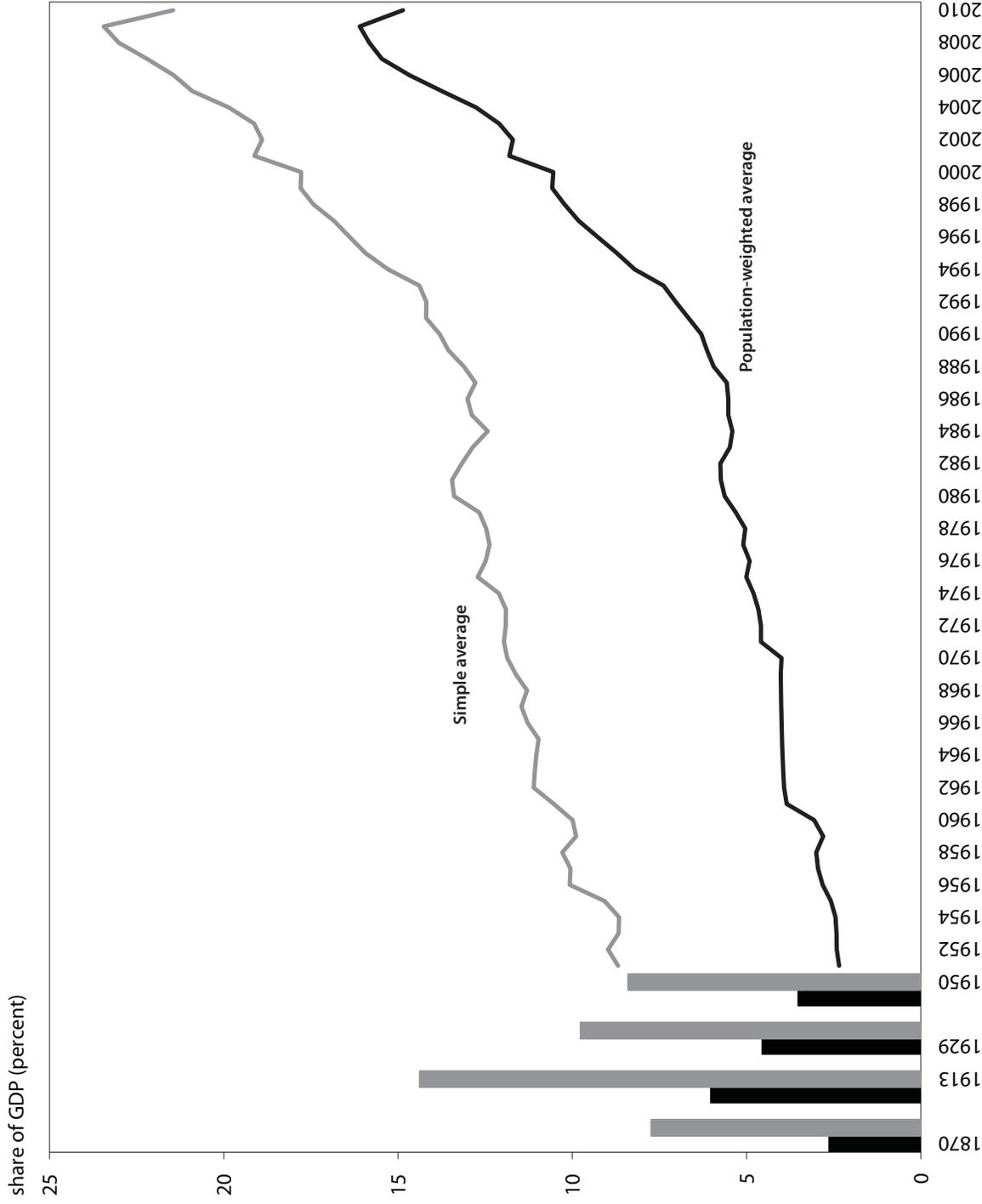
Figure 2.3 Dispersion of world output and world exports, 1970–2010



Note: Country equivalents are computed as $= \frac{1}{\sum s_i^2}$ where s_i is the share of each country in world output. A higher number denotes a more equal distribution of output.

Source: UNCTAD, various years.

Figure 2.4 Trade openness, 1870–2010

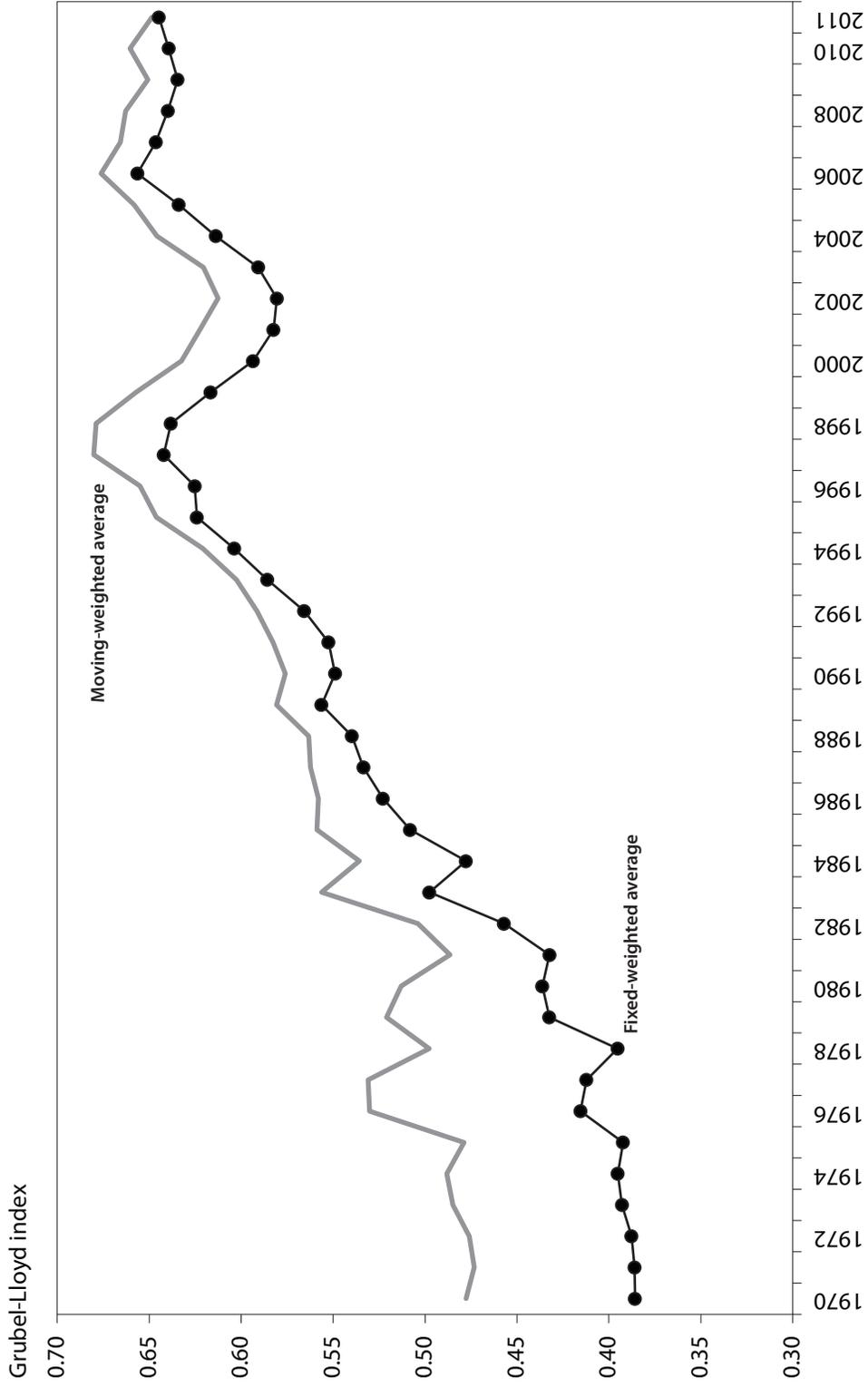


Note: For 1870–1950, openness is defined using Maddison’s measure of current exports in dollars (deflated by the US consumer price index) and Maddison’s GDP data. For 1951–2010, openness is the variable *openik* (Penn World Table 7.1) divided by two. Oil exporters and small countries (populations of less than 1 million) are excluded.*

Sources: Maddison (1995); Penn World Table 7.1.

*We chose the *openik* variable because it is the most comparable with the Maddison (pre-World War II) GDP data in that both are in constant purchasing power parity dollars. For the pre-war export data, there are two options for deflation: a measure of general US inflation (for example, the consumer price index) or a measure of export prices. Maddison provides a real export series based on the latter. We chose the CPI option for the simple reason that the estimates for 1950 (matched better the Penn World Table estimates for the years close to 1950. If we use Maddison’s real export data, the changes over time are even more dramatic than shown in figure 2.4 (i.e., export-to-GDP ratios are lower for the past when exports are deflated by an export price index than a CPI).

Figure 2.5 Two-way Foreign Direct Investment (FDI) flows, 1970–2011



Note: The Grubel-Lloyd index is computed for each country with nonzero positive flows. Each country is then weighted by its share of total FDI flows, either with weights corresponding to the current year (dotted line) or with weights that are fixed at their mean over the period (solid line). The figure shows five-year moving averages (to avoid large spikes).

Source: UNCTAD various years.

Table 2.2 Merchandise exports as share of world exports by mega-traders, 1870–2030 (percent)

Year	United Kingdom	Germany	United States	Japan	China
1870	24.3	13.4	5.0	0.1	2.8
1913	18.5	18.0	9.0	0.8	2.0
1929	15.1	16.6	14.4	2.1	3.0
1950	10.2	3.9	16.2	1.3	0.9
1973	5.1	12.9	12.2	6.4	1.0
1990	5.3	12.0	11.3	8.2	1.8
2000	4.4	8.5	12.1	7.4	3.9
2012	2.6	7.7	8.4	4.4	11.2
2020 (projected)	1.9	5.3	8.8	3.9	12.1
2030 (projected)	1.4	3.6	7.3	3.2	15.0

Sources: Maddison 1995; UNCTAD various years; Subramanian 2011; and authors' projections.

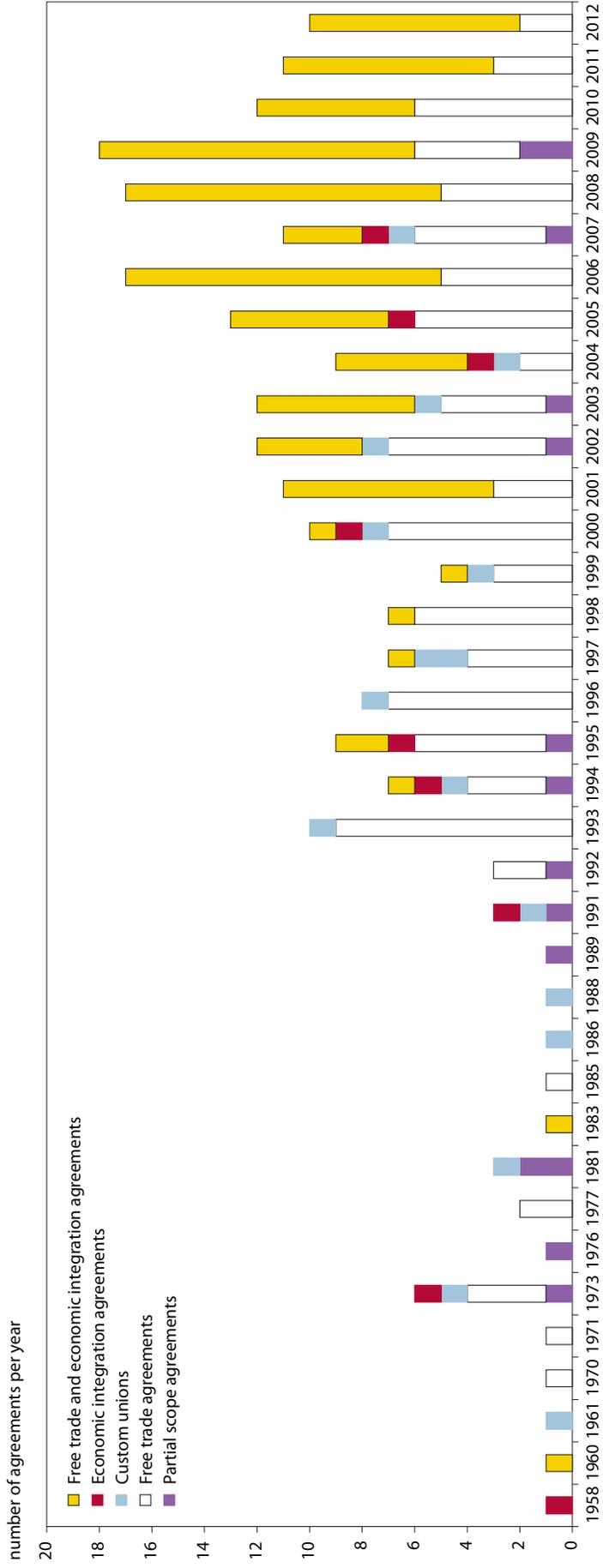
Table 2.3 Exports and imports as percent of GDP in selected mega-traders (trade as percent of GDP)

Item	Percent over-trading, controlling for key gravity variables			
	Actual	Controlling for size	Controlling for size and income level	Controlling for size, income level, and oil-based economies
United Kingdom 1870 (sample includes 26 countries)				
Exports	12.2	339.3***	84.0*	n.a
United States 1975 (sample includes 21 countries)				
Exports	8.5	-9.5	-37.0***	-36.3***
Imports	7.6	-30.5***	-37.7***	-37.5***
Total trade (exports and imports)	16.1	-20.9***	-35.5***	-35.1***
Japan 1990 (sample includes 131 countries)				
Exports	10.3	-33.8***	-56.8***	-55.6***
Imports	9.4	-44.3***	-49.4***	-51.4**
Total trade (exports and imports)	19.7	-40.4***	-52.9***	-53.7***
China 2008 (sample = 136 countries)				
Exports	35	79.9***	68.6**	80.5***
Imports	27.3	45.7***	46.2***	38.0**
Total trade (exports and imports)	62.2	64.6***	60.8***	62.0***

Note: All coefficients were obtained by running a regression of exports, imports and trade on variables indicated in column heads, plus a dummy for the country in question. The level of over-/under-trading is $\exp(\text{dummy coefficient}) - 1$. A negative value denotes under-trading. * = significant at the 10 percent level, ** = significant at the 5 percent level, *** = significant at the 1 percent level.

Sources: Maddison for United Kingdom; IMF various years and Penn World Table 7.1 for all other countries.

Figure 2.6 Number of new signed preferential trade agreements, 1958–2012



Note: The year of the count is the year the World Trade Organization (WTO) was notified of the agreement. To simplify the classification of agreements, all agreements that are both economic integration agreements and customs unions or partial scope agreements are included in the "economic integration agreement" category.

Source: WTO 2011.

Table 2.4 Number and type of preferential trade agreements

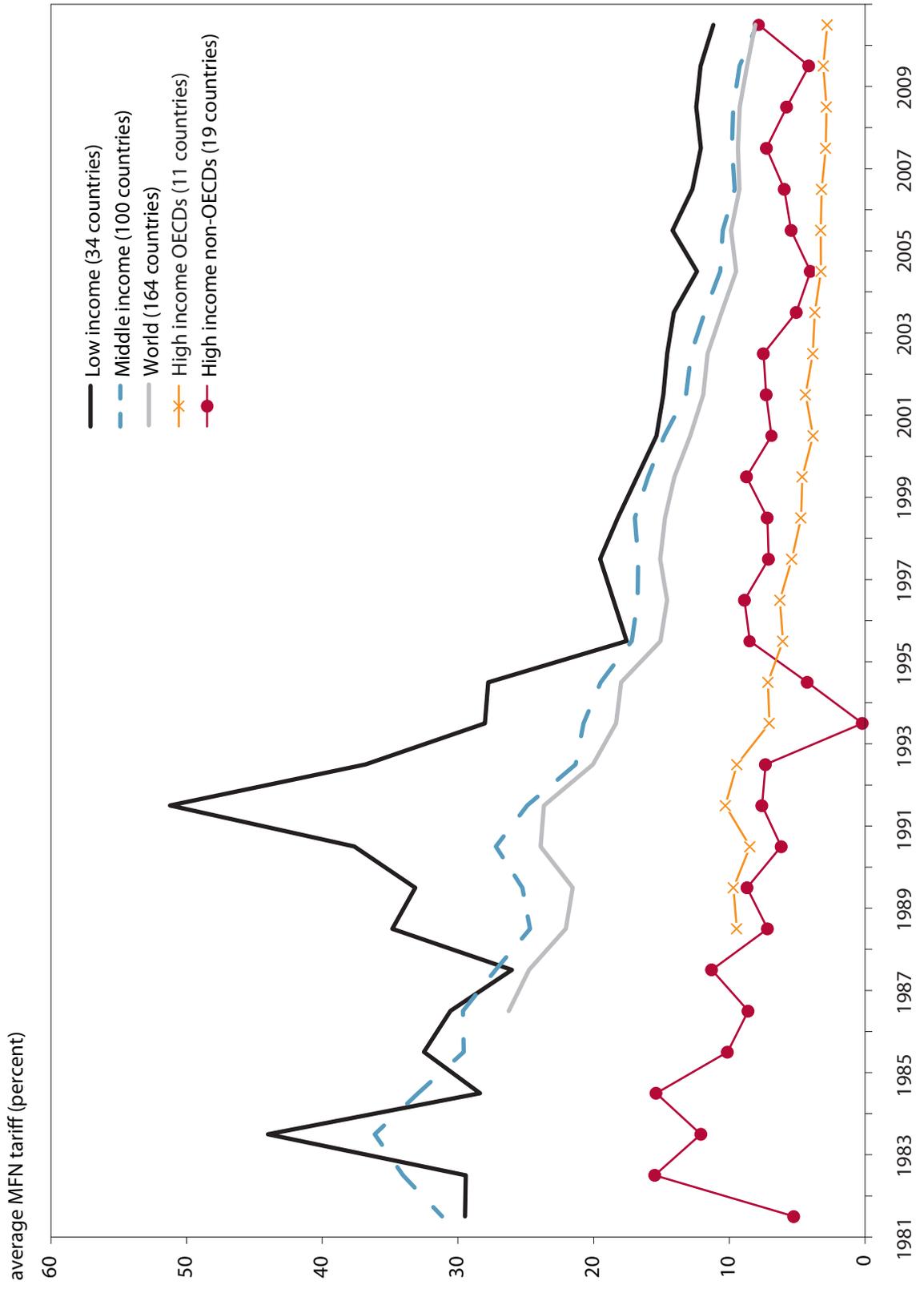
Type of agreement	Pre-WTO	1995–2000	Post-2000
WTO+ issues			
Customs	13	11	56
Antidumping	12	8	53
Countervailing measures	4	5	52
Export taxes	8	8	41
State aid	10	9	34
Trade-related intellectual property rights	6	4	41
Services	7	2	39
State trading enterprises	5	3	35
Technical barriers to trade	2	2	36
Sanitary and phytosanitary standards	2	1	35
Public procurement	5	0	32
Trade-related investment measures	6	2	31
WTOX issues			
Competition policy	11	9	19
Movement of capital	6	5	38
Intellectual property rights	5	2	39
Investment	4	1	35

WTO = World Trade Organization

Note: WTO+ provisions concern commitments that already exist in WTO agreements but go beyond the WTO disciplines. WTOX provisions cover obligations that are outside the current WTO aegis.

Source: Baldwin 2011b.

Figure 2.7 Average most-favored nation (MFN) tariffs by income group, 1981–2009

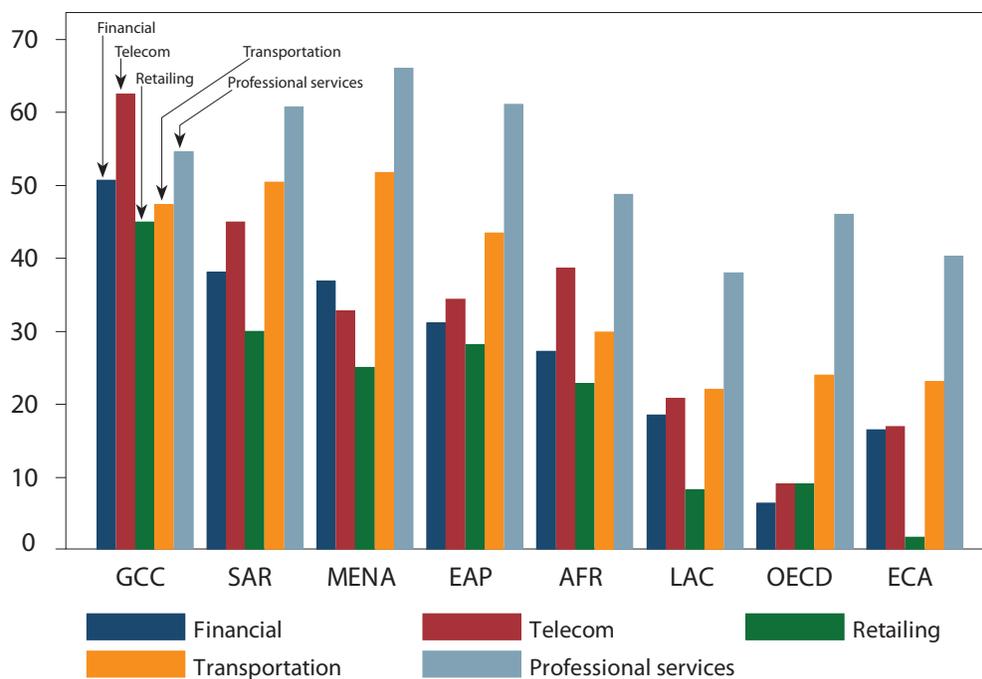


Note: Spikes may reflect entry and exit of countries in the sample.

Source: World Bank 2011.

Figure 2.8 Index of services trade restrictiveness, by sector and region, 2008–10

services trade restrictiveness index



Note: 103 countries included.

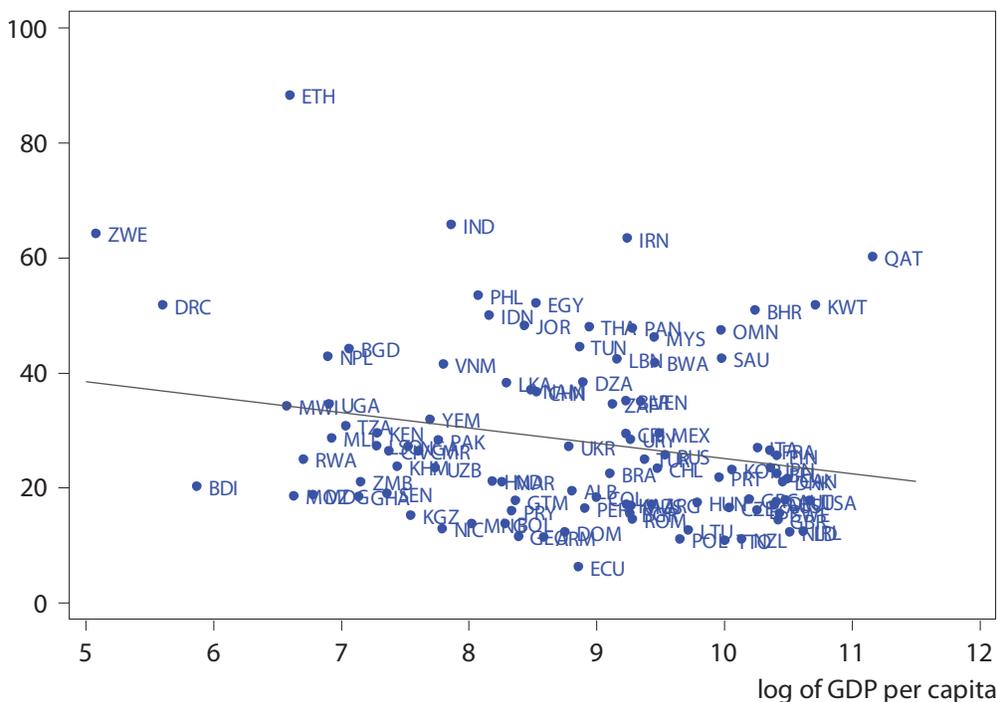
The services trade restrictions index (STRI) at the regional level is calculated as a simple average of individual country's STRIs. The STRI in the cross-border air passenger transportation subsector comes from the QUASAR database of WTO (2007).

Regional abbreviations: HNO = High income non-OECD; SAR = South Asia; EAP = East Asia and Pacific; MENA = Middle East and North Africa; AFT = Sub-Saharan Africa; LAC = Latin America and Caribbean; ECA = Europe and Central Asia; OECD = High income OECD

Source: Borchert, Gootiz, and Mattoo 2012.

Figure 2.9 Index of services trade restrictiveness and per capita GDP

services trade restrictiveness index (STRI)



Note: GDP per capita 2007, PPP (constant 2005 internat US dollars)

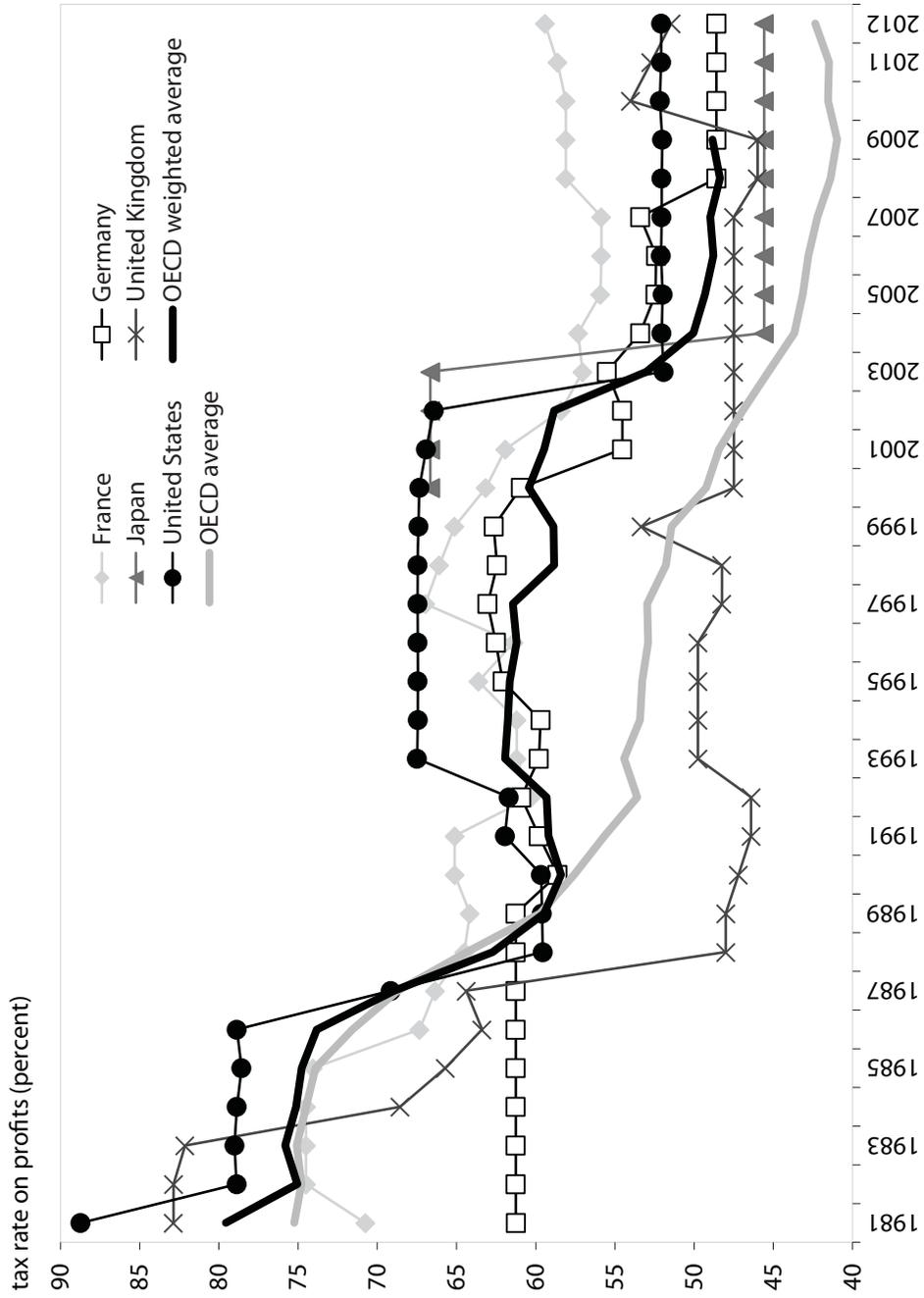
Source: Borchert, Gootiz, Mattoo 2012.

Table 4.1 Policy responses to the challenges to globalization

Level of response	Further liberalize	Maintain status quo	Retreat from globalization
National	<ul style="list-style-type: none"> ■ In low-income countries, strengthen domestic supply capacity to exploit globalization. ■ In China and other middle-income countries, sustain growth to enable further liberalization. ■ In high-income countries, revive growth and address “beleaguered middle class” and entitlements problems. 	Strengthen social insurance in high-income countries.	
International/collective	<ul style="list-style-type: none"> ■ Prevent fragmentation and conflict. ■ Sustain multilateralism through a “China round.” 	Cooperate on taxation of mobile factors to sustain domestic safety net.	Create minimum safeguards to allow some trade protection?

Source: Authors.

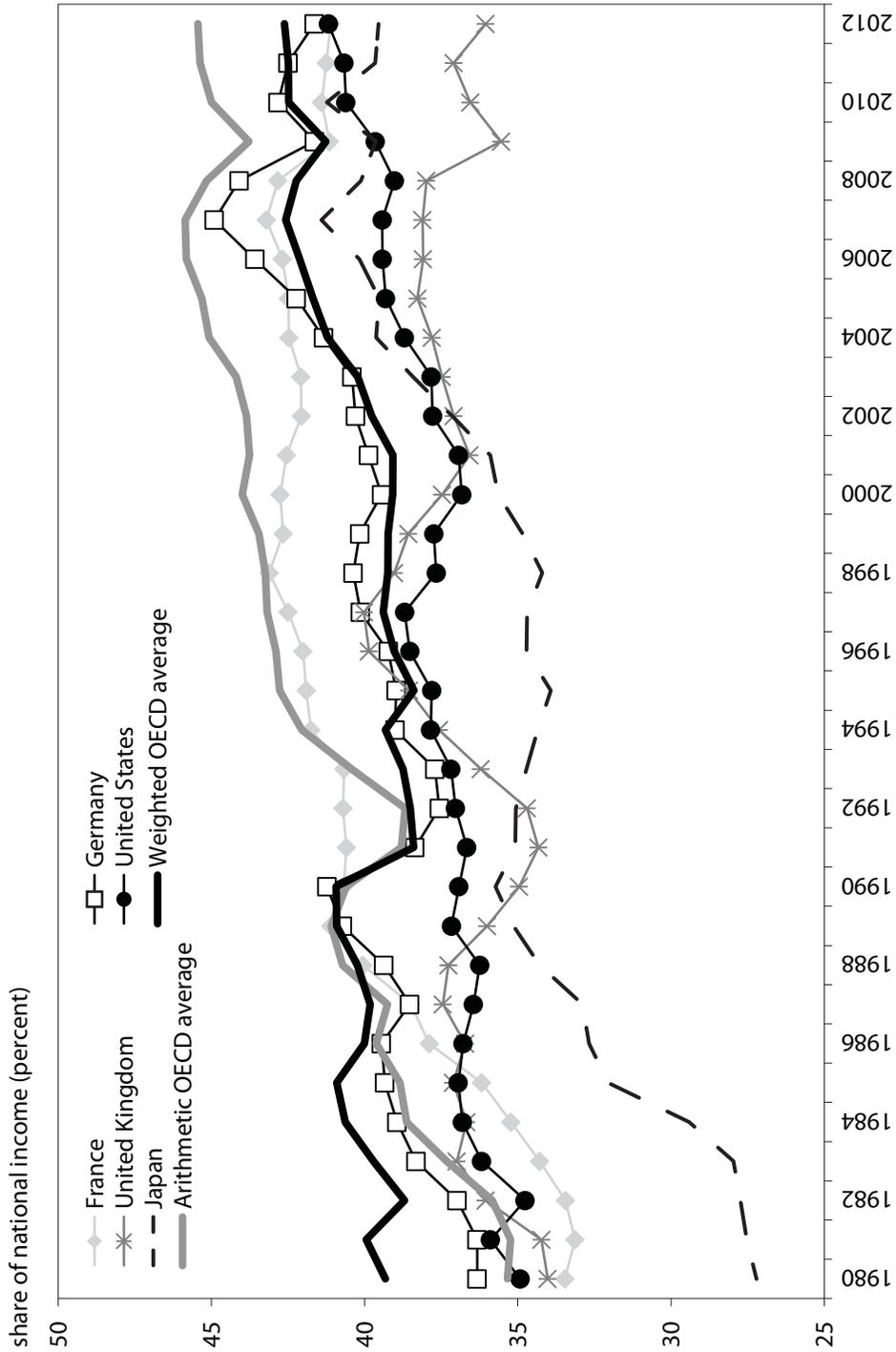
Figure 4.1 Tax rates on distributed corporate profits in selected OECD countries, 1981–2012



Note: Overall (corporate plus personal) tax rate on distributed profits are computed as effective statutory tax rates on distributions of domestic source income to a resident individual shareholder, taking account corporate income tax, personal income tax, and any type of integration or relief to reduce the effects of double taxation.

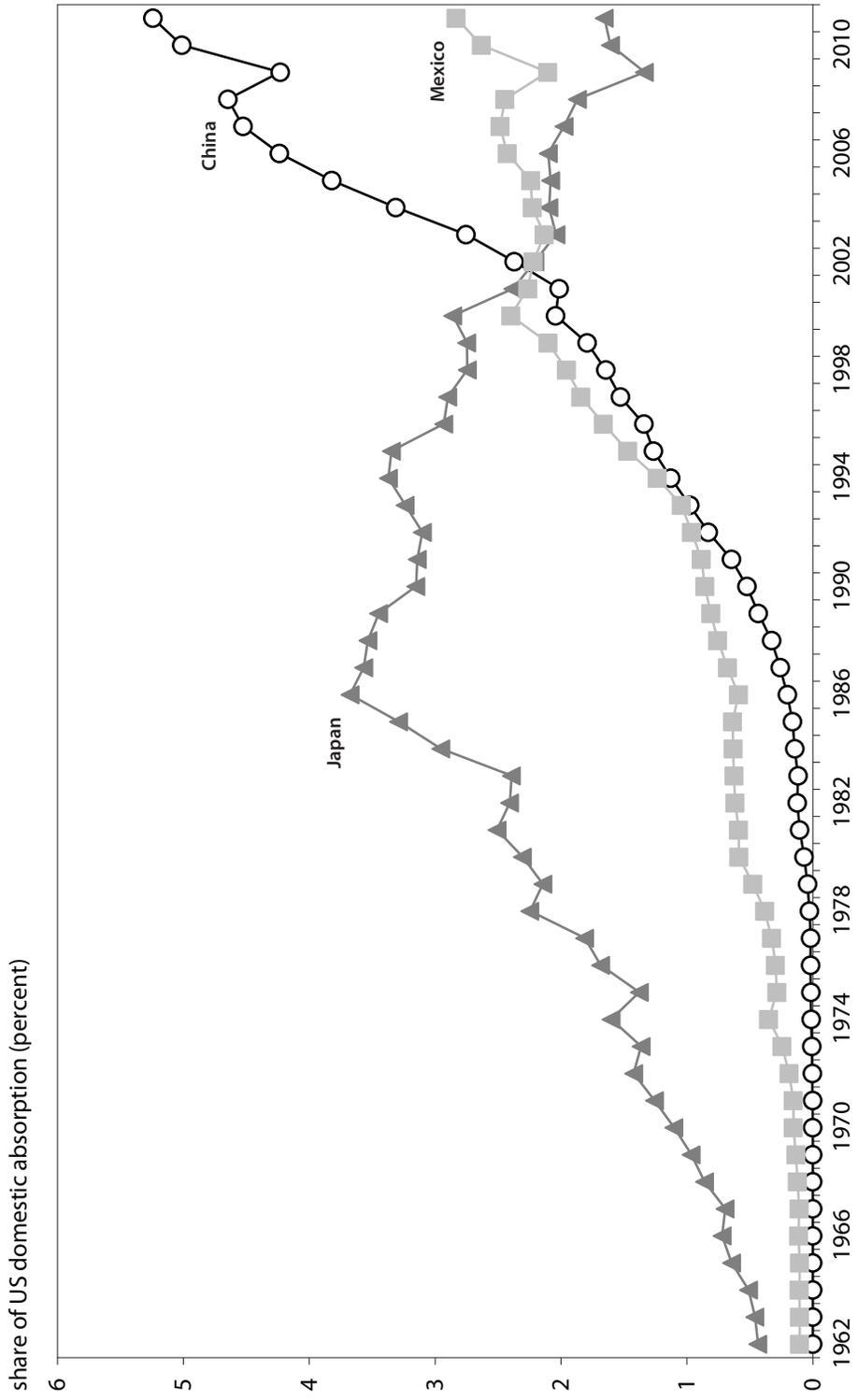
Source: OECD various years.

Figure 4.2 Share of capital in national income in selected OECD countries, 1980–2012



OECD = Organization for Economic Cooperation and Development.
 Note: The share of capital is computed from the Annual Macroeconomic Database of the European Commission (AMECO) database using the adjusted wage share at current market prices.
 Sources: Annual Macroeconomic Database of the European Commission (AMECO) various years.

Figure 4.3 Import shocks in the United States from Mexico, Japan, and China, 1962–2011



Note: Domestic absorption is GDP minus trade balance.
Sources: IMF, various years.

Table 4.2 Magnitude of import shocks to the United States from Japan, Mexico, and China

Country	Period	Real imports (dollars per working-age adult)		Import absorption (percent of domestic consumption)		China shock as multiple of earlier shocks (based on import absorption)			
		Average	Change	Average	Change	Average value		Change	
						Without adjusting for per capita GDP	Adjusted for per capita GDP	Without adjusting for per capita GDP	Adjusted for per capita GDP
Japan	1970–90	373.6	355.2	6.79	6.15	1.2	10.0	2.4	19.5
Mexico	1980–2000	197.3	542.2	2.93	5.46	2.9	17.2	2.9	17.2
China	1990–2010	671.8	1258.6	8.49	14.92	n.a.	n.a.	n.a.	n.a.

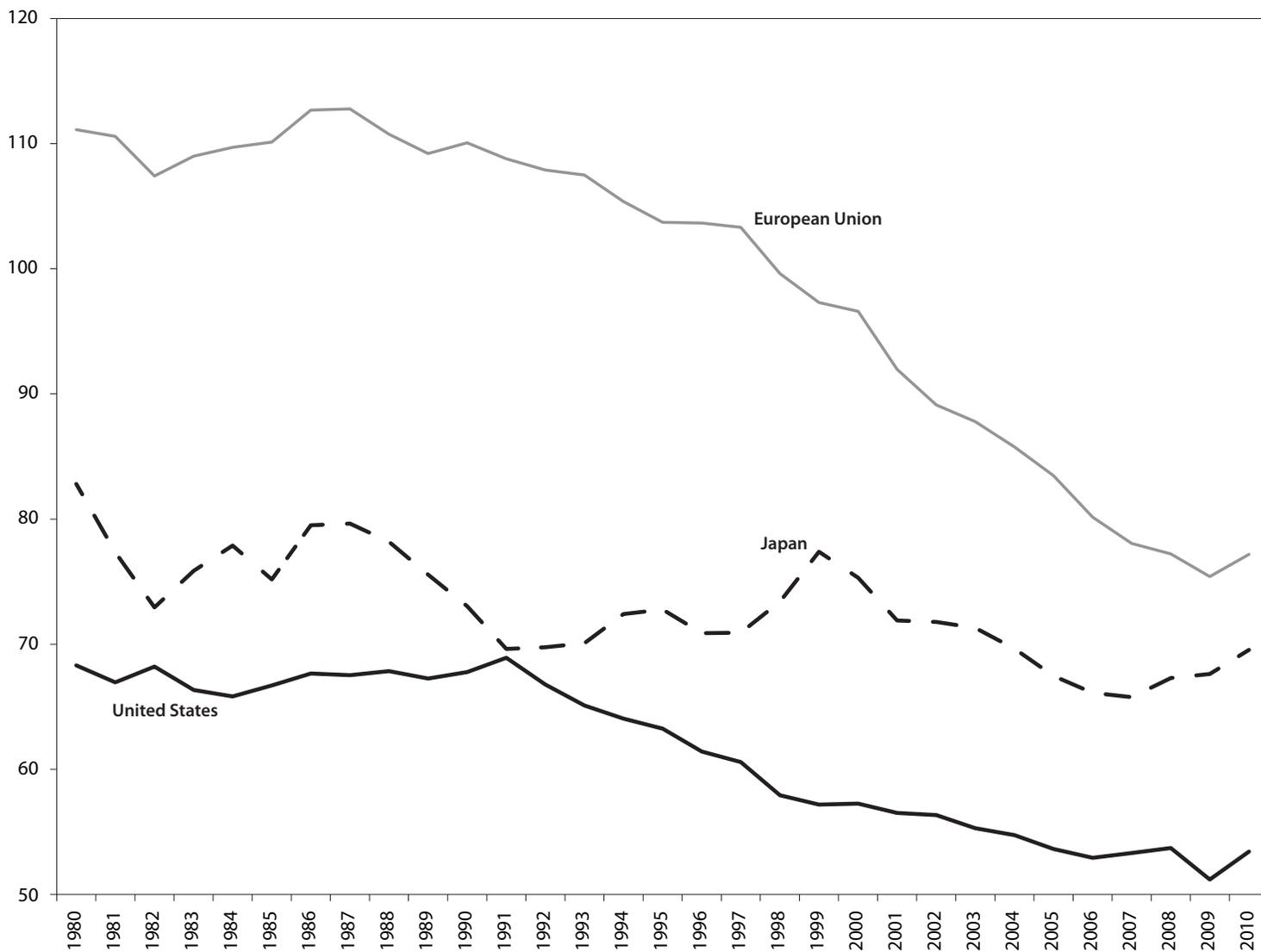
n.a. = not applicable.

Note: Real imports are total nominal imports deflated by the unit price of imports. Import absorption is defined as (nominal) imports from each country divided by (nominal) domestic consumption (GDP less trade balance).

Sources: Authors, based on data from IMF various years; US Census Bureau various years; and Penn World Tables 7.1.

Figure 4.4 Relative income level of exporters to the European Union, Japan, and United States, 1980–2010

income level of partners as a share of own income level (percent)



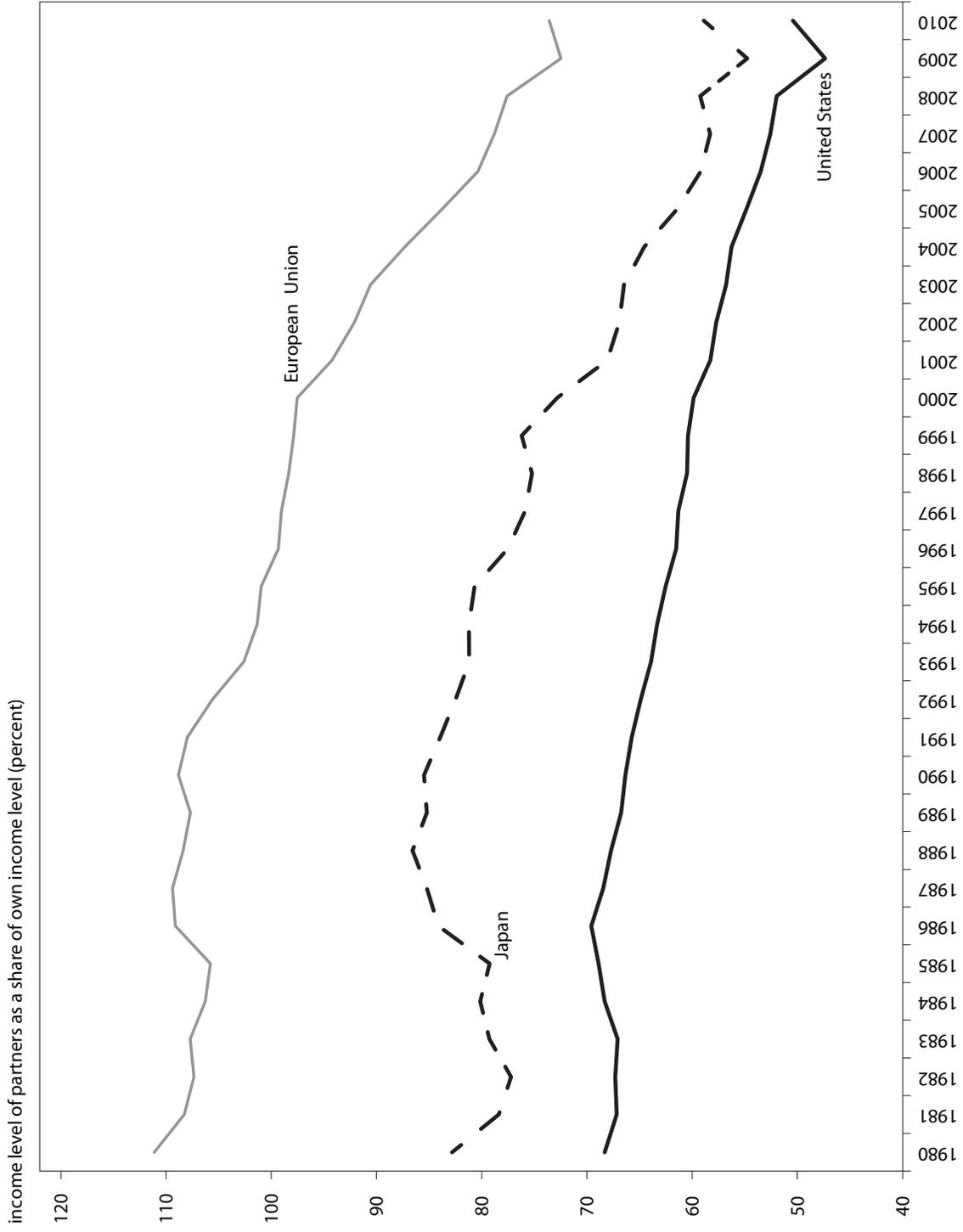
Note: The measure represented here is the weighted average income level of exporters to the European Union, Japan, and the United States, excluding oil exporters (as defined by the International Monetary Fund) and small countries (countries with populations of less than 1 million). Income level is per capita GDP (purchasing power parity) using the *rgdpch* measure in the Penn World Tables. For example, if we call this index $RI_{EU,t}$ for the European Union, it is computed as

$$RI_{EU,t} = \sum_i \left(\frac{GDP_{i,t}}{GDP_{EU,t}} \right) * \left(\frac{M_{i,EU,t}}{\bar{M}_{EU,t}} \right)$$

where $M_{i,EU}$ is imports by the European Union from i and \bar{M} is total imports by the European Union. $RI_{JP,t}$ and $RI_{US,t}$ are identically computed for Japan and the United States.

Sources: IMF various years; Penn World Tables 7.1.

Figure 4.5 Relative income level of exporters to the European Union, Japan, and the United States with fixed weights, 1980–2010



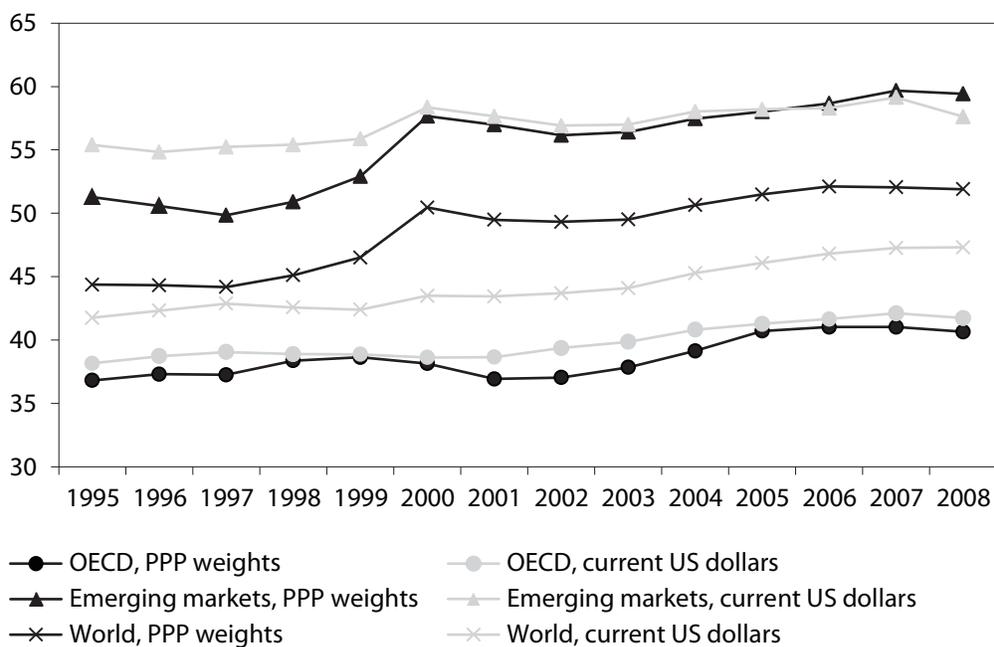
Note: See note to figure 4.4. GDP weights are fixed to their initial 1980 value. The fixed-weight index $R_{i,EU,t}^{FW}$ becomes:

$$R_{i,EU,t}^{FW} = \sum_i \left(\frac{GDP_{i,1980}}{GDP_{EU,1980}} \right) * \left(\frac{M_{i,EU,t}}{M_{EU,t}} \right)$$

Sources: IMF various years; Penn World Tables 7.1.

Figure 5.1 Share of capital in national income in selected country groups, 1995–2008

share of national income (percent)



Note: For emerging market countries, “compensation of employees” in the National Account Statistics was divided by GDP to compute the labor share. When series change, the last available series is used and completed by interpolation with the others using growth rates. The weighted averages (weighted by GDP in current dollars and purchasing power parity) were computed for eight emerging market countries (Argentina, Brazil, China, India, Korea, Mexico, Russia, and South Africa).

Sources: Authors, based on data from UN various years, Annual Macroeconomic Database of the European Commission (AMECO), World Bank various years, and Penn World Tables 7.1.

APPENDIX A

MEASURING VALUE-ADDED TRADE

In national account systems, trade is measured in gross terms, meaning that an export from a country is counted at its full value, whether this value was produced in the country or imported in part from another country (via foreign purchases of intermediate goods). It is thus possible to count a good that crosses frontiers at multiple stage of its production several times.

This accounting lies in contrast to the way in which GDP is computed. It is measured in terms of value added: The value of the intermediates used in production is subtracted from the value of the final good.

This distinction between gross and value-added trade has assumed significance in the wake of the ongoing process of the slicing up of the value chain across national boundaries. Slicing up is not a new phenomenon, but its magnitude has accelerated sharply in recent years, increasing the importance of proper measurement. Recent attempts have been made to correct this discrepancy and measure a consistent index of value-added trade by linking trade data and input-output tables. The basic idea is to link sources and uses of goods and services to be able to trace to its origin the value added embodied in an exported good.

Johnson and Noguera (2012) use estimates for 42 countries since 1970; their table 7 is the source of the value-added trade data in figure 2.1 in this paper. They use the concept of value-added exports (VAX), the ratio of value added in the country and exported to total exports. Recent research has refined the understanding of value-added trade by distinguishing various stages of production and trade (Koopman, Wang, and Wei 2013). In this paper, for reasons of simplicity, we adopt the VAX approach. To calculate the value-added trade data presented in the tables and figures presented in this appendix, we used the publicly available World Input Output Tables (available at <http://www.wiod.org/database/iot.htm>). These data span 15 years (1995–2009) and include 40 countries (including 27 EU countries and large developed and emerging market economies as well as a “rest of the world” aggregate), which represent 85 to 90 percent of global GDP.

We faithfully follow the methodology described in Johnson and Noguera (2012) to obtain a measure of bilateral exports in terms of both domestic and foreign value added. These exports are combined in various ways to derive the numbers used in the appendix figures and tables.

The caveat is that without firm-level data, one has to make the assumption that the production function is homogeneous within a sector across exporting and nonexporting firms. This assumption is probably not accurate, as exporters generally differ in size, productivity, and technology. The value-added trade data presented, although improvements over gross trade data, should be seen as first and necessarily imperfect approximations to the “real” value-added data.

The World Input-Output Table data are based on preliminary estimates that have since been revised, creating creates discrepancies for China in 2008 and 2009 and for India to a lesser extent. Data for the two years should therefore be used with caution (the problems with these years led us to use 2007 as the last year in the appendix tables).

Table A.1 Mega-exporters, based on value-added trade (percent)

Country/measure	Trade as a share of GDP	Overtrading, controlling for size	Overtrading, controlling for size and per capita GDP	Overtrading, controlling for size and per capita GDP and oil/small country dummies
Japan (1995) (36 countries in sample)				
Gross exports	9.2	-55.8***	-53.8***	-52.8***
Value-add exports	8.5	-46.9***	-45.5***	-44.3**
China (2007) (35 countries in sample)				
Gross exports	37.9	160.7***	155.0***	161.0***
Value-add exports	27.7	103.2***	102.1***	109.6***

Note: See note to table 2.3; regressions are similar but use value-added exports and a restricted sample for comparability. * = significant at the 10 percent level, ** = significant at the 5 percent level, *** = significant at the 1 percent level.

Sources: Authors, based on data from World Input-Output Tables and Penn World Tables 7.1.

Table A.2 China shock based on gross and value-added imports, 1995–2007

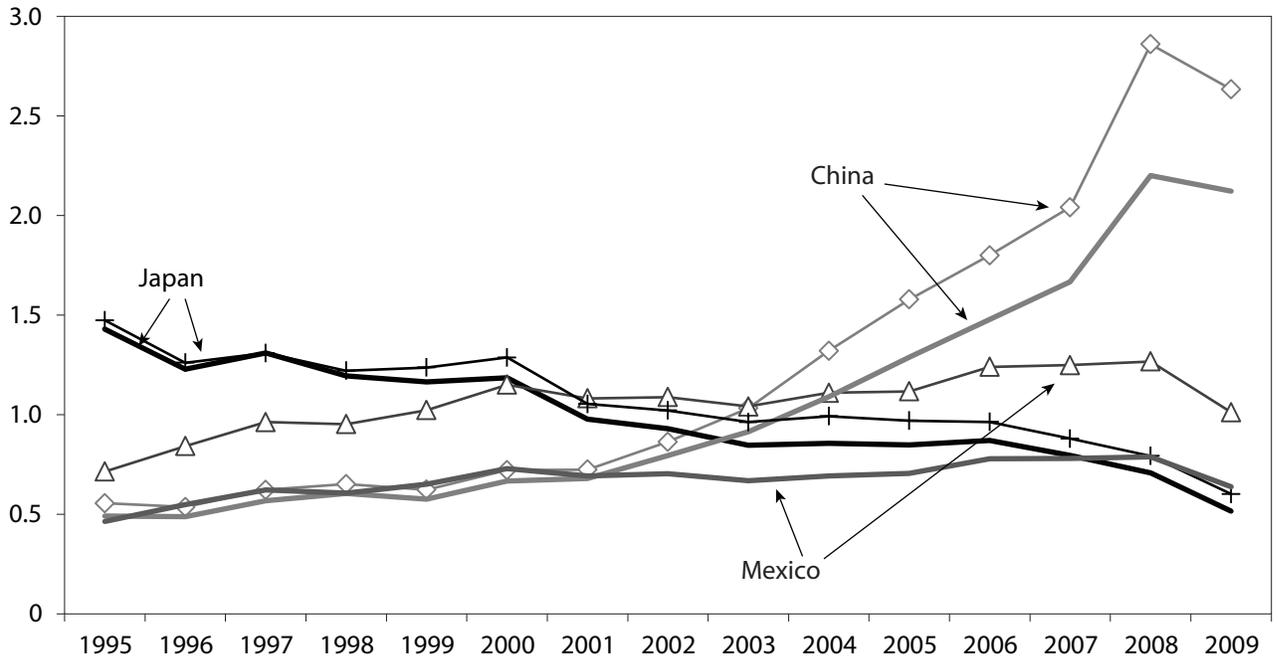
Measure of imports	Real imports (dollars per working-age adults)		Import absorption (percent of domestic consumption)	
	Average	Change	Average	Change
Gross	562.7	957.4	6.1	10.0
Value added	485.5	766.2	5.3	7.9

Note: See note to table 4.2.

Sources: Authors, based on data from World Input-Output Tables, Penn World Tables 7.1, and US Census Bureau.

Figure A.1 Gross and value-added imports by the United States as share of consumption, 1995–2009

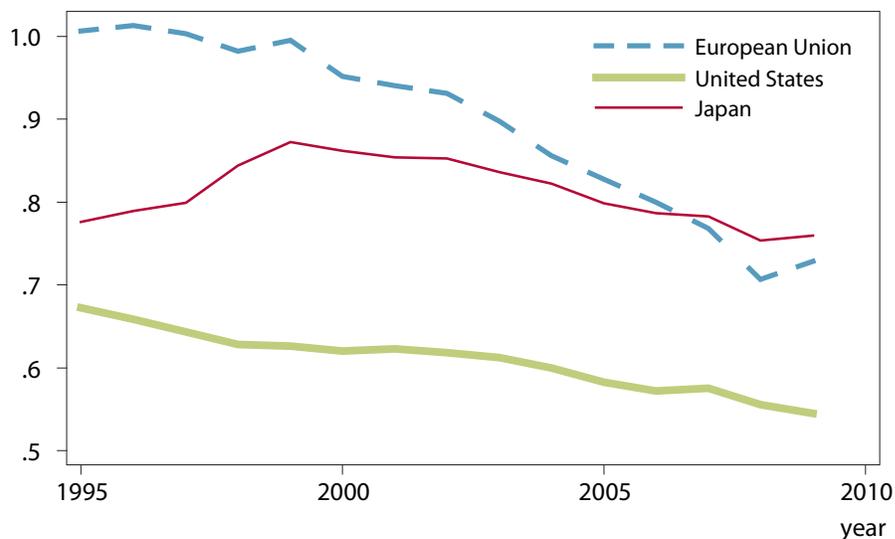
share of domestic absorption (percent)



Note: See note to figure 4.3. Lines with (without) markers denote gross (value-added) imports.

Sources: Authors, based on data from World Input-Output Tables and IMF various years.

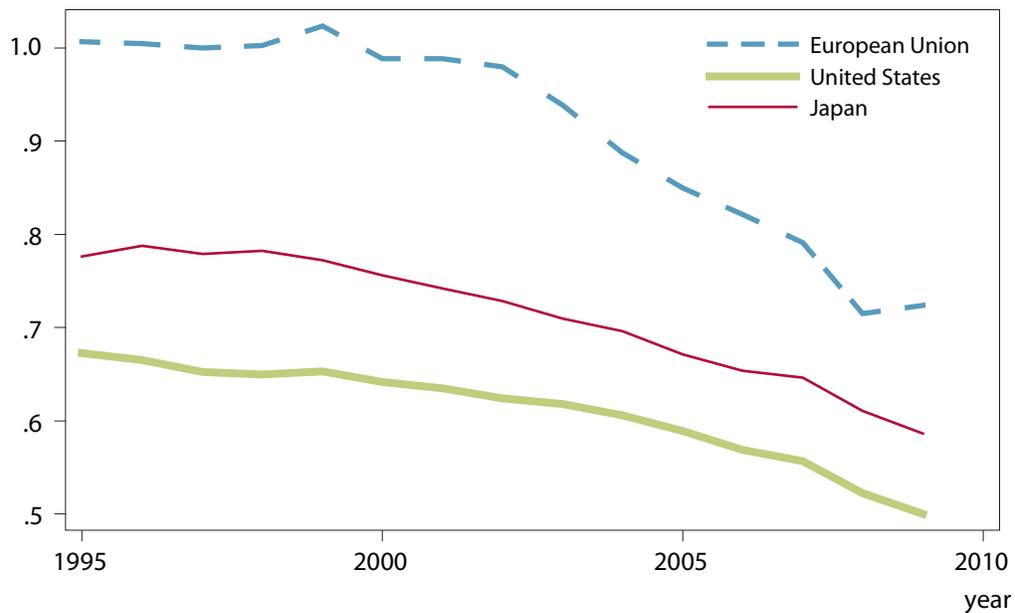
Figure A.2 Relative income level of exporters to the European Union, Japan, and the United States, based on value-added imports, 1995–2010



Note: See note to figure 4.4. Index here is similar but uses value-added import data.

Sources: Authors, based on World Input-Output Tables and Penn World Tables 7.1.

Figure A.3 Relative income level of exporters to the European Union, Japan, and the United States, based on value-added imports at fixed weights, 1980–2010



Note: See note to figure 4.5. Index here is similar but uses value-added import data.

Sources: Authors, based on World Input-Output Tables and Penn World Tables 7.1.

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