CHAPTER 4

The New Economy in a Global Context

Participation in the global economy has made a vital contribution toward U.S. economic performance. It is no coincidence that a New Economy has emerged in the United States at the same time that our involvement in the global economy has reached new heights. Indeed, globalization and the recent advances in information technology at the core of the New Economy are inextricably linked. On the one hand, globalization has played a crucial role in promoting the technological innovation and investment and facilitating the organizational restructuring that built the New Economy. On the other hand, improvements in information technology have spurred deeper integration between the United States and the world economy.

An increasingly open global economy—which the policies of this Administration have helped promote—boosts innovation in several ways. First, it makes available the expanded markets that yield the scale economies so important for activities that require large up-front research and development expenditure. Second, it gives producers access to key imported components and machines at lower prices and in greater variety. Importing these goods allows U.S. innovators to concentrate on activities that make the best use of their knowledge and skills. Third, by heightening competition,
globalization spurs not only innovation but also the adoption of new technologies. This in turn creates still larger markets for innovative goods and thus greater rewards for those who innovate. In addition, the availability of information technologies facilitates the global reorganization of production and the continued increase in trade. It allows multinational firms to coordinate their activities and to manage supply chains on a global scale. It also brings increased numbers of buyers and sellers into global markets. Globalization has also helped support the high rate of investment that has played an important role in the current economic expansion. Increased capital flows into the United States have made it possible to maintain investment in excess of domestic saving.

An example of the importance of global markets can be seen in the increased production and use of computers in the United States in recent years. Domestic purchases of computers, peripherals, and parts grew at an annual rate of more than 12 percent from 1993 to 1999, far outstripping growth in the value of domestic shipments of these goods, which averaged only 9 percent. Filling the gap has been a rise in imports, which now account for more than 60 percent of the value of new U.S. computer purchases—nearly twice the level in 1987. At the same time, half of U.S. computer shipments are exported. The United States gains in both directions from this two-way trade in computers and parts. U.S. computer firms can lower their costs by obtaining components from efficient foreign producers, and later profit from selling finished computers in the larger global market. At the same time, lower prices for computer imports are good for consumers and for businesses.

In an age of international economic integration, continued success in the United States requires effective engagement with the global economy, strengthening international connections and building larger markets overseas. At issue is not whether we should welcome the emergence of a truly global market economy, but rather what kind of global market economy we should work to build. To ensure that globalization proceeds in a constructive way, the policies of the Administration have sought to make international institutions both more effective in helping to maintain global economic stability and more transparent in their operation.

This Administration has consistently stressed that making economic integration work means making it work for all people—and making sure that all voices are heard when policies are decided. Toward this end, even as it has adopted policies that promote globalization, the Administration has sought to address genuine and deeply felt concerns about its effects. These include its effects on the incomes of working people, the health of the environment, social and labor standards, and the divergence of incomes between rich and poor countries across the globe. The goal has been to foster an interconnected global economy that both increases prosperity and provides genuine opportunity for people everywhere.
The Role of Trade Liberalization in Promoting Globalization

Trade policy has been an important factor in our prosperity here at home. The focus of this Administration has been on fostering a world of open markets governed by the rule of law, in which lower tariff and nontariff barriers allow all countries, including the United States, to enjoy the benefits of increased trade and investment. The achievements of the past 8 years include numerous international agreements—over 300 in all—that have liberalized both trade and investment, helping to ensure that foreign markets are open to U.S. exports. Among these are a number of especially notable accomplishments, including passage of the North American Free Trade Agreement (NAFTA), completion of the Uruguay Round of multilateral trade negotiations, enactment of legislation to extend permanent normal trade relations to China, a moratorium on customs duties on electronically delivered products, and agreements to liberalize trade in such crucial technology-related sectors as telecommunications, computer technology, and financial services. In addition, the member countries of the Organization for Economic Cooperation and Development (OECD) have benefited from an agreement to reduce subsidies in tied aid export credit competition. This agreement limits the ability of countries to make the financial aid they offer to developing countries contingent on purchases from their domestic producers, and thus helps level the playing field for U.S. exporters. A host of other bilateral and regional initiatives have also helped create more open markets. These include initiatives that encourage trade with developing countries in Africa, the Caribbean and Central America, the Middle East, and Southeast Asia. These programs not only benefit the United States through more diverse and cheaper imports and expanded exports, but also afford developing countries an important opportunity for growth through increased access to the U.S. and other markets.

The trade agreements to which the United States has been a party nearly always result in a lowering of barriers on both sides, but typically it is the foreign barriers to American firms operating abroad, rather than barriers to foreign firms in U.S. markets, that fall the most. This is true for the simple reason that, in nearly all cases, the U.S. barriers were lower to begin with. This was the case with both the Uruguay Round agreement and NAFTA, both of which removed substantial impediments to U.S. exporters. Similarly, the bilateral agreements concluded with Japan under the 1993 Framework Agreement and the 1997 Enhanced Initiative on Deregulation and Competition Policy have helped eliminate obstacles to U.S. exports to that country, in the form of border barriers and domestic regulations that unnecessarily hindered trade and investment. Opening foreign markets can
stimulate exports by providing firms with a larger arena in which to sell their goods and services. For example, one result of China’s recent trade liberalization was that exports of U.S. oranges to that country grew from less than 350,000 kilograms in all of 1999 to more than 10 million kilograms in the first 9 months of 2000.

Trade liberalization has also focused on industries of special relevance for the improved communications and technology that are at the heart of the New Economy. Several multilateral treaties have been negotiated under the auspices of the World Trade Organization (WTO). The 1996 Information Technology Agreement eliminates tariffs on the preponderance of world trade in semiconductors, computers, software, telecommunications equipment, and other high-technology products. The Agreement on Basic Telecommunications Services, which came into force in February 1998, has already made an important start toward opening world telecommunications markets to competition. The Financial Services Agreement, which took effect in March 1999, similarly opens markets in banking, insurance, and securities transactions. This allows U.S. financial services companies to better serve overseas markets through investments in foreign banking institutions, brokerages, and insurance concerns. Work is now under way to expand these agreements to include new products and services and achieve further deregulation and liberalization. The United States stands to reap sizable gains from increased exports in these industries where U.S. firms are strong competitors. But all countries will benefit from these agreements through lower prices and the diffusion of knowledge that goes hand in hand with trade and investment.

Globalization and Economic Performance

Trade and investment spur innovation and competition and thus contribute to better economic performance. This benefits society at large through the development of new goods and technologies, through higher productivity, and ultimately through lower costs for consumers and entrepreneurs.

Scale and Network Effects

Openness to the global economy increases the size of markets. This is particularly important for the development of goods and services subject to scale and network effects, including items that are central to the New Economy, such as technology and communications. Production of these items is subject to economies of scale—that is, the average cost of production
declines with the quantity sold. Among these products are those characterized by learning curves: the more the firm produces, the more it learns how to reduce production costs, so that, on average, each additional unit costs less to produce than the one before. Scale effects are present as well for products with high fixed costs of development; because these fixed costs do not depend on the number of units produced, the average cost per unit falls as the number produced rises. This kind of cost structure describes most pharmaceuticals: developing and testing a new drug is expensive, but the cost of producing it, once the formula is known, is typically quite small. For goods like computer software and entertainment, development costs are again quite high, but the products, once created, can be reproduced relatively cheaply. Moreover, these products can be used by many consumers simultaneously without diminishing their value. The availability of a global marketplace gives firms a greater incentive to undertake the costly research and development necessary to create these kinds of products.

Globalization is similarly important in industries characterized by network effects. In most such industries, which include telecommunications, the value of the network grows as more users are added. Indeed, this value grows exponentially, in a phenomenon known as Metcalfe’s law. Expansion of markets from a local or national to a global scale clearly benefits network industries. An example is the expansion of the Internet itself, which after all is a network of computer networks. As the number of global Internet users grows, the Internet becomes more valuable to all, including those who were already on line. The larger market that the growing Internet community represents provides added incentives for innovation by entrepreneurs, thus contributing to increased employment and wealth creation. The new products and services thus made available entice still more users throughout the world to seek access to the network. In this way, technology and openness combine to encourage innovation, which in turn further enhances globalization itself.

**Competition and Innovation**

Firms in an open global economy can choose from a broader range of inputs, thereby increasing efficiency and lowering production costs. Consumers are also made better off from access to a wider choice of goods and services. Even a large economy such as the United States benefits from greater specialization in a global economy, because it allows Americans to pick and choose from the best ideas and the most advanced and cost-efficient sources of goods from all over the world. These include not only consumer goods but also capital goods and intermediate inputs, which make our own final products more competitive.
Globalization increases the number of competitors in a market, and increased competition compels firms to continually innovate and improve their productive efficiency. For example, in the early 1980s U.S. computer firms and other manufacturers that used memory chips in their products are reported to have preferred chips from Japanese rather than American producers, because the Japanese-made chips had lower defect rates. This led the U.S. producers to study and apply Japanese quality management techniques, so that by the early 1990s their defect rates matched those of their Japanese competitors.

Changes in the Global Organization of Production

Together, competition, globalization, and technological innovation induce changes in the organization of firms and in the geographic division of production. The worldwide reach of the Internet and open access to global transportation networks make it easier for businesses everywhere to go global, by reducing the cost of setting up an international presence. Increased openness and improved communications expand the scope of the firm, allowing multinationals to apply advanced production techniques to larger markets and thus benefit from scale economies (Box 4-1). At the same time, the countries that host the multinationals’ expanded activities gain from the transfer of technology and production experience that often accompanies such activity. To help ensure that the operations of multinational enterprises are in harmony with government policies, in June 2000 the OECD member countries, joined by several nonmembers, adopted a set of voluntary guidelines for multinational enterprises.

The opening of national economies and markets has given rise to global supply chains, in which production is spread across numerous locations worldwide, to take advantage of different countries’ relative strengths in producing different goods and services. This again results in improved efficiency for firms and lower prices for consumers. U.S. producers of computer hard disks, for example, have kept most of their product development operations in the United States but have shifted production to countries in Asia to take advantage of low costs of raw materials there. (It turns out that this consideration is more important in this industry than low labor costs.) But they have not gone so far as to outsource assembly to independent suppliers; it continues to be done almost entirely by the U.S. firms themselves, through foreign subsidiaries. And these firms remain among the world leaders in innovation. This runs counter to the argument that manufacturing must be done at home to maintain competitiveness.

A different approach to production organization can be seen in the semiconductor industry, where the trend has been toward a split between “fabless” firms that design chips but do not operate fabrication facilities, and
Box 4-1. A New Role for Multinational Firms

Firms become multinational corporations when they perceive advantages to establishing production and other activities in foreign locations. Firms globalize their activities both to supply their home-country market more cheaply and to serve foreign markets more directly. Keeping foreign activities within the corporate structure lets firms avoid the costs inherent in arm’s-length dealings with separate entities while utilizing their own firm-specific knowledge such as advanced production techniques. By internalizing what would otherwise be cross-border transactions, multinationals can bridge the information obstacles that often hinder trade. For example, they may be able to more carefully monitor product quality or worker conditions in factories they own than in those of contractors, or adapt the composition of output more quickly to changes in market conditions.

Improvements in information technology have reduced the impediments to exerting corporate control across borders. These advances have combined in recent years with an increased openness on the part of governments to foreign multinationals, as the economic benefits of a foreign presence to the host country have become more widely recognized. These benefits include the increased investment and the associated jobs and income that the multinational firm brings, as well as technological transfer and improved productivity. The role of multinationals in spreading industry best practices is likely to be especially important in services, many of which are not easily traded across national boundaries.

Evidence of the heightened role of multinationals can be seen in the quickened pace of foreign direct investment (FDI) in recent years. In 1999 FDI flows both in and out of OECD countries reached record levels: over 2.5 percent of their combined GDP for inflows and 3.0 percent for outflows. Most FDI is between developed countries: since 1982, 75 percent of FDI outflows from OECD countries have gone to other OECD members.

Multinationals are increasingly opting to acquire existing enterprises rather than develop a foreign presence from scratch. In developed countries from 1991 to 1997, cross-border majority mergers and acquisitions accounted for 62 percent of total FDI inflows in OECD countries. The value of these mergers and acquisitions rose from $85 billion in 1991 to $558 billion in 1998. The average size of such deals rose substantially, from $29 million in 1990 to $157 million in 1999. Acquiring a foreign firm offers a relatively quick route to enter a foreign market. It can also provide intangibles in the form of country-specific knowledge, including familiarity with the host-country business culture and regulatory structure.

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“pure-play foundry firms” that produce chips from other companies’ designs. Like that of hard disks, most semiconductor design is still done in the industrial countries—North America was the home of the majority of fabless firms in 1998—while production takes place mainly in Asia. This division of labor allows U.S. firms to focus on their core competencies while benefiting from improved production techniques devised by the specialized foundries. And of course, this arrangement is feasible only because new technology allows the designing firms to rapidly transmit chip designs to the foundries, because

Box 4-1.—continued

The posts and telecommunications sector appears to be particularly fertile territory for restructuring. The value of cross-border majority mergers in this sector in the period from 1995 to 1998 was nearly 10 times that from 1991 to 1994. This reflects two factors. First, dramatic changes in technology such as the growth of mobile telephony, the Internet, and the rising importance of broadband capabilities require both increased capital and first-rate technological prowess. Firms may seek to combine in order to amass the capital and technological capabilities needed to compete. Second, a worldwide movement toward deregulation in the telecommunications industry, together with policies such as auctions of cellular licenses and the liberalization of fixed telephone networks, has allowed new entrants to compete in this once-protected sector. Complementing this, the Agreement on Basic Telecommunications Services, which took effect in February 1998, has made progress in opening global telecommunications markets to competition.

In the air transportation industry the trend has been toward global alliances rather than mergers and acquisitions. This stems from the bilateral system of route rights established under the 1944 Chicago Convention, and foreign ownership and control provisions established to protect those rights. Nonetheless, deregulation and the advent of these alliances have meant that airlines are able to serve customers through global networks. Technology has enabled these alliances to act as multinationals in some respects, with improved information technology helping to provide reasonably seamless global travel (although flights may not always be on time or provide the utmost of comfort) through the linkage of computerized reservations services. Information technology similarly allows multinational express cargo carriers to ship, track, clear through customs, and deliver goods to customers’ doors—whether the address is in Beijing or New York.
cost-effective cargo services are available to transport finished products to markets worldwide, and because intellectual property laws are in place to safeguard the rights of designers in the producing countries.

Older, more established industries can also benefit from the use of a global supply chain. In the apparel industry, for example, it is typical for high-value-added activities such as design and marketing to be performed in the United States, with assembly carried out in locations with lower production costs. The exceptions occur mainly in niches where capital-intensive techniques can be applied, such as the production of socks, or in specialty items for which labor costs are relatively less important. This division generally results in lower prices for consumers. This is not to deny, however, that there are costs to these developments, notably in the dislocation of some U.S. workers as production has shifted overseas. The effects of this dislocation and the Administration’s response are discussed at length later in this chapter.

Evidence of the increased globalization of inputs to production can be seen in statistics on the activities of American multinationals. The foreign share of inputs in production by U.S.-based parent companies more than doubled from 1977 to 1997, although domestic content continues to account for more than 90 percent of their total inputs (Table 4-1).

### Table 4-1.—Source of Inputs Used in Production by U.S. Multinational Corporations at Home and in Foreign Affiliates [Percent of total value of inputs]

<table>
<thead>
<tr>
<th>Category</th>
<th>1977</th>
<th>1989</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents in United States:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. content</td>
<td>96.0</td>
<td>93.2</td>
<td>90.8</td>
</tr>
<tr>
<td>Foreign content</td>
<td>4.0</td>
<td>6.8</td>
<td>9.2</td>
</tr>
<tr>
<td>Affiliates abroad:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. content</td>
<td>12.7</td>
<td>12.9</td>
<td>14.1</td>
</tr>
<tr>
<td>Foreign content</td>
<td>87.3</td>
<td>87.1</td>
<td>85.9</td>
</tr>
</tbody>
</table>

Source: Department of Commerce (Bureau of Economic Analysis).

### Better Technology, More Trade

Just as globalization spurs innovation, so, too, do improvements in technology contribute to increased globalization. Improved communications and technology, in effect, make the world smaller. They bring a wider variety of the world’s goods, services, and information to consumers everywhere, and they lower the costs of cross-border transactions in goods, services, and financial
flows. These lower transactions costs should lead to increased trade and investment, which in turn lead to higher incomes. Examples of how technology lowers transactions costs abound. Firms can use sophisticated information technology to implement cost-reducing just-in-time inventory practices while managing a vast flow of components from a global web of suppliers. The cost of air freight is a fraction of what it was just 20 years ago, thanks not only to better technology but also to deregulation of global air services and the expanded use of open skies agreements. These agreements permit unrestricted service by the airlines of each country to, from, and beyond the other's territory. The United States has entered into numerous such agreements, most recently in November 2000 with Brunei, Chile, New Zealand, and Singapore.

Novel though some of these cost-saving technologies are, they are in one sense nothing new, but simply the continuation of a centuries-long procession of human innovation. Declining transport costs, for example through more efficient ship design and improved navigation techniques, have been linked to the expansion of trade in Europe at least since the Middle Ages. More recently, the introduction of standardized shipping containers and systems for handling them has revolutionized the international shipping industry, yielding enormous increases in productivity. Together with improved communications, containerization has made integrated global production and distribution networks a reality. A comprehensive list of innovations that have improved the speed and lowered the cost of telecommunications would include the telegraph, the telephone, radio, television, fax machines, and most recently the Internet.

Like the other advances in telecommunications that preceded it, only more so, the Internet transcends the barrier of physical distance and helps overcome geographic obstacles to economic integration. Its power to transmit vast quantities of information to and from individual users gives it great promise for lowering transactions costs and facilitating trade. Its commercial reach extends across borders; for example, one major on-line retailer reports that consumers from more than 160 different countries have visited its website. And the Internet allows not just information about products but some products themselves, such as software and entertainment, to be delivered electronically at minimal cost. This type of globalization clearly benefits consumers and entrepreneurs by expanding the variety of products available for consumption and use and providing easier access to low-cost suppliers, wherever they are located.

The effect that the Internet is having on international trade is difficult to estimate, in part because it is hard to accurately measure Internet usage in some countries. One analysis of trade flows found no clear effect of the Internet in 1995 or 1996, but an increasing effect in later years. This result was found after taking into account a number of other factors that influence a country's trade, including the size of its economy, its distance from other countries, and
common borders, languages, and colonial heritage. Moreover, poor countries appear to gain more from expanded Internet access than rich countries. This suggests that access to the Internet might lessen the burden of shortcomings in traditional infrastructure that presently hinder trade for developing countries. In other words, bridging the international “digital divide” between rich and poor countries can have measurable economic benefits, not just in high-technology areas but in all sectors.

The effect of the Internet on international trade might indeed be larger than even these encouraging results suggest, because that analysis covered only trade in goods—it did not include services, such as education, financial, medical, and other professional services. Yet these are likely to reap especially large benefits from the possibilities of electronic commerce. Improved communications allows for commerce in these services that were previously difficult to deliver without a physical presence.

**Technology and Knowledge-Based Products in U.S. Trade and Investment Flows**

The growing importance of technology in the U.S. economy is evident not just from anecdotal examples but in the broad patterns of the Nation’s international transactions as well. The clearest sign is the rapid growth of U.S. trade in capital goods, a category that includes items such as computers, machinery, and telecommunications equipment (Chart 4-1). Capital goods today make up 45 percent of the value of U.S. exports, by far the single largest component (Table 4-2). They also constitute the largest share of the value of U.S. imports. Since 1996, increased trade in capital goods has accounted for about 70 percent of the growth in the value of U.S. exports and nearly 30 percent of that of imports. Strong growth in both imports and exports partly reflects roundtrip trade, as components such as semiconductors are exported from the United States and then return inside computers. But it also reflects the role of trade in supporting investment through equipment imports. Within the category of capital goods, trade in information technology products has grown especially rapidly (Chart 4-2). Computers, semiconductors, and telecommunications goods now account for nearly half of the value of capital goods imports and exports.

There has also been strong growth in exports of services, reflecting the growing value of ideas and of knowledge-based activities. Income from royalty and licensing fees grew by 8.3 percent each year on average from 1992 to 1999, compared with 6.5 percent a year for all services exports. Business, technical, and professional services grew at an 11 percent clip over the same period, and financial services income grew on average by 19.4 percent a year. Sales of these services are examples of “weightless” trade, since the value is in the idea or
Trade in capital goods grew more rapidly than that of the other broad categories of imports and exports from 1996 to 2000.

Chart 4-1 Imports and Exports by End-Use Category
Average annual percent change in volume, 1996 to 2000

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Autos and parts</td>
<td>17.7</td>
<td>16.6</td>
<td>9.3</td>
<td>10.6</td>
</tr>
<tr>
<td>Capital goods</td>
<td>23.0</td>
<td>28.2</td>
<td>37.8</td>
<td>44.8</td>
</tr>
<tr>
<td>Consumer goods</td>
<td>21.0</td>
<td>22.5</td>
<td>10.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Food</td>
<td>5.2</td>
<td>3.9</td>
<td>9.4</td>
<td>6.3</td>
</tr>
<tr>
<td>Industrial supplies</td>
<td>27.2</td>
<td>21.9</td>
<td>25.8</td>
<td>20.6</td>
</tr>
<tr>
<td>Other</td>
<td>5.9</td>
<td>6.9</td>
<td>7.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Note.—Data are on a national income and product accounts basis. Estimates for 2000 are based on data for the first three quarters.
Source: Department of Commerce (Bureau of Economic Analysis).

Table 4-2.—Changing Composition of U.S. Trade Flows

[Percent of total value of trade]

<table>
<thead>
<tr>
<th>Category</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Autos and parts</td>
<td>17.7</td>
<td>16.6</td>
</tr>
<tr>
<td>Capital goods</td>
<td>23.0</td>
<td>28.2</td>
</tr>
<tr>
<td>Consumer goods</td>
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</tr>
<tr>
<td>Food</td>
<td>5.2</td>
<td>3.9</td>
</tr>
<tr>
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<td>21.9</td>
</tr>
<tr>
<td>Other</td>
<td>5.9</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Note.—Data are on a national income and product accounts basis. Estimates for 2000 are based on data for the first three quarters.
Source: Department of Commerce (Bureau of Economic Analysis).

service itself rather than in a material good. Although some services, such as haircuts, are not tradable (at least under current technology), there remains substantial scope for services trade to continue to grow. In 1999 services still accounted for less than 30 percent of the value of U.S. exports and less than
Among all capital goods, trade in high-technology products grew especially rapidly from 1996 to 2000.

Chart 4-2  Trade in Capital Goods and Selected Components
Average annual percent change in volume, 1996 to 2000

Note: Estimates for 2000 are based on data for the first three quarters.
Sources: Department of Commerce (Bureau of the Census and Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

16 percent of imports, even though service-producing industries (excluding the government sector) accounted for 65 percent of U.S. GDP in 1998, the most recent year for which data are available. Stronger growth in our trading partners may actually favor U.S. services exports over goods exports, since there is evidence that higher income abroad stimulates foreign demand for services more than it does foreign demand for goods.

**New Challenges**

The confluence of increased globalization and improvements in communications and technology have raised U.S. economic performance and contributed to our prosperity. But these developments bring with them new challenges. The rest of this chapter focuses on six such challenges:
- raising U.S. saving and thus contributing to adjustment of the current account deficit
- increasing growth in our major trading partners
- making sure that developing countries are not left behind
- adjusting to the changes at home brought about by globalization
- safeguarding the environment and labor standards, and
- addressing the challenges that technologies pose for international legal institutions.