Global economic integration is not a new phenomenon. Some communication and trade took place between distant civilizations even in ancient times. Since the travels of Marco Polo seven centuries ago, global economic integration—through trade, factor movements, and communication of economically useful knowledge and technology—has been on a generally rising trend. This process of globalization in the economic domain has not always proceeded smoothly. Nor has it always benefited all whom it has affected. But, despite occasional interruptions, such as following the collapse of the Roman Empire or during the interwar period in this century, the degree of economic integration among different societies around the world has generally been rising. Indeed, during the past half century, the pace of economic globalization (including the reversal of the interwar decline) has been particularly rapid. And, with the exception of human migration, global economic integration today is greater than it ever has been and is likely to deepen going forward. [1]

Three fundamental factors have affected the process of economic globalization and are likely to continue driving it in the future. First, improvements in the technology of transportation and communication have reduced the costs of transporting goods, services, and factors of production and of communicating economically useful knowledge and technology. Second, the tastes of individuals and societies have generally, but not universally, favored taking advantage of the opportunities provided by declining costs of transportation and communication through increasing economic integration. Third, public policies have significantly influenced the character and pace of economic integration, although not always in the direction of increasing economic integration.

These three fundamental factors have influenced the pattern and pace of economic integration in all of its important dimensions. In particular, this paper discusses three important dimensions of economic integration: (1) through human migration; (2) through trade in goods and services; and (3) through movements of capital and integration of financial markets. After examining how fundamental forces have influenced economic integration in these dimensions, the paper concludes with reflections on three issues of general importance to the future course of global economic integration: the importance of communication as an influence on integration; the possibility that we may see a sharp reversal in the general trend of increasing integration, as occurred in the interwar period; and the apparent end of imperialism as a mechanism of integration. Before turning to this agenda, however, it is important to emphasize a key theme that will recur in subsequent discussion: the main factors that drive the process of economic integration exert not only independent influences but also interact in important and complex ways.

**Interactions Among the Fundamental Factors Driving Economic Integration**

Although technology, tastes, and public policy each have important independent influences on the pattern and pace of economic integration in its various dimensions, they clearly interact in important ways. Improvements in the technology of transportation and communication do not occur spontaneously in an economic vacuum. The desire of people to take advantage of what they see as the benefits of closer economic integration—that is, the taste for the benefits of integration—is a key reason why it is profitable to make the innovations and investments that bring improvements in the technology of transportation and communication. And, public policy has often played a significant role in fostering innovation and investment in transportation and communication both to pursue the benefits of closer economic integration (within as well as across political boundaries) and for other reasons, such as national defense.

The tastes that people have and develop for the potential benefits of closer economic integration are themselves partly dependent on experience that is made possible by cheaper means of transportation and communication. 2 For example, centuries ago, wealthy people in Europe first learned about the tea and spices of the East as the consequence of limited and very expensive trade. The broadening desire for these products resulting from limited experience hastened the search for easier and cheaper means of securing them. As a by-product of these efforts, America was discovered, and new frontiers of integration were opened up in the economic and other domains. More recently, if less dramatically, it is clear that tastes for products and services produced in far away locations (including tastes exercised through travel and tourism), as well as for investment in foreign assets, depend to an important degree on experience. As this experience grows, partly because it becomes cheaper, the tastes for the benefits of economic integration typically tend to rise. For example, it appears that as global investors have gained more experience with equities issued by firms in emerging market countries, they have become more interested in diversifying their portfolios to include some of these assets.

Public policy toward economic integration is also, to an important extent, responsive to the tastes that people have regarding various aspects of such integration, as well as to the technologies that make integration possible. On the latter score, it is relevant to note the current issues concerning public policy with respect to commerce conducted over the internet. Before recent advances in computing and communications technology, there was no internet over which commerce could be conducted; and, accordingly, these issues of public policy simply did not arise. Regarding the influence of tastes on public policy, the situation is complicated. Reflecting the general desire to secure the perceived benefits of integration, public policies usually, if not invariably, tend to support closer economic integration within political jurisdictions. The disposition of public policy toward economic integration between different jurisdictions is typically more ambivalent. Better harbors built with public support (and better internal means of transportation as well) tend to facilitate international trade—both imports and exports. Import tariffs and quotas, however, are clearly intended to discourage people from exercising their individual tastes for imported products and encourage production of domestic substitutes. Sadly, the mercantilist fallacy that seems to provide common-sense support for these policies often finds political resonance. Even very smart politicians, such as Abraham Lincoln (who favored a protective tariff, as well as public support for investments to enhance domestic economic integration) often fail to understand the fundamental truth of Lerner's (1936) symmetry theorem—a tax on imports is fundamentally the same thing as a tax on exports.

It should be emphasized that the interactions between public policy and both tastes and technology in their effects on economic integration can be quite complex and sometimes surprising. Two examples help to illustrate this point. First, for several centuries, there has been active trade between Britain and the Bordeaux region of France, with Britain importing large quantities of Bordeaux wine. This trade, however, was seriously interrupted (if not completely suppressed) during various periods of hostility between the two countries when one side or the other wished to suppress trade with the enemy. Partly as a result of being cut off from Bordeaux wines, and partly as a means of strengthening its alliance with Portugal, Britain sought to develop imports of Portuguese wines. The existing Portuguese wines, however, did not meet British requirements. A solution was found in creating a new product—Portuguese red wine from the Duoro region, fortified with grape brandy that gave the wine an extra alcoholic kick, retained some of the fruit sugar that would otherwise have been absorbed in fermentation, and helped protect the wine during shipment in hot weather. 3 The result of this technological innovation was a new product—modern Port—that developed and retained a considerable market, especially in Britain, even after barriers to the acquisition of French wines were reduced.

The second example concerns U.S. public policy toward international trade in sugar which, in a bizarre way, is partly the consequence of policies pursued by Napoleon Bonaparte and Admiral Lord Nelson. For many years, the United States has maintained tight import quotas on sugar to keep the domestic price typically at roughly three times the world market level. The domestic political interests that support this policy include some sugar refiners, some producers of cane sugar in the deep south and Hawaii, and a few thousand sugar beet farmers primarily in the upper midwest. Production of sugar from beets is a “new” technology, dating back to the Napoleonic period. Before that time, sugar was produced from cane grown primarily in the West Indies. Admiral Lord Nelson’s establishment of naval supremacy over the French enabled Britain to cut off Napoleon’s empire from imports of West Indian sugar. In response, Napoleon established a prize for finding a substitute for cane-based sugar which could be produced within his empire. The sugar beet was discovered, and has been with us ever since.

This story becomes even more complicated when we consider reactions to the U.S. governments’ sugar policy. Responding to the high domestic price of sugar, users have searched for alternatives. High fructose corn syrup is a cheaper and attractive alternative, especially for producers of soft drinks who are major users of sweeteners. A key by-product of high fructose corn syrup is corn gluten meal which can be used as animal feed and which the U.S. both uses domestically and exports, notably to the European Union. Thus, through this round-about channel of public policies and product innovations, what was started by Napoleon and Nelson has come back to European shores.

## The Particular Importance of Communications

In many discussions of international economic integration, the focus is on integration through trade and factor movements, both labor and capital. There is, however, clearly another important mechanism through which economic activities in different parts of the world affect each other; namely, through the communication of economically relevant information and technology. It may, or may not, be true that Marco Polo carried back from China to Italy the concept of noodles—and thus multiple forms of Italian pasta were born. The lesson nevertheless is clear. It is not necessary to transport large quantities of noodles (by expensive and slow camel caravans) from China to Italy to produce a culinary revolution. It is necessary only to transport the concept of a noodle and an understanding of how noodles are made to have this effect. And clearly, noodles are but one example. International trade and movements of people and capital are undoubtedly important for the spread around the world of the fundamental technological innovations that underlie the broad advance of human productivity—from the use of the wheel through the modern personal computer. Societies that cut themselves off from commerce with the rest of humanity do tend to stagnate. However, the volume of international commerce is probably not the critical determinant of the spread of useful innovations—provided that channels of communication remain reasonably well open.

Abraham Lincoln—the only American President to be granted a patent—had a special appreciation of the importance of communication in facilitating innovation:

[I]n the world's history, certain inventions and discoveries occurred, of peculiar value, on account of their great efficiency in facilitating all other inventions and discoveries.... The date of the first [writing] is unknown; ...the second—printing—came in 1436. ...When writing was invented, any important observation , likely to lead to a discovery, had at least a chance of being written down, and consequently, a better chance of never being forgotten; and of being seen and reflected upon, by a much greater number of persons; and thereby the chances of a valuable hint being caught, proportionably augmented. By this means, the observation of a single individual might lead to an important invention, years, even centuries later after he was dead. In one word, by means of writing the seeds of invention were more permanently preserved, and more widely sown. And yet, for the three thousand years during which printing remained undiscovered after writing was in use, it was only a small portion of the people who could write, or read writing; and consequently the field of invention, though much extended, still continued to be very limited. At length, printing came. It gave ten thousand copies of any written matter, quite as cheaply as ten were given before; and consequently, a thousand minds were brought into the field where there was but one before. This was the great gain; and history shows a great change corresponding to it, in point of time. I will venture to consider it, the true termination of that period called "the dark ages." Discoveries, inventions, and improvements followed rapidly, and have been increasing their rapidity ever since.

If Lincoln was right about this issue (as he was about slavery, but not about tariffs), then the recent and continuing advances in communications promise to have profound effects on innovation across a very broad spectrum and on a global scale. We are seeing the beginnings of this now, in the financial services. It promises to be a profound force driving global economic integration in the future.

A Reversal in the Trend of Increasing Global Economic Integration?

During the interwar period between World Wars I and II, there was a sharp reversal in the generally rising trend of global economic integration. The volume of world trade contracted sharply. As illustrated in Chart 8, this contraction of world trade was particularly pronounced during the early 1930s, and was partly attributable to, the general decline of economic activity in the great depression. The decline in world trade, however, was much greater than the decline in economic activity (or in goods production). The rise of protectionism, particularly the Smoot-Hawley tariff imposed by the United States in 1930 and the retaliatory responses to it, clearly contributed importantly to the collapse of world trade. At around the same time, capital market linkages among countries weakened substantially, as the international gold standard collapsed and as several countries, led by Nazi Germany, began to impose highly restrictive controls on capital movements.

A complex of factors undoubtedly contributed to the general sharp reversal of global economic integration in the interwar period, including especially the economic effects of the great depression. Several studies have suggested economic and political economy explanations for this reversal, especially as relates to developments in the United States; see, for example, Eichengreen (1989) and Irwin and Kroszner (1996). However, I believe that it is not possible to explain an important part of this worldwide phenomenon without recognizing that there was an important change of tastes in the body politic of several key countries away from sympathy to involvement in an economically integrated global economy and toward nationalism and isolationism. In Europe, the tragedy of the Great War and its aftermath explains much of the change. Russia after the devastation of the war and Bolshevik revolution was invaded by some of its former allies. Mutual suspicion and hostility between communist Russia and most of the rest of the world was reflected in Russia's economic isolation. In Germany, a bitter defeat and a bitter peace fed a new spirit of nationalism. In the United States, the symptoms of the shift toward isolationism took many forms. The Senate refused to ratify the League of Nations Treaty in 1920. The government took repressive action toward imported political ideologies in the red scare. The Ku Klux Klan was reborn and gained prominence outside of the south, expressing antipathy not only to blacks but also to most things foreign. Prohibition was passed, partly based on campaigns that attributed alcoholism to foreign influences. The National Origins Act sharply restricted foreign immigration. All of this transpired during the roaring twenties, before the great depression; the Smoot-Hawley tariff was also passed before the depression took hold. From all of these developments, it seems clear that after World War I and partly in reaction to it, many Americans decided that they wanted substantially less involvement with most things foreign.

What are the chances that something similar might happen again? The protesters in Seattle demonstrated that globalization has its detractors; and we have hardly seen or heard the last of them. However, while we need to remain cognizant of the risk that such protests may gain political momentum, I do not believe that the conditions are ripe for a return to isolationism. The plain fact is that the U.S. economy, and the world economy more generally, have prospered enormously under, and partly because of, favorable policies toward international economic integration—policies that have been championed by the United States in the post World War II era. Despite occasional difficulties such as the recent emerging market financial crises, nations around the world are not seeking to withdraw from the increasingly integrated global economic system. Rather, those that are not yet full participants are generally seeking to become so.

## The End of Empire

In the public park above the great Rheingau vineyard near Rudesheim, there stands a large, rather ugly statue commemorating Prussia's victory in the Franco-Prussian War of 1870–71. Notably, this was the last important European war in which the victor ended up better off because of the conflict. The defeat of the French, after earlier victories over the Danes and the Austrians, solidified the basis for a unified Germany under Prussia's leadership. Subsequently, in both World War I and World War II, none of the combatants, victor or vanquished, gained as a result of the conflict. The United States and the Soviet Union did emerge as the two global super powers after World War II. But, the Soviet Union suffered horribly during the war, and the postwar prosperity enjoyed by the United States was not the consequence of its military victory. Indeed, the defeated Axis powers recovered relatively rapidly from wartime devastation and prospered impressively thereafter. Exploiting its wartime victory, for forty-five years, the Soviet Union maintained effective control over most of central and eastern Europe and may have gained economically as a result. But, under the stress of economic stagnation and political dissatisfaction, this empire collapsed in 1990; and by 1992, the Soviet state itself split apart into politically independent republics. Earlier than this, efforts by each of the super powers to impose their military wills on much smaller countries—the United States in Vietnam and the Soviet Union in Afghanistan—ended in failure.

Before the 20th century, these things often turned out quite differently. For those who were good at it, military aggression and imperialism often paid off economically. The Vikings, for example, pillaged with enthusiasm and success along the coasts and rivers of Europe in the 9th and 10th centuries. Spain grew rich on the new world plunder gathered up by a few hundred conquistadors early in the 16th century. Britain prospered during the 17th, 18th, and 19th centuries from its far flung empire. The other European imperialists who came relatively early to the game—the Portuguese, the Dutch, the French, and (to some extent) the Belgians—also profited, although the late comers—the Germans and the Italians—did not. Austria's central European empire generally prospered and expanded from the 16th through the 19th century. Over six centuries, the Czars built the huge Russian Empire. For 1600 years Constantinople (now Istanbul) retained its importance as an imperial capital, under the Romans, Byzantines, and Ottoman Turks. Indeed, by the end of the 19th century, the political map of the world was, to an impressive extent, a patch quilt of different empires. And, this political reality clearly influenced patterns of global economic integration, which tended to be stronger within rather than across imperial domains.

By the end of the 20th century, all of this had changed. Except for a few bits and pieces, the empires that had existed a century before (and many for long before that) were gone. Efforts to create new empires during the 20th century—by the Germans, Italians, Japanese, and Soviets—all failed. As a consequence of this substantial change in the political organization of the world, there were important changes in its economic organization as well. 18 Flows of trade, capital, and people that a century ago were channeled within empires now generally take place on a more diversified basis. This is true, for example, of Great Britain where trade with colonies and commonwealth partners has declined substantially relative to trade with former rival imperial powers in Europe. It is also dramatically true for the transition countries of

Central and Eastern Europe and the former Soviet Union where, since 1990 trade among them has declined enormously, while trade with the rest of the world has picked up substantially.

Not that we should regret it, but it is relevant to ask why the 20th century was so unkind to imperialism? Obviously, imperialism is a matter of public policy; so the short answer is that public policy changed. But, why this policy change on a global scale? Tastes are probably part of the answer. Just as moral revulsion against slavery was critical to its suppression in the 19th century, revulsion at the great carnage of war and the brutality of oppression have helped turn the tide against imperialism. Mass communications that graphically portray carnage and brutality have contributed to the change in public attitudes. Perhaps more important, however, is the shift in technology that has made imperialism an inefficient, if not counter productive, means of improving economic welfare.

Although he apparently did not fully appreciate his own wisdom, Napoleon once observed, "A bayonet is good for just about anything, except to sit on." The 20th century has been a very uncomfortable time for imperialists to seek to impose their will on other peoples, either for economic gain or for other reasons. Unwelcome efforts to exert control over an alien people, especially in the face of armed opposition, tends to be very expensive in blood and treasure. In contrast, devoting resources to domestic economic development through efficient investments in physical and human capital and development and exploitation of new technologies is an attractive and reliable path to improved national economic well-being. This is the experience and the lesson of the past century.

As this lesson becomes broadly understood and appreciated, the prospect is that the process of global economic integration—which is being driven by essentially irresistible forces of technological advance—will take place through voluntary means. People around the world will decide to participate—through trade, through movements of people and capital, and through accessing information and taking advantage of new technologies—because they see the benefit to them of such participation. Unlike too many unfortunate episodes in the past, participation in the global economy will not occur at the point of a sword or facing the muzzle of a gun. This, perhaps more than anything else, provides the reasonable assurance that the fundamental forces that are driving global economic integration are, in fact, driving the world toward a better economic future.