Introduction

How important are the remaining barriers to international integration in goods markets? How would eliminating them affect global welfare and the welfare of countries individually? Is Japan becoming more open? Is Europe becoming a single market? How integrated are the United States and Canada? In this study we attempt to answer these questions, using the most comprehensive price data available.

Globalization is the word perhaps most commonly used to describe the present era. Advanced communications and cheaper transportation have dramatically reduced the importance of geography; lower tariffs and the elimination of many import quotas have reduced the importance of trade barriers at the border. To be sure, differences in national laws and regulatory systems still create frictions, but increasingly, international agreements constrain even these differences. Once virtually confined to tariff reductions in goods trade, the scope of trade agreements has been broadened and deepened. Now the multilateral trading rules include trade in services. They also cover government procurement, customs procedures, standards, certification procedures, intellectual property, and binding dispute settlement.

Yet the notion that more integration is needed still drives policy. The Doha Round of multilateral trade negotiations launched by the World Trade Organization aims at improving market access, particularly in agriculture and services. It might also initiate additional negotiations to deepen integration of the multilateral system further, with new rules covering competition policies, investment, the environment, and trade facilitation. In addition, countries continue to negotiate regional agreements, many covering behind-the-border measures as well as traditional barriers to trade at the border.
Among world regions, the European Union has moved the furthest toward eliminating national borders: efforts to complete the internal market by 1992 included mutual recognition of national regulations, some harmonization of standards, and the implementation of common policies by the European Commission. The European Union has also implemented a program for economic and monetary union, highlighted by the launch of a common currency, the euro, in 2002. Nonetheless, many in Europe still believe that further deepening is required, and efforts to promote European integration continue.\(^1\)

The world’s other major economies are also pursuing integration. For the United States, the preferential trade agreements with Canada in 1988 and Mexico in 1994 were just the first steps toward deeper ties with other countries in the Western Hemisphere, through the proposed Free Trade Agreement of the Americas and beyond. In late 2002 the United States concluded new preferential trade agreements with Chile and Singapore and announced its intention to negotiate several more. Japan, too, continues to implement measures to increase its international integration: at home, considerable effort is being focused on making markets more contestable through deregulation; with its trading partners abroad, Japan is negotiating preferential trade agreements.

Yet the idea that globalization should go further does create controversy. The steps already taken to deepen international integration have launched a storm of protests. In the view of their opponents, international agreements excessively constrain the legitimate exercise of national sovereignty and threaten the welfare-enhancing effects of national diversity. Deeper integration is not necessarily better, they say. Harmonizing the wrong policies may be worse than allowing policies to differ as each country decides what policies are most appropriate. When countries have different preferences and circumstances, it is by no means self-evident that harmonized (or minimum) international standards in areas such as product safety, the environment, or the workplace enhance international well-being, even if they remove obstacles to trade (Bhagwati and Hudec 1996, Krugman 1997).

It is not surprising, therefore, that negotiating trade agreements that call for deeper integration has become more contentious and politically difficult. The Uruguay Round of multilateral negotiations, which took almost eight years to conclude, were by far the longest on record. The negotiations for a Multilateral Agreement on Investment among the countries of the Organization for Economic Cooperation and Development (OECD) had to be abandoned. The Doha Round was launched only with great difficulty, after failed efforts at Seattle two years earlier.

Given these considerations, the costs and benefits of further international integration need to be weighed carefully. It is important to know whether reducing the remaining obstacles to integration would yield significant economic benefits. If these benefits are small, perhaps the time has come to place a lower priority on achieving deeper economic integration. On the other hand, if the barriers remain substantial and the benefits great, it could be folly to abandon such efforts, and it may be worthwhile to invest considerable political capital in their elimination.

It is also important to appraise whether previous policies have been effective in enhancing integration. For example, Canada’s preferential trade agreements with the United States and Mexico represented a remarkable reorientation of that economy toward the rest of North America in an effort to reap the gains from increased economies of scale. Has Canada succeeded in this quest?

A similar question can be raised about Japan’s efforts to open its economy. Is the Japanese economy today as open as other industrial economies? Some observers allege that despite reductions in tariffs and quotas, the Japanese market retains numerous “invisible” obstacles to the entry of foreign products and firms. Government policies that have discriminatory effects, as well as such private practices as the long-term relationships between Japanese firms known as keiretsu, are often mentioned as barriers (Lawrence 1991, 1993). These obstacles have particularly vexed Americans, because the United States has a substantial trade deficit with Japan, and many Americans believe that the United States is one of the most open economies in the world. Others argue, on the contrary, that Japan is not all that different, particularly from countries in Europe. While acknowledging that the Japanese economy was highly protected in the 1950s and 1960s, they maintain that over time most of these barriers have been removed.

After more than a decade in which the Japanese economy has stagnated, international interest in Japan’s structural barriers has waned. The debate over Japanese trade barriers that was once front-page news

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2. For a discussion of the early debate on Japanese barriers, see the papers by Lawrence (1993) and Saxonhouse (1993) in the symposium “Is Japan’s Trade Regime Different?” in the Journal of Economic Perspectives.

3. Bhagwati and others (Bhagwati 1991, 24–43) contend that Japan is basically as open as other OECD countries. They rely on work by Saxonhouse in particular, who has long held this view. Similarly, many Japanese officials over the years have contended both that Japan is already quite open and that it is moving rapidly toward greater openness. But others point to a wide range of indicators on which Japan remains an outlier: for example, the low share of manufactured goods in its imports and its small amount of intraindustry trade.

In a recent appraisal of barriers in the Japanese economy, Bergsten, Ito, and Noland (2001, 144) concluded that there remains considerable scope for deregulation in Japan. They observed that both Japan and the United States maintain a variety of barriers to trade and that “Japanese barriers are more ubiquitous, but have been declining over time” (156).
internationally has today almost vanished from the headlines. But for the Japanese themselves the question has become increasingly relevant. With meager growth in domestic incomes, many see removing barriers to trade as offering an important channel for improving living standards.

The past decade has seen numerous reports in Japan about price declines—a phenomenon the Japanese refer to as “price destruction.” These reports often assign a prominent role to pressure from import competition. They are also taken as indicating the success of Japanese efforts to open the economy and as evidence that domestic markets are undergoing considerable structural change and becoming more contestable. But the overall economic climate of Japan complicates this assessment. Since Japan is experiencing deflation, widespread price declines may simply reflect monetary pressures. It is hard to disentangle the role of structural factors from purely monetary phenomena.4

Methodological Approach

This study appraises the movement toward increased integration of goods markets among industrial economies and estimates the welfare benefits of removing the barriers that remain. We are particularly interested in evaluating the progress made toward a single European market, the process of integration between the United States and Canada, and Japan’s integration into the world economy.

Investigating these issues is not an easy task. Official border barriers to trade are readily detected and measured: tariffs are transparent, and the effects of quotas can be expressed in terms of their tariff equivalents. Barriers behind the border, however, are opaque, difficult to identify and measure. Rather than try to identify them, therefore, our strategy is to detect their impact through comparisons of prices of goods in different countries.

When markets are integrated rather than segmented, buyers can make their purchases from the countries with the lowest prices, subject only to the additional transport costs of shipping them to their home market.5 Thus, if international markets are integrated, sellers cannot raise domestic prices above the level that would attract similar goods at a lower

4. In fact, disentangling these developments has also presented problems in the Japanese macroeconomic debate since they have given rise to claims that measured Japanese deflation is attributable to structural factors, such as innovations in information technology and increased import competition, rather than monetary policy.

5. Our notion of segmentation corresponds to that of Knetter and Goldberg (1996), who argue, “A market is segmented if the location of the buyers and the sellers influences the terms of the transaction in a substantial way (i.e., by more than the marginal cost of physically moving the good from one location to another)” (3–4).
price from abroad. To obtain a measure of barriers to integration, therefore, we compare domestic prices with those that would prevail if the markets of these countries were integrated in the sense that producer prices could differ by no more than the costs of transportation.

This approach is not new. Other studies have used price differentials as evidence of protection and to estimate the benefits of integration (see, in particular, Hufbauer, Wada, and Warren 2002). This study, however, is distinguished by three important methodological features that should improve the results. First, whereas most other studies have relied on selective and sometimes questionable price data and surveys, we use comprehensive and internationally comparable price data obtained from studies of purchasing power parity. We have explicitly chosen our data with an emphasis on comparability and ability to reflect the full range of products relevant for estimating national income.

Second, we extract distribution margins from the price data. A consumer who buys a good pays not only for the product itself but also for the wholesale, retail, and transportation services required to deliver the good. For example, in the United States in 1993, goods producers received only about 60 percent of the final goods price on average; the remainder went to the distribution system. Ultimately, therefore, the final price paid reflects both the cost of a good as it leaves the factory (the ex factory cost) and the cost of bringing it to market. Although both these cost components play a crucial role in determining living standards, the role played by international trade (and integration) in each component is different. Goods are for the most part tradable internationally, and in a fully integrated market, after transport costs are subtracted, producer prices should converge; that is, wholesalers throughout the market should be able to purchase them at the lowest possible price. By contrast, distribution systems are heavily location-specific and thus nontradable. To be sure, consumers can use mail-order and now the Internet when buying goods internationally, bypassing the traditional wholesale and retail distributors. They can also travel to foreign countries in order to make purchases. But such transactions remain, relatively speaking, the exception. Even in a fully integrated market, therefore, distribution costs can differ across countries—because of differences in distance, types of transport, rents, wages, productivity, and competitive conditions—in ways that fail to give rise to easy arbitrage opportunities. Because many studies of international integration have used retail price data that include domestic distribution costs, they may provide a distorted measure of integration in tradable goods. By contrast, in this study we isolate pure producer prices by using input-output data to extract distribution margins and taxes paid by consumers.

Third, we use a general equilibrium global model to estimate the welfare effects of removing trade barriers. By contrast, many studies have applied a partial equilibrium approach and simply aggregated the welfare
benefits measured for individual sectors. That approach may lead to estimates that violate aggregate constraints or that overlook the interactions among sectors and countries. Our model allows us to take account of both the interaction of developments in individual sectors and interactions with developments in other countries, in order to estimate the impact of eliminating fragmentation of markets among major developed economies.

### Table 1.1 Aggregate integration measures

<table>
<thead>
<tr>
<th>Country</th>
<th>Producer prices&lt;sup&gt;a&lt;/sup&gt; 1990</th>
<th>Producer prices&lt;sup&gt;a&lt;/sup&gt; 1999</th>
<th>Consumer prices&lt;sup&gt;b&lt;/sup&gt; 1990</th>
<th>Consumer prices&lt;sup&gt;b&lt;/sup&gt; 1999</th>
<th>Fragmentation&lt;sup&gt;c&lt;/sup&gt; 1990</th>
<th>Fragmentation&lt;sup&gt;c&lt;/sup&gt; 1999</th>
</tr>
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<tbody>
<tr>
<td>Belgium</td>
<td>1.66</td>
<td>1.70</td>
<td>1.41</td>
<td>1.45</td>
<td>1.42</td>
<td>1.42</td>
</tr>
<tr>
<td>Germany</td>
<td>1.61</td>
<td>1.48</td>
<td>1.48</td>
<td>1.38</td>
<td>1.39</td>
<td>1.29</td>
</tr>
<tr>
<td>Italy</td>
<td>1.57</td>
<td>1.34</td>
<td>1.44</td>
<td>1.24</td>
<td>1.38</td>
<td>1.21</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.62</td>
<td>1.65</td>
<td>1.36</td>
<td>1.38</td>
<td>1.42</td>
<td>1.41</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.60</td>
<td>1.78</td>
<td>1.38</td>
<td>1.61</td>
<td>1.41</td>
<td>1.50</td>
</tr>
<tr>
<td>Australia</td>
<td>1.50</td>
<td>1.33</td>
<td>1.43</td>
<td>1.29</td>
<td>1.31</td>
<td>1.23</td>
</tr>
<tr>
<td>Canada</td>
<td>1.62</td>
<td>1.25</td>
<td>1.52</td>
<td>1.15</td>
<td>1.39</td>
<td>1.17</td>
</tr>
<tr>
<td>Japan</td>
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<td>1.93</td>
<td>1.91</td>
<td>2.02</td>
<td>1.67</td>
<td>1.61</td>
</tr>
<tr>
<td>United States</td>
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<td>1.24</td>
<td>1.16</td>
<td>1.21</td>
<td>1.16</td>
<td>1.15</td>
</tr>
</tbody>
</table>

<sup>a</sup> Ratio of expenditure-weighted imputed ex-factory goods prices to the lowest price in the nine countries.

<sup>b</sup> Ratio of expenditure-weighted final goods prices to the lowest price in the nine countries (conventional purchasing power measure).

<sup>c</sup> Expenditure-weighted ratio of producer prices to landed cost of goods from the country with the lowest producer price in the nine countries.

Principal Results

Price Differences

Our analysis suggests that international market fragmentation among industrial countries remains considerable, even among countries with low tariff barriers. Firms charge very different prices for similar products in different national markets. Producer prices of comparable goods in adjacent countries in Europe and North America typically differ by about 20 percent, and between countries on different continents they often differ by between 30 and 50 percent. Differences of this magnitude far exceed transport costs. Given these differences, it is not surprising that we find that the efficiency gains from full integration of goods markets among the industrial countries would be considerably larger than the gains typically estimated from eliminating the remaining border barriers.

Table 1.1 shows various measures of integration for the nine countries that make up our sample: Australia, Belgium, Canada, Germany, Italy,
Japan, the Netherlands, the United Kingdom, and the United States. These data are weighted averages of detailed industry-level price comparisons covering about 120 industries. The 1990 data has 94 product categories, and the 1999 data has 112. For each country, we calculated the ratio of each product’s price to that product’s lowest price among the nine countries. The aggregate numbers in table 1.1 come from calculating the weighted geometric mean of the ratios, using the product share of final expenditure as weights. In 1999 we estimate that US producer prices were on average the lowest in the sample: the average amount by which US prices exceeded the nine-country sample minimum average was 24 percent. Canada’s prices were the next lowest (25 percent above the sample minimum average) followed by Australia’s (33 percent). European prices ranged between 34 and 78 percent, and Japanese prices were 93 percent above the minimum. These data underscore the relative openness and strength of competitive conditions in North America and the much weaker competitive conditions in Japan and, to a lesser degree, in Europe.

Price data at the consumer level for 1999 tell a similar story (table 1.1). In that year Canada had the lowest consumer prices of the nine countries in the sample. Weighted by share of final expenditure, average Canadian prices were 15 percent higher than the lowest prices available. US prices were the next lowest (21 percent higher than the minimum), followed by those of Italy (24 percent), Australia (29 percent), Germany and the Netherlands (both 38 percent), Belgium (45 percent), and the United Kingdom (61 percent). Finally, Japan had by far the highest consumer prices—on average, prices there were 102 percent above the lowest prices available.

Distribution margins do not explain these high Japanese prices. In 1990, for example, Japanese consumer prices were, on average, 91 percent above the lowest prices in the sample, but Japanese (ex factory) producer prices were similarly high, at 96 percent above the lowest producer prices. International transportation costs do account for some of these differences, but large differences between Japanese and other prices remain. As the next to last column of table 1.1 shows, in 1990 Japanese producer prices were still 67 percent higher, on average, than what it would cost Japanese consumers to purchase goods in the country with the lowest prices in the sample and transport them back to Japan.

Nor do these measures suggest that Japan became more open relative to other countries over the 1990s. Although increased competition and openness, as well as technological progress, may well have added to the downward pressure on Japanese prices, these forces were also operating elsewhere. Compared with the lowest prices in the sample, Japanese relative consumer prices were actually lower in 1990 (91 percent above the lowest) than in 1999 (102 percent above). This calls into question claims that Japan’s deflation reflects structural rather than monetary factors and suggests that Japan remains unusually closed.
The largest downward movement in relative prices took place in Canada. Between 1990 and 1999, Canadian relative consumer prices declined from 52 percent above the minimum—the second highest in the sample—to 15 percent. To be sure, the depreciation of the Canadian dollar relative to the US dollar over the period probably played a role. At the aggregate level, however, the percentage decline in Canadian prices relative to US prices exceeded that of the Canadian dollar (21 percent) against the US dollar. Moreover, the convergence process in North America is evident in both aggregate prices and the individual price series: in 1990 aggregate consumer goods prices in Canada were 30 percent above those in the United States; in 1999 they were 5 percent below US prices. Disaggregated into roughly 120 product categories, the data confirm this impression: the mean absolute percentage difference between US and Canadian consumer prices fell from 27 percent in 1990 to 18 percent in 1999. These data also suggest that integration with the United States has intensified competitive pressures in Canada.

Some price convergence also occurred within Europe over the 1990s, although it is necessary to examine the disaggregated price data to discern it. At the aggregate level, in fact, consumer goods prices have actually become less similar. The standard deviation for aggregate consumer prices for the five European countries in the sample (Belgium, Germany, Italy, the Netherlands, and the United Kingdom) increased from 4.5 percent to 13.6 percent. However, the dispersion around these aggregates declined. Our sample of about 120 goods categories indicates that the mean absolute difference of consumer price pairs for the European countries fell from 21 percent in 1990 to 17.5 percent in 1999. The standard deviations of European prices for the 120 goods categories weighted by expenditure shares fell by a sixth. Declines in consumer price dispersion are also evident for all bilateral pairs of European countries in the sample. In 1999 the typical difference between consumer prices in two EU countries was similar to that between prices in the United States and Canada. Our conclusion is that Europe has made progress toward market integration but that the process is by no means complete. There remain remarkable differences, even for food prices, for which, in principle, the Common Agricultural Policy should have equalized input costs. In addition, overall European prices remain relatively high, suggesting that price competition is not as strong as in North America.

6. Over the same period, consumer prices in Australia fell from 43 percent above the lowest prices in the sample to 29 percent above. In Italy the corresponding decline was from 44 percent to 24 percent, and in Germany the decline was from 48 percent to 38 percent. There was less change in Belgium and the United States: relative consumer prices rose modestly in these two countries. In the United Kingdom relative consumer prices rose much more, from 38 percent above the lowest in the sample in 1990 to 61 percent above in 1999.

8 HAS GLOBALIZATION GONE FAR ENOUGH?
Welfare Effects

Our simulations indicate substantial benefits from integration among these countries, both for the countries themselves and for their trading partners. Recall that when we simulate integration we do not fully eliminate all price differentials, because transport costs prevent complete equalization. Nonetheless, we estimate that integration among the eight countries (we omit Belgium from this part of the analysis for lack of data), accompanied by removal of their remaining tariff barriers, would raise global GDP by $557 billion (in 1997 dollars) or 2.1 percent. Incomes in these countries, which account for 85 percent of industrial-country output, increase by $404 billion (2.4 percent of their GDP), and incomes in developing countries rise by $103 billion (1.6 percent of their GDP). As a share of GDP, income rises least in the United States (1 percent) and Germany (2.3 percent; table 1.2). All other countries gain at least 3.3 percent of GDP, with the Netherlands enjoying a boost of 7.7 percent.

These gains are far larger than are obtained from traditional estimates of the benefits of trade liberalization. In conventional studies of the costs of protection, the benefits to consumers from removing protection are

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7. In a provocative back-of-the-envelope analysis, Krugman (1990, 105) imagined a world divided into three regions, each of which imported 10 percent of its consumption. He then assumed that each imposed an external tariff of 100 percent and that this had the effect of reducing its imports by half. He estimated that this would reduce income in the world economy by 2.5 percent. Our results suggest that, with respect to barriers to arbitrage, we are already living in such a world.

8. For example, Anderson et al. (2001) reported global gains of $140 billion (in 1995 dollars) from the removal of all remaining trade barriers in the world’s high-income countries, of which $43.1 billion accrues to developing countries. (OECD inflation between 1995 and 1997 was 8.5 percent, according to OECD Economic Outlook.)
generally far larger than the society-wide benefits, yet our estimates of the society-wide benefits are actually similar to traditional estimates of consumer benefits.

Moreover, these benefits would be widely shared within countries. Remarkably, in all eight countries, real incomes rise for skilled and unskilled labor, owners of capital (except those in Australia, who suffer small losses), and owners of natural resources (except in Japan). Landowners, particularly those in Australia, Canada, the Netherlands, and the United States, also derive substantial gains. Landowners lose, however, in Italy and the United Kingdom, but especially in Japan, where their incomes decline by 47 percent.

All eight countries derive greater benefits from acting together to eliminate trade barriers than from acting alone, as can be seen by comparing the first two columns in table 1.2. The smallest additional percentage increase is felt by Japan, which would gain almost as much by eliminating its barriers unilaterally. Such unilateral action by Japan would bring both the Japanese and their trading partners large benefits: remarkably, almost half the global gains in the eight countries could be reaped if Japan alone would eliminate its international fragmentation. Doing so would raise Japanese incomes by $135 billion, and it would raise incomes in the other industrial countries and the developing countries by $44 billion and $41 billion, respectively (bottom panel of table 4.1 in chapter 4). An open Japan would raise incomes in the developing world by 0.6 percent, with even larger percentage gains to China (0.8 percent) and the rest of Asia (1.0 percent). The United States would actually derive the same benefits from Japan’s unilateral opening (0.4 percent of US GDP) as from its own (top panel of table 4.1). These results all underscore the global interest in a more open Japan. Yet despite the considerable gains a more open Japan would confer on the rest of the world, of all the countries in the sample, Japan itself captures the largest share of the gains from its unilateral opening. The benefits to the rest of the world from unilateral Japanese opening amount to only about 60 percent of the benefits that Japan itself would enjoy (bottom panel of table 4.1).

If the United States alone removed its barriers, the welfare of US residents would improve by 0.4 percent of US GDP (first column of table 1.2). This is a relatively small gain because the United States is already relatively open, the share of trade in US GDP is relatively small, and, because the US economy is so large, such unilateral liberalization worsens the US terms of trade by driving up the prices of the goods the United States imports. Each of the other countries would gain more than the United States because of some combination of higher initial barriers, a larger trade share of GDP, and smaller terms-of-trade effects. The largest percentage gains from eliminating fragmentation unilaterally would be reaped by the Netherlands (3.8 percent of GDP), the United Kingdom (3.2 percent), and Japan (3.1 percent).
Some Caveats

We should emphasize before proceeding that, although we estimate the barriers to international arbitrage in this study, we do not establish exactly what those barriers are. Some may reflect policies that deliberately discriminate against foreign goods. Others, however, may arise simply because national policies are different, and still others may not be the result of policy choices at all. Obstacles of this type could reflect private behavior and institutions that are deeply rooted, such as national differences in language and social networks. These differences suggest, in turn, that although new policies could remove some of these barriers, others could persist despite policy changes. Indeed, it might not even be desirable to eliminate all barriers, since the costs of doing so might outweigh the benefits.

Our estimates of the benefits of integration do not attempt to take account of these costs. In particular, differences in national languages, policies, and institutions may well create barriers to price arbitrage, but they may also provide benefits that would be lost if the world economy were to become deeply integrated in the sense we explore in this study. As Dani Rodrik has emphasized, “Preferences for public goods are heterogeneous across countries and therefore there are costs to harmonization—inaibility to cater to local preferences—that need to be traded off against trade benefits.”9 In general, each country has an optimal level of public goods such as laws, regulations, and institutions, but this level is likely to differ across countries. As Lawrence, Bressand, and Ito (1996, 58) have noted:

Deeper integration will allow nations to internalize international spillovers, provide international public goods, police opportunistic national actions, and take advantage of international scale economies. But decentralized national decision-making accommodates diversity in national preferences and conditions, facilitates governmental accountability and is an effective mechanism for giving voice to common historical and cultural experiences in developing communal solidarity. In each policy area judgments need to be made about the relative weights of these considerations.

Although suppressing diversity could thus have costs that we have not accounted for, we may also have understated the costs of the barriers by treating them as if they were tariffs. In fact, removing barriers may actually save resources and therefore yield benefits even larger than our estimates. As Anderson and van Wincoop (2002) have emphasized, trade barriers such as tariffs and quotas generate inefficiency through what are termed deadweight losses, but other kinds of barriers may consume resources directly. A tariff on imported cheese, for example, will raise the

cost to consumers and the price received by producers. Some of the impact will thus simply entail a transfer from consumers to producers and the government. On net, however, there will be a cost to society, because the higher prices will induce less consumption and more production than warranted by the true social cost, as measured by the dead-weight cost of protection. The removal of such a barrier will generate efficiency gains. But a second type of barrier may itself consume real resources in addition to causing deadweight losses. These barriers may result from differences in national regulations. Suppose, for example, that two countries have quite similar criteria for the certification of drugs but that each country insists that its own officials certify all drugs consumed within its borders. Firms that wish to sell in both markets must expend real resources to determine and meet foreign requirements. Under these circumstances therefore, in addition to the deadweight gains from removing the barriers, there could be gains from freeing the resources consumed by the unnecessary duplication of regulatory processes.

Two other considerations also suggest that our estimates may be conservative. One is that they ignore the potential benefits from opening up other countries beyond our sample of eight. The other is that they may fail to fully account for additional benefits resulting from increased competition, increased product variety, the reduction of rent seeking, and the full dynamic impact of open markets in stimulating innovation.\(^\text{10}\)

A final concern, discussed in appendix 1.1, is what happens when markets are not perfectly competitive. Although, in general, price convergence might have ambiguous results, we believe that when international barriers are removed, prices will converge to the lowest levels and this will enhance welfare.

\(^{10}\) This ignores adjustment costs.

12 HAS GLOBALIZATION GONE FAR ENOUGH?
Appendix 1.1
Does Price Equalization Improve Welfare?

Under competitive conditions the removal of barriers to arbitrage improves welfare. Assume that two internally competitive markets are separated by a barrier to trade. Assume further that prices in the two markets differ initially. If the markets are then integrated, prices will rise in one market and fall in the other. As prices converge, production in the market with rising prices will increase, and consumption will fall as some of the goods it produces are exported to the second market. It is straightforward to show that, in the market in which prices rise, the gains to producers outweigh the losses to consumers. Conversely, in the market in which prices fall, the gains to consumers outweigh the losses to producers. Thus price convergence necessarily improves overall welfare.

In a world with imperfect competition, however, the welfare implications of price convergence are ambiguous. In this second-best world, if barriers to arbitrage exist, a firm with pricing power will be able to engage in price discrimination. In general, the firm’s markup over cost will be a function of the elasticity of demand. At one extreme, if the barriers to arbitrage are removed, the firm could decide to charge all consumers the price formerly charged in the high-price market. Consumers and profits in that market would be unaffected, but consumers in the low-price market would lose. In addition, the firm would earn lower profits from those consumers. Thus welfare would decline. At the other extreme, however, the price could fall to the level in the low-price market. Under these circumstances profits and welfare in that market would be unchanged, whereas in the former high-price market, consumers would gain and profits fall. The gain to consumers, however, will be greater than the firm’s losses, and the world is better off. In reality, outcomes somewhere between these two extremes are likely. The result therefore depends on the elasticity of demand in the integrated market.

Assume now that there are several firms engaged in oligopolistic competition. If market demand patterns are similar internationally—to put it technically, if tastes are identical and homothetic—integration will improve welfare because prices will converge on the lower price. In general, the demand curve facing the individual producers of differentiated products will reflect both consumer preferences and the availability of substitutes. If market demand elasticities are similar, the residual demand elasticity

11. For a more complete discussion see Tirole (1989, 139), who notes, “The welfare effects of third-degree price discrimination are ambiguous. One has to weigh the losses of consumers in low elasticity markets against the gains of those in high elasticity markets and of the producer.” For a more detailed exploration with respect to trade, see Malueg and Schwartz (1994).

facing individual producers will reflect residual elasticities of supply of competitors. The more close substitutes are available, the more elastic that demand will be. Under these circumstances, to the degree that removing barriers to integration increases competition, prices will fall to those in the low-price market. Indeed, if the number of firms increases in the low-price market, prices could actually decline in that market as well. In this model, therefore, price convergence (on the lowest price) is welfare enhancing.

Parallel Imports

Policies on so-called parallel imports have the most direct bearing on the issue of international price discrimination. These policies relate to the importation of goods that enjoy protection under domestic trademarks, copyrights, or patents. For example, such rules govern the importation into the United States of Coca-Cola, which has a US trademark, sold legally abroad.

Countries differ in their approach to this issue. The United States tends to limit such activity, whereas Japan and Australia are more permissive, and Europe lies in between. In the United States, parallel imports are governed by complicated rules. US owners of patents and copyrights are protected from parallel imports. However, trademarked products can be blocked only if it can be shown that they are not identical in quality to the original product. Japan permits parallel imports in patented or trademarked goods unless they are explicitly barred by contract or their original sale was subject to foreign price regulation. Australia allows such imports. The European Union bars parallel imports from outside its borders but allows no restraints on goods that are legitimately resold within those borders. (Exceptions are products placed on the market as a result of compulsory licensing orders.)

What accounts for these policy differences? Maskus (2000) assumes that the United States is a high-price market with inelastic demand and that the US limit on imports is designed to protect US producers and to harm US consumers. He states, “Economies with inelastic demand would face higher prices under price discrimination than under uniform pricing, harming consumers. This surely explains the limited permission of

13. For a review of these theories, see Waterson (1984, chapter 2).

14. For a study using the residual demand curve as an indicator of competitive pressure, see Knetter and Goldberg (1995).

15. They cannot, however, be blocked if the domestic good and the parallel import are subject to common control, that is, if the goods are sold at home and abroad by firms in a parent-subsidiary relationship, or if both the US and the foreign trademarks are owned by the same entity.
parallel imports into the United States where demands for trademarked goods may be expected to be relatively unresponsive to price” (Maskus 2000, 212). Maskus also argues that countries that are not developers of intellectual property are made worse off by price discrimination and that “this logic underlies the favorable treatment of parallel imports in Australia, Japan and elsewhere.” But the evidence in this paper suggests an alternative, more benign view of these policies. The United States, as a low-price (and thus high-demand-elasticity) country, could benefit from market segregation because competitive pressures deliver low prices. Japan has much higher prices (and thus less elastic demand) and benefits from integration. Thus both countries are actually maximizing the welfare of their consumers.

Within the United States, the so-called first sale doctrine is enforced.16 This means that distribution rights are exhausted when a product is sold outside a vertical distribution chain. US producers are therefore unable to prevent purchasers from reselling their products at a price of their choosing anywhere in the country.17 We believe that, as a high-price location, Japan should consider adopting even more liberal policies toward parallel imports, and Europe should move toward international rather than regional exhaustion.

In our view, countries with relatively inelastic demand should be particularly interested in allowing, indeed promoting, parallel imports; countries with very elastic demand, on the other hand, have nothing to fear from allowing parallel imports, because their prices will tend to be low in the first place. This logic suggests that, left on their own, parallel imports should be permitted as a way of maximizing consumer welfare.18

16. This discussion is drawn directly from Maskus (2000).

17. As Maskus (2000, 210) notes, “This is seen as an important policing mechanism for exclusive territories, which are viewed as permissible under anti-trust laws subject to a rule of reason inquiry.”

18. This is essentially the logic of Richardson (2002), who demonstrates that when countries choose individually whether or not to prohibit parallel imports, a global Nash equilibrium involves permitting parallel importing into all relevant foreign markets (that is, global uniform pricing).