

# Has Globalization Created a Borderless World?

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The newest buzzword in the popular business press is *globalization*, a word that evokes images of a world in which goods, services, capital, and information flow across seamless national borders. In this world, the choices over where to produce, shop, invest, and save are no longer confined within national borders but have taken on a decidedly global orientation. Some analysts speculate that globalization has blurred the economic distinctions between

countries, creating a “borderless world” in which economic decisions are made without reference to national boundaries. For instance, in describing the sphere in which the major industrial economies operate, Kenichi Ohmae asserts that “national borders have effectively disappeared and, along with them, the economic logic that made them useful lines of demarcation in the first place.”

The view that national borders have become economically meaningless is controversial. But, if correct, it has potentially important implications for the world’s economies and their policymakers. One current concern is that, by enhancing access to the labor resources and products of low-wage countries, globalization

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could already be stunting workers' living standards in relatively high-wage countries like the United States.<sup>1</sup> A truly borderless world would place great limits on the ability both to confine the effects of domestic economic policy within national borders and to insulate countries from foreign economic shocks. In such a world, financial capital, production activities, and even workers could move in response to better opportunities elsewhere in the world almost as easily as they could within a given country, thereby undermining efforts to maintain economic or financial conditions at home that diverge substantially from those abroad.

The overall level of international economic activity has escalated in recent years, spurred by a variety of factors ranging from innovations in information technology to efforts by national governments to liberalize and deregulate markets. The result has been an impressive expansion in world trade, investment in overseas operations, and international flows of financial capital. Casual observation suggests that international economic developments are attracting greater attention from policymakers, producers, and even individuals in their roles as workers and consumers. Both the growth in international economic activity and heightened public awareness are indications of strengthening economic ties between countries. The United States has participated in this trend and, by most measures, is considerably more open today than it was even 25 years ago.

Does all this mean that national borders no longer matter for economic decisions? This article assesses the relevance of the "borderless world" view for U.S. product markets. Although the U.S. economy has become more

open, recent research finds that national borders continue to affect U.S. trade flows and product prices. In fact, the estimates of the border's effects are substantial. A number of factors could be responsible for this finding, including government-imposed barriers to trade, fluctuations in exchange rates, and a variety of noneconomic factors such as national historical and cultural ties. Even in the current environment of global and regional trade liberalization, there is little reason to expect that the influence of these factors on U.S. product markets is about to disappear.

#### **GLOBAL AND REGIONAL INTEGRATION: EVIDENCE FOR U.S. PRODUCT MARKETS**

National economies are linked through trade in goods and services, cross-border flows of financial assets, and labor migration. International economic integration is the process by which reducing barriers between national economies strengthens these ties. In the economics literature, integration traditionally has been associated with explicit government actions to lower tariffs and other artificial barriers to the international movement of goods, services, and inputs. Recent advances in communication and information technologies have also promoted economic integration by enhancing knowledge of and access to foreign consumers and products. Both trade liberalization and advances in communication and information continue to be operative factors in the U.S. economy.

Have U.S. product markets become more integrated with the world economy as a result?<sup>2</sup>

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<sup>1</sup>This is, itself, a hotly debated issue among economists. The debate centers on the impact of trade on jobs, wages, and income distribution. See, for instance, the article by Paul Krugman and Robert Z. Lawrence and the symposium papers in the *Journal of Economic Perspectives*, 9 (Summer, 1995), pp. 15-80.

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<sup>2</sup>While this paper is concerned with the economic integration of U.S. markets for goods and services, the term can also be applied to markets for inputs like labor and financial capital. By and large, labor market integration is limited by government-imposed barriers to international migration. In contrast, financial capital is perceived as highly mobile internationally. That view is supported by

One common approach to quantifying the strength of an economy's ties with the rest of the world is to measure the share of its economic

activity made up of exchanges with other countries. A larger share is indicative of a more "open" economy, one with stronger links to the world economy. According to this measure, markets for goods in the United States have become more open. Measured relative to gross domestic product (GDP), merchandise trade more than doubled between 1970-71 and 1995-96 as a result of significant growth in both exports and imports (Table 1). Much of that gain occurred in the 1970s, so that by 1980-81 merchandise trade was 16.5 percent of GDP. The expansion in U.S. trade resumed in the 1990s, albeit at a somewhat slower pace. Though

the fact that, at least for the major currencies, interest rate differentials between identical offshore and domestic assets are insignificant. But as Martin Feldstein observes, this merely reveals that financial capital can and does move across national borders. In fact, despite the substantial holdings of foreign stocks and bonds, recent research indicates that investors exhibit a strong home bias in their investment portfolios (see the articles by Kenneth French and James Poterba; and Linda Tesar and Ingrid Werner). The implication is that international capital markets are not fully integrated.

**TABLE 1**  
**U.S. Trade in Goods and Services Relative to U.S. GDP**  
(annual averages; in percent)

	1970-71	1980-81	1990-91	1995-96
Merchandise, excluding military	8.0	16.5	15.4	18.5
of which: exports	4.0	7.8	6.9	8.0
imports	4.0	8.7	8.5	10.5
Private services	1.8	2.5	4.2	4.8
of which: exports	0.9	1.4	2.5	2.9
imports	0.9	1.1	1.7	1.9
Merchandise & services	9.8	19.0	19.6	23.3
of which: exports	4.9	9.2	9.4	10.9
imports	4.9	9.8	10.2	12.4

Notes: The totals are the sums of the individual percentages for exports and imports. Private services trade is calculated as total services trade minus transfers under U.S. military sales contracts, direct defense expenditures, and U.S. government miscellaneous services.

Source: Author's calculations based on data from Bureau of Economic Analysis

smaller in value than goods trade, services trade has grown even faster: measured relative to GDP, it has nearly tripled since 1970-71. Together, exports and imports of goods and services have expanded from under 10 percent of GDP in 1970-71 to over 23 percent in 1995-96.<sup>3</sup>

Do similar measures show evidence of growing regional integration? Recent trade agree-

ments between the United States, Canada, and Mexico have created a tri-national free trade area; the Canada-United States Free Trade Agreement (CUSFTA) liberalized trade between the United States and Canada in 1989 and the North American Free Trade Agreement (NAFTA) extended the free trade area to Mexico in 1994. As a result, numerous formal barriers to trade and investment between the three countries have been or will be eliminated. The reduction in economic barriers should promote greater integration of the three economies. In fact, merchandise trade with Canada and Mexico grew from 2.3 percent of U.S. GDP in 1970-71 to 5.4 percent in 1995-96 (Table 2). Some of that growth predates the creation of the North American free trade area, suggesting an ongoing process of economic integration between the United States and the two other NAFTA countries. However, the recent trade

<sup>3</sup>It could be argued that trade statistics underestimate the extent of product market integration because they do not fully account for the contributions of companies' overseas operations. For example, foreign companies have invested heavily in U.S. production facilities over the last 15 years or so. The result has been a significant rise in the level of economic activity of foreign companies operating in the United States. In fact, the Bureau of Economic Analysis estimates that the output of U.S. affiliates of foreign companies has grown faster than total U.S. output; as a share of gross output originating in private industries, it has increased from 2.3 percent in 1977 to 6 percent in 1995.

**TABLE 2**  
**U.S. Trade with Canada and Mexico Relative to U.S. GDP**  
(annual averages; in percent)

	1970-71	1980-81	1990-91	1995-96
Merchandise	2.3	3.9	4.1	5.4
of which: Canada	2.0	2.9	3.0	3.8
Mexico	0.3	1.0	1.1	1.6
Private services	NA	NA	0.71	0.69
of which: Canada	0.30	0.28	0.45	0.44
Mexico	NA	NA	0.26	0.25

Notes: The individual percentages for Canada and Mexico represent the ratios of the sum of exports and imports to U.S. GDP. The totals for merchandise and services are the sums of the individual percentages for Canada and Mexico.

Source: Author's calculations based on data from Bureau of Economic Analysis

agreements could have played a part in the significant gain since 1990-91. They might also be a factor in the sustained rise in the share of private services trade with Canada.

### **IS THE U.S. BORDER IRRELEVANT?**

The preceding analysis indicates that U.S. product markets have become more integrated with global markets. There is some indication of the same phenomenon at the regional level. But evidence of greater economic integration is not the same as evidence that national borders no longer matter for the worldwide distribution of goods and services. Although this distinction may appear to be simply a matter of degree, it is important. In a truly borderless world, the strength of the economic ties between markets would not depend on whether they are located in the same country. In particular, consumers and producers within a given country would not trade more among themselves simply because of shared nationality. In the language of economic integration, borderless product markets would be tantamount to complete integration.

Do borders still matter for U.S. product markets? The border between the United States and Canada is the most likely place to find evidence that they don't. Complete economic integration requires that there be no trade barriers between countries. Therefore, the strongest evidence of borderless product markets should be found among countries that have largely eliminated barriers to trade between them. The United States and Canada are clear candidates: not only have CUSFTA and NAFTA eliminated numerous barriers to bilateral trade but, for many goods, tariffs and other formal trade barriers between the United States and Canada were low or nonexistent well before the recent trade agreements.

Several other features of the two countries favor the development of strong bilateral economic links. Geographic proximity is one such feature. Greater distances between markets

mean larger costs of transporting goods and services between them, encumbering trade and the development of close economic ties.<sup>4</sup> But the United States and Canada share a long border, much of which is easily negotiated by land or water. Moreover, some Canadian cities are closer to urban centers in the United States than they are to other major Canadian cities. Indeed, over three-fourths of Canada's population lives within 100 miles of the U.S. border. The nearness of the two countries extends beyond mere physical proximity: Canada and the United States share a number of social, political, and cultural traditions, and a majority of people in both countries speak the same language. Both the geographic proximity and cultural similarities of the two countries are propitious for bilateral trade and other cross-border economic activities.

In fact, Canada and the United States have long been major destinations for each other's products and foreign investment. They currently exchange close to \$1 billion in goods and services each day, making theirs among the world's largest bilateral trade flows. But how are we to gauge whether this cross-border economic activity is evidence that the U.S.-Canada border no longer matters? One approach would be to evaluate the economic ties between a Canadian market (say, Toronto) and a U.S. market (say, Philadelphia). The strength of the ties between any such pair of markets could depend on a number of factors, including the geographic distance between them and the composition and sizes of their respective economies. But if economic activity were unaffected by the political border between Canada and the United States, the strength of the ties would not depend on the fact that the two markets are lo-

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<sup>4</sup>James Rauch argues that for all but a few relatively standardized products such as those traded in organized global markets, greater distances can also raise the costs of locating appropriate sellers or buyers in foreign markets.

cated in different countries. Evidence to the contrary would imply that the border does matter and that the two economies cannot be characterized as completely integrated.

Recent research finds that the relatively innocuous U.S.-Canada border has significant economic effects. The evidence is twofold. First, studies of Canadian merchandise trade reveal that the average Canadian province trades much more with other Canadian provinces than with U.S. states of similar economic size and geographic distance.<sup>5</sup> Ontario, for instance, is roughly equidistant from British Columbia and the state of Washington. Yet in 1990, it traded over seven times more with British Columbia than with Washington, despite the fact that Washington's economy was almost twice the size of British Columbia's. This suggests significant home bias in Canadian merchandise trade vis-a-vis the United States.

Second, evidence also comes from comparisons of consumer prices in the United States and Canada. If the U.S.-Canada border were economically irrelevant, there would be no large, persistent differences between the prices of identical products in Canadian and U.S. markets, once they were expressed in terms of the same currency. As every consumer has experienced firsthand, price differentials for the same good can and do exist at any single point in time. According to economic theory, however, the actions of buyers in search of low prices and sellers in pursuit of profits should minimize these price differences over time. Econo-

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<sup>5</sup>See the papers by John McCallum and John Helliwell. It is possible that the effects attributed to the border actually derive from differences in the composition of state and provincial production. That is, interprovincial trade could exceed trade between Canadian provinces and U.S. states not because of the border, but simply because the provinces can obtain more of what they want from other provinces. However, when McCallum explicitly controls for this possibility, he finds that it does not account for the large effect of the border on provincial trade patterns.

mists acknowledge that this process can take a considerable amount of time. They also recognize that prices of similar products in different locations may not be exactly equalized, owing to such factors as the cost of transporting the products between locations. When markets are integrated, however, the forces of competition should ensure that such prices move in parallel with one another over the long run. Yet recent research finds little evidence of such a correspondence between the U.S. dollar prices of consumer goods in U.S. and Canadian markets, even in the long run.<sup>6</sup>

The empirical evidence clearly indicates that the border has economic effects—that is, the border “matters”—for product markets in the United States and Canada. This conclusion may not be terribly surprising. After all, the free trade arrangement between Canada and the United States stops far short of establishing an economic union. A more interesting issue concerns the magnitude of the border's effects. That is, if the border matters, does it matter a lot? The answer appears to be yes. By one estimate, a Canadian province engages in 20 times more merchandise trade with another Canadian province than with an equidistant U.S. state of comparable economic size.<sup>7</sup> Preliminary evi-

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<sup>6</sup>John Rogers and Michael Jenkins analyze ratios of U.S. prices to Canadian prices (both expressed in U.S. dollars) for various categories of consumer products. In constructing the ratios, they carefully pair U.S. consumer products with similar Canadian products to ensure that they are comparing the prices of like goods. Even so, they fail to find evidence of a stable, long-run relationship between most product pairs. In a related study, Charles Engel compares the variability of price ratios for pairs of consumer products in the United States and Canada. He reports that the variation in the dollar price ratio of similar Canadian and U.S. consumer products is typically much larger than the variation in the price ratio of two different consumer goods in either the United States or Canada.

<sup>7</sup>This estimate comes from the studies by McCallum and Helliwell. Shang-Jin Wei comes up with much smaller estimates of home bias for the merchandise trade of a broader

dence indicates the home bias is apt to be even larger for U.S.-Canada services trade.<sup>8</sup> Another study translates the impact of the U.S.-Canadian border on consumer prices into an equivalent physical distance, estimating that crossing the border is equivalent to adding a distance of 1780 miles between markets.<sup>9</sup> Whether measured in miles or trade volumes, the economic effect of the U.S.-Canada border is considerable.

Two conclusions can be inferred from this evidence. First, the U.S.-Canada border has a surprisingly large impact on both trade patterns and product prices in the two-country region. Second, if the relatively open U.S.-Canada border exhibits such substantial economic effects, it is likely that borders have even greater impacts on trade flows and relative prices between the United States and other countries. But why do borders appear to have such large effects?

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sample of industrialized countries. However, reconciling Wei's findings with those for U.S.-Canadian merchandise trade is complicated by conceptual and measurement differences in the two sets of studies.

<sup>8</sup>See the paper by Helliwell and McCallum. This is likely for two reasons. First, the free trade agreements between the U.S. and Canada did not include some service sectors, such as health, transportation, basic telecommunications, and legal services. Second, national regulations in two important service sectors, broadcasting and finance, could limit the bilateral exchange of these services.

<sup>9</sup>See Engel and Rogers (1996). Their study covers the period 1978-93 while McCallum's analysis of merchandise trade is based on data for 1988. Because the two studies include data from the period prior to the implementation of the Canada-United States Free Trade Agreement, it might be supposed that their estimates overstate the current impact of the U.S.-Canada border. However, Engel and Rogers find that the border's effect is no smaller when data prior to 1990 are excluded. Likewise, Helliwell's update of McCallum's work finds comparable estimates for merchandise trade through 1990. This could reflect the fact that the effective trade barriers between the United States and Canada were already low before the agreement. An alternative interpretation is that adjustment to the free trade agreement was not complete by the early 1990s.

## THE ECONOMIC ROLE OF THE BORDER

National borders can influence economic activity in a number of ways. As political and legal boundaries, they provide a means for governments to erect barriers to international flows of goods, services, and factors of production. These measures take a variety of forms and are instituted for a number of reasons. Tariffs drive a wedge between a domestic market and foreign supplies, frequently with the intention of offering protection to domestic industries.<sup>10</sup> The same is true of quotas, nontariff trade barriers that impose quantitative restrictions on imports.

Other so-called nontariff barriers often have the same effect but may or may not be erected for trade policy purposes. This broad category of barriers includes technical standards, licensing and certification requirements, health and safety regulations, border formalities, and government procurement practices. There are numerous instances in which regulators have been accused of imposing measures to protect domestic industries under the guise of other concerns such as the environment or public health. For example, in the early 1990s, Ontario levied a 10-cent tax on all beer sold in cans. The stated objective was to encourage container re-use. But U.S. beer manufacturers viewed the tax as protectionist because, unlike Canadian beer, most American beer is sold in cans and is thus subject to the levy. Practically speaking, of course, determining whether a specific nontariff barrier was intended to shelter domestic markets from foreign competition or had some other primary objective is often difficult.

Other examples of government-imposed barriers include controls on international flows of capital and labor, limitations on holdings of foreign exchange, and market-entry and ownership restrictions. All of these measures differentiate the products and inputs of the do-

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<sup>10</sup>Tariffs also raise revenue for the government.

mestic economy from those originating outside the border, effectively contributing to the establishment of an economic frontier between a country and the rest of the world.

Tariffs and other formal barriers to trade between the United States and Canada have long been lower than in most other parts of the world. Thus, it is unlikely that they can account for the lion's share of the estimated border effects. A potentially larger effect could come from past trade policies. High tariffs were key components of Canada's National Policy, which was instituted in the latter part of the 19th century. The policy sought to promote economic development and east-west transportation and trade links within Canada. To the extent that it led to the integration of Canadian markets and the formation of strong internal distribution networks, this policy could bear some responsibility for the current home bias in Canadian merchandise trade.<sup>11</sup> Informal trade barriers or nontariff barriers in both countries could also contribute to the segmentation of U.S. and Canadian markets.

The economic impact attributed to the border might actually reflect the effects of geographic distance between markets. If transportation and information costs increase with dis-

tance, trade flows should be larger between markets that are geographically close to one another than between more distant markets. For the same reasons, price differentials across markets should be smaller when the markets are close to one another. Indeed, geographic distance is a significant factor in both merchandise trade flows and price dispersion within the U.S.-Canada region. But the border between Canada and the United States appears to have a separate effect on both measures of economic

integration. As stated earlier, trade between two Canadian provinces is substantially greater than that between a province and an equidistant U.S. state. Moreover, even after controlling for distance, the variability of consumer prices between a city in Canada and a city in

the United States is considerably higher than that between either two U.S. cities or two Canadian cities.<sup>12</sup>

Borders are usually demarcations between currency areas. Consequently, most international transactions require the exchange of one currency for another. Currency exchanges typically entail some small cost associated with translating one currency into another. A small cost for each of millions of transactions can amount to a considerable sum; one estimate places foreign-exchange costs in Germany at 1 percent of GDP.<sup>13</sup> However, there is a risk of

## The economic impact attributed to the border might actually reflect the effects of geographic distance between markets.

<sup>11</sup>It could be argued that Canada's current trade patterns are appropriate in view of its strong internal distribution networks. But a quick glance at a map suggests that, were it not for Canada's National Policy, Ontario might today have stronger links with, say, New York than with British Columbia.

<sup>12</sup>See Engel and Rogers' 1996 paper.

<sup>13</sup>See "When the Walls Come Down," *The Economist*, July 5, 1997, pp. 61-63.



substantially larger costs when a contract between parties in two countries calls for future payment. Between the time the price is set and settlement is made, unexpected changes in the value of the exchange rate will alter the ultimate price of the transaction for one of the parties involved. Unlike exchanges within a single country or currency area, international transactions often entail exchange-rate risk. This risk could act as a barrier to international trade. In empirical studies of international trade, currency risk is commonly measured by the volatility of the relevant exchange rate. However, perhaps because financial instruments such as forward exchange contracts are available to reduce or eliminate currency risk, such studies have yielded mixed results, and there is currently no consensus among economists that exchange-rate volatility has had a significant negative impact on trade volumes.

When price comparisons are used to measure border effects, the exchange rate matters in a different way. International price comparisons are made by using the nominal exchange rate to translate prices into a common currency. However, the nominal exchange rate is typically more variable than product prices. By implication, much of the variation in the relative dollar prices of Canadian and U.S. consumer products could simply reflect fluctuations in the nominal exchange rate between the two countries. Indeed, the empirical evidence indicates that changes in the exchange rate are significant factors in the volatility of relative U.S.-Canadian prices. But they are far from the whole story.<sup>14</sup>

Several economists have noted that consum-

ers exhibit a distinct home bias, preferring to deal with firms in their own country and to purchase domestic products. Little is known about the precise reasons for this preference, but a number of factors may be involved. To the extent that they define social boundaries, national borders may also represent the economic effects of distinct tastes, history, traditions, and cultures. Alternatively, a preference for home products may simply reflect ignorance about or lack of access to alternatives. Regions within a common border typically share networks of associations, as well as legal, financial, and regulatory systems. Not only can this ease the acquisition of information but, once obtained, such knowledge is often universally applicable within the border. In addition, marketing and distribution networks for goods, services, and inputs may be more integrated within each country than they are across borders.<sup>15</sup> These networks may make it easier to learn about and gain access to domestic products, contributing to a home bias. Although it is difficult to measure the contribution of these factors to the economic role of the border, they should not be dismissed as necessarily trivial.

## CONCLUSION

Despite evidence that the U.S. economy has become more open, recent empirical research finds that the border between the United States and Canada has a very large impact on bilateral trade flows and relative prices. Given the relative openness of the U.S.-Canada border, it is unlikely that the border's effects are any less significant between product markets in the United States and other countries. This contradicts the notion that globalization has already rendered national borders economically meaningless. But because most of the evidence is based on relatively recent data, it is not known

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<sup>14</sup>Engel and Rogers (1996) explore the possibility that the effect attributed to the U.S.-Canada border is, in fact, the product of fluctuations in nominal exchange rates and rigidity in local prices. They find that while local price rigidity is responsible for part of the measured border effect, it accounts for less than half of it.

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<sup>15</sup>See the 1995 paper by Engel and Rogers for a model of international trade with marketing costs.

whether the border's economic impacts are actually smaller now than in the past.

The reasons for the border's substantial effects are not yet completely understood. Consequently, it is difficult to speculate how recent advances in communication like the Internet will ultimately reduce the economic boundaries

between nations. However, the effects of the border appear to extend beyond the economic impacts of geographic distance and formal trade barriers. By implication, merely liberalizing trade or reducing transportation costs between national markets may not be enough to cause the border to disappear.

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