Exporting Software

Sorting Out the Details

By R. Clay Woods

Office of Information Technologies and Electronic Commerce, Trade Development

Globalization is receiving a lot of attention these days. The widespread availability of the Internet, rapidly declining telecommunications costs, transitions to market economies overseas, and trade liberalization are bolstering the progress of globalization. As a key ingredient of the Information Age, computer software has been both an agent and beneficiary of these phenomena. The software industry is critical to the American economy as a major contributor to the balance of payments, job creation, productivity, and economic growth, and even though the U.S. market currently represents one-half of global spending on software, U.S. companies are increasingly dependent on foreign markets to increase sales. This underscores the importance of U.S. industry working with the federal government to open markets and create fair opportunities to expand business overseas.

While the worldwide sale and development of software has mushroomed over the last two decades, its national importance and unique nature has spawned new concerns and policy issues, especially in the trade arena. There are various ways to transmit and distribute software. It can be shipped as a "tangible" product (on optical and magnetic disks or tape), increasingly as an "intangible" product (transmitted electronically via the Internet). It can be exported pre-loaded on a computer or embedded in electronic devices, such as medical equipment and automotive controls. It also can be conveyed abroad by software programmers and engineers as part of an information technology (IT) service, or disseminated via licensing mechanisms that authorize foreign buyers to use a particular program, or to increase the number of users, who can access a program that is already installed.

There are many types of programs operating systems, network management programs, middleware, databases, Internet software, programming tools, security solutions, and myriad applications, as well as utilities, device drivers, updates, program patches, and free demos. There are two categories of software: packaged or shrink-wrapped programs are aimed at a mass market, while customized programs are written for a particular user or organization.

Software is the fastest growing segment of the global IT market. Packaged software and IT services (which includes customized software development and systems integration and implementation), represent almost 60 percent of total IT spending according to the International Data Corporation. Sales have been expanding 11 percent annually since 1991. The tables below show world software and IT services markets, U.S. exports of "tangible" software, U.S. receipts of royalties and licensing fees from foreign software sales, and U.S. IT services receipts from abroad.

When you look at the global market for software without the United States, Western Europe represents two-thirds of demand and Asia/Pacific one-fourth, but U.S. software exports show a different regional apportionment, with large shipments going to Canada and Latin America. This can be partially explained by geographic proximity, which makes tangible software exports more economically feasible in the Western Hemisphere, whereas a greater portion of U.S. sales to Western Europe is fulfilled by replicating licensed software from master disks sent from the United States. Disks can be replicated in high volumes at minimal cost and with no loss of quality. The apportionment of U.S. licensing fees and IT services receipts, on the other hand, corresponds more to world market shares, in that, the largest percentages belong to Western Europe and Asia/Pacific.

A glaring anomaly in the numbers is the wide discrepancy between the size of world software markets, of which U.S. vendors have majority shares, and official U.S. export data, which are significantly undervalued. This is due to the following reasons: (1) some U.S. exporters report only the value of the carrier media (disks or tape), disregarding the software content on Shippers Export Documents (SEDs) from which the trade data are taken; (2) a good portion of software is replicated in foreign markets from master disks; (3) an increasing amount of software is transmitted and sold electronically, much of which is not captured in the data; (4) only the value of the media has to be reported for customized software exports; and (5) shipments valued at less than $2,500 and software license documents do not require a SED.

The unique features of software that make it difficult to accurately measure U.S. trade and payment flows also generate contentious trade policy issues. Countries vary widely with regard to software trade regulations. Some governments consider software essential to running critical business and government operations, so they minimize import costs and trade barriers. Other governments, especially in less developed countries, view software as a luxury item, so they subject it to revenue generating duties and taxes, like other discretionary products. Some governments are content to buy software from foreign vendors to satisfy societal needs, while others seek to create indigenous software industries to meet local demand. In the 1980s, Brazil attempted to create a domestic software industry to satisfy local demand but was unsuccessful. However, India has become the leading supplier of offshore programming and IT services. Restrictive import, investment, and technology transfer policies emerge when indigenous software production becomes official economic and industrial policy.

Almost any customs or trade regulation can become a trade barrier, if it is excessively burdensome or discriminates against foreign imports. Similarly, unenforced regulations can become trade impediments, especially intellectual property protection laws. Customs regulations, which are not uniform globally, can be arbitrarily or inconsistently applied, which is more likely with a unique product like software. Countries also can have complex and confusing trade regimes, which can create administrative problems for U.S. companies.

Import Tariffs

Some countries still levy tariffs or duties and customs fees on imported software, which are assessed on an *ad valorem* basis. This increases the landed cost of products and affects competitive pricing strategies in foreign markets where customs levies can be substantial, especially on more expensive programs. Even moderate duties make it more difficult for legal software products to successfully compete with pirated copies in a given market. If the software is pre-loaded or embedded on a piece of equipment, then the duty is usually assessed on the total value of the equipment.

Today, most developed markets have zero tariffs on software; the tariffs were eliminated as a result of the Information Technology Agreement (ITA) concluded in December 1996. The ITA has 61 signatories, and Russia may join upon its accession to the World Trade Organization (WTO). So average tariffs are relatively low around the world, with some notable exceptions. They can be as high as 20 percent in Latin America where only three countries–Costa Rica, El Salvador and Panama–are ITA signatories. (Duties on U.S. software are also zero in Mexico and Chile as a result of bilateral free trade agreements with the United States). Tariffs are in the 10 to 20 percent range in Russia and the Newly Independent States and are even higher in Africa, where there are no ITA signatories. Country specific tariff and customs information on software is available on the Office of Information Technologies and Electronic Commerce's Web site www.export.gov/infotech.

Taxes

Even if there are zero tariffs, most governments assess taxes and other fees on software imports. Like tariffs, these can substantially increase the price of software and present U.S. exporters with administrative burdens and legal uncertainties, when complying with complex and non-transparent tax procedures. The most common are value-added taxes (VATs), which are similar to sales taxes. VATs are assessed on the full commercial value of a product and are applied to all such goods sold in a country, whether

U.S. Software and IT Services Exports and Reciepts, 2002 (in $ millions)

	Software Exports	% of World	Royalities and License Fees	% of World	IT Services Reciepts	% of World
Canada	918	34	286	6	772	14
Western Europe	503	19	1,912	40	2,805	52
Eastern Europe	19	1	42	1	57	1
Asia/Pacific	815	30	2,241	47	904	17
Latin America	383	14	210	4	507	9
M. East and Africa	59	2	84	2	385	7
World Total	2,712	100	4,775	100	5,430	100

Notes: Royalities and fees are for general-use software reciepts from unaffiliated parties.

Sources: U.S. International Trade Commission; Bureau of Economic Analysis/U.S. Department of Commerce

World Software and IT Services Markets, 2002 (in $ millions)

	Packaged Software	% of World Total	IT Services	% of World Total
Canada	3,827	4	10,151	5
Western Europe	53,166	60	110,972	58
Eastern Europe	2,662	3	4,173	2
Asia/Pacific	23,452	26	53,830	28
Latin America	3,196	4	7,263	4
Middle East and Africa	2,502	3	4,918	3
World Total (minus the United States)	88,805	100	191307	100

Source: International Data Corporation (12/03)

imported or produced locally. VATs range between 10 to 20 percent, however most European countries have higher rates and the Asia/Pacific region lower rates.

VATs are currently a source of contention with respect to the European Union. The EU VAT Directive, which became effective on July 1, 2003, has the potential to discriminate against U.S. software that is sold online. Under the ruling, non-EU vendors of digitally delivered products to consumers are required to register in the EU and collect and remit EU taxes based on the location of the customer. (Sales to businesses are treated differently.) For EU vendors, the applied VAT is based on where the vendor is located. Thus, if a U.S. company sells a program to a Swedish consumer, the U.S. company would charge a VAT of 25 percent (Swedish rate), while a UK company selling the same product to the same consumer would charge only 17.5 percent (UK rate). U.S.-based providers of downloadable software will have three options in complying with the new rules, including establishing a factory in the EU, registering in EU member states, or using a special scheme set up by the Directive, which involves choosing a single VAT authority with which to conduct their VAT affairs.

Some countries treat cross-border payments for software as royalties, which are subject to income taxes that are assessed on the exporter. For example, in Brazil, software remittances are subject to a 15 percent withholding tax plus a recently instituted 10 percent surcharge on certain royalty payments, which are related to technical services involving the transfer of technology. Forty-eight countries have bilateral income tax treaties with the United States that can simplify how withholding and other taxes are treated, by allowing U.S. exporters to pay taxes in the United States on foreign sales. When there is no applicable tax treaty, vendors may be eligible for a U.S. tax credit on taxes paid abroad. For information on bilateral tax treaties, visit the Treasury Department's Web site www.treas.gov/offices/tax-policy.

Customs Valuation

The amount of tariffs and taxes assessed on a software program depends on how customs officials value the product. Should governments assess duties only on the value of the media, or should it be based on the full commercial value of the software? This has been a key issue for the industry, since it can make a substantial difference in foreign sales prices. For years, the U.S. Government, supported by industry, has requested that foreign governments assess tariffs on the value of only the media, which is why exporters are told to specify the value of the media separately on export documents. Today, most of the principal trading countries either assess duties only on the media or have zero tariffs on software. Exceptions include Mexico, which has a 13 to 18 percent duty on the full value of software that is imported from non-NAFTA countries, and Russia, which has a 15 percent duty on full value. In many developing markets, customs regulations and practices regarding this issue are vague.

Customs Classification

The specific classification of a software program by customs officials determines the applicable duties and taxes. Authorities may dispute the classification of a product based on different interpretations of its purpose or form. Should packaged software be treated differently than customized software? Are programs that

contain audio-visual content different from traditional software? Is software a good or service? Should software delivered online be treated the same as software sold on disks?

Most countries, including the United States, classify exports and imports according to standard Harmonized System (HS) codes. Software falls under HS heading 8524 ("Records, tapes and other recorded media") and user manuals HS heading 4901. Since only the first six digits of HS codes are standardized globally, a country may designate more specific product classifications beyond those six digits. Generally, the codes categorize software by the media and not by its function or format, so most customs authorities treat customized software the same as packaged software. However, the rapid evolution of information technologies is making the process of classifying products more difficult and is outpacing updates to the HS coding system. For a list of U.S. export (Schedule B) codes for software, visit the U.S. Census Bureau/Foreign Trade Division website at (www.census.gov/foreign-trade/schedules/b/index.html).

Some countries treat multimedia software that includes audiovisual components, such as entertainment and game software, differently from traditional programs. Egypt, for example, assesses tariffs on entertainment software products, especially those played on game consoles, which are classified under HS heading 9504 ("toys and games") instead of HS 8471 ("automatic data processing machines" or ADP). The ITA, which includes Egypt as a signatory, has eliminated duties on ADP or computer equipment.

The issue of whether to classify software as a good or service is important since it determines which trade agreement provisions are applicable. Some provisions might be more favorable to certain types of software than others. Traditionally, software has been treated as a good, which is subject to the General Agreement on Tariffs and Trade (GATT), but the increasing use of online delivery systems raises the question of whether to reclassify online software as a service under the General Agreement on Trade in Services (GATS), which came into force in January 1995. The liberalization of services trade has been a major topic of discussion during recent WTO deliberations.

Free trade agreements also raise classification issues because it is necessary for the parties involved to determine which imports should receive preferential treatment. These questions are subject to rules-of-origin provisions, and products must go through "substantial transformation" in a signatory country before receiving lower tariffs and other tax benefits. For example, under NAFTA, U.S. software exports to Mexico only receive duty-free treatment, if the software is burned onto disks in the United States, regardless of where the code is written.

Export Licensing Regulations

The U.S. Department of Commerce's, Bureau of Industry and Security (BIS) is the primary licensing agency for dual use exports (commercial items that could also have military applications). Software programs that utilize encryption technologies are included in this category. In June 2002, BIS published a rule updating its export control regulations on cryptography. The rule allows "mass market" encryption products using symmetric encryption algorithms with key lengths exceeding 64 bits, classified under Export Control Classification Numbers (ECCNs) 5A992 and 5D992, to be exported and re-exported to most destinations after a 30-day technical review. There are no licensing or post-export reporting requirements related to the export of these products once the review is completed.

BIS also administers the Deemed Export Rule, which covers the release of U.S.-origin technology or source code to foreign nationals in the United States as an export to that individual's home

country. This rule applies even if the individual never leaves the United States and is particularly important to companies employing foreign nationals as programmers and software engineers. Exporters should become familiar with BIS regulations. For information, visit the BIS Web site at (www.bis.doc.gov) or call (202) 482-4811 to talk to a BIS representative.

However, even if companies have satisfied domestic licensing regulations, depending on the destination of the export, there could be import restrictions. Russia, for example, requires an import license for encryption software and ciphering equipment. France has requirements on the importation of encryption software and requires prior authorization for systems that incorporate 128 bits or higher.

Government Procurement Regulations

Governments are significant buyers of computers and software. In some countries, they are the largest customers, so the rules that govern public sector procurements can substantially impact IT markets. China, for example, is reportedly considering publishing guidelines to restrict government purchases of foreign software, in an attempt to reduce dependence on foreign vendors and to stimulate its domestic software industry. These kinds of policies always raise questions concerning what constitutes domestically produced products and what happens when local companies cannot meet customer needs.

The proprietary software versus open source software (OSS) issue is another example of governmental intervention in the marketplace. A number of governments around the world, both at the federal and sub-federal level, are considering initiatives and regulations to promote the use of OSS and more specifically the open source Linux operating system. Some governments have proposed requiring public agencies to use OSS, unless proprietary software is the only option. The open source movement appears to be growing as governments seek to cut IT expenditures, reduce dependence on foreign software companies, and exercise more control over their own IT systems, since the source code for open source software is freely available. By contrast, U.S. Government procurement policies do not specify a preference for either mode of software and prescribe technological neutrality.

Both the U.S. Government and the domestic software industry promote the WTO Government Procurement Agreement as a means to encourage more transparent and non-discriminatory purchasing procedures. To date, the Agreement has 28 signatories, who agree to treat the suppliers of goods and services from other signatory countries no less favorably than domestic suppliers, regarding procurements covered under the Agreement. For information, visit the WTO Web site at www.wto.org.

Intellectual Property Protection

Software code is a developer's principal asset and must be protected from unauthorized use, so the protection of copyrights, patents, trademarks, and trade secrets should be a primary goal of exporters, at least for those with products subject to piracy. The lack of strong intellectual property protection rights (IPR) laws and lax enforcement are significant trade and investment barriers. U.S. companies are more likely to engage in technology-intensive ventures in countries that have meaningful IPR protection; likewise, countries with lax enforcement are less likely to stimulate local software development and technological innovation. This issue is particularly important in the emerging digital world, since the Internet makes it relatively easy to download and share pristine copies of protected works.

The illegal use of intellectual property is an on-going global problem, especially for software and other digital products. The Business Software Alliance has determined that the worldwide piracy of business software applications amounted to $13 billion in 2002, but as a result of on-going efforts by the public and private sectors, the global piracy rate has declined from 49 to 39 percent since 1994. The highest regional piracy rates are in Eastern Europe, Latin America and Asia/Pacific. The U.S. Government and the domestic software industry continue to promote strong IPR laws and enforcement around the world through instruments such as the Special 301 process and the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). See the United States Trade Representative Web site at www.ustr.gov and the U.S. Patent and Trademark Office site at www.uspto.gov.

The world's software markets offer great potential opportunities for U.S. companies, but given the wide variety of trade policy issues regarding software, it is important to check with national customs authorities when there is uncertainty about particular regulations. Companies can also contact one of the U.S. Commercial Service offices located in 108 U.S. cities and over 80 countries. To locate your nearest office, visit www.export.gov/comm_svs/. When it comes to exporting software, there are also other important topics, such as market planning, pricing, financing, distribution strategies, packaging and labeling requirements, obtaining temporary work permits abroad, and software localization. A good place to start with export questions is the Trade Information Center (TIC) in the U.S. Department of Commerce where analysts can direct you to useful public and private sources of information. Contact the TIC at (800) USA-TRADE or visit www.export.gov/tic. ■