
Government Operations: Tax Regimes and Administration, and Services

The basic economic activities of government are to raise and redistribute revenues and to provide public services. We can think of these activities as comprising the “business” of government. Just as private businesses are reaping efficiency gains from the Internet and electronic commerce, so too can government increase the efficiency of what it does as a business. Similarly, just as private firms are examining how electronic commerce alters the parts of the value-added chain that affect their core businesses, so too should government think about how to use electronic commerce to improve service to citizens. What is most important for governments is that increasingly, the jurisdiction of government authority is different from the economic marketplace.

Taxation and Tariffs

The evolving Internet marketplace has some important attributes (see chapter 2) that matter for tax regimes: global reach and value creation through information, product bundling, and production fragmentation. These factors will put pressure on existing tax regimes. Governments can ignore or try to offset these pressures. But, a more proactive approach, which is the approach being taken by the private sector in its activities, is to consider how the fiscal system might need to evolve. A final factor of importance, particularly for taxes, is that there is greater mobility and potentially greater economic anonymity for participants in this marketplace.

Global reach implies a great overlap of national jurisdictions. International coordination of tax policies, though not necessarily harmonization of tax rates, will likely be necessary in the future. Governments need to consider carefully how best to target the tax (and other parts of the fiscal) system to meet citizens' needs and social objectives of redistributing income. This may imply a fiscal system more focused on individuals and less on the corporation.

Hand in hand with generating *value added from information* and new markets is that value creation will be increasingly complex; it may be difficult to determine how or where value is created. Both value-added taxation of transactions and direct tax systems that depend on defining permanent establishment of corporations will fit poorly within the emerging reality of economic activity.

Finally, *greater mobility* of firms, potentially making transactions more difficult to trace, or even anonymous, put a greater premium on increasing the incentives for voluntary compliance and reducing the incentives for forum-shopping, both within and across jurisdictions.

On the plus side, the Internet and electronic commerce have great potential for reducing the cost of tax administration and for increasing the ability of the government to serve its constituents. Tax burdens could be lower on account of the greater efficiency of fiscal administration.

How Governments Have Responded

Death and taxes, or the death of taxes? It should come as no surprise that the question of how the Internet and electronic commerce will affect taxes and tariffs has received early and intense policy attention. Most analyses of electronic commerce, trade, and tax address how to implement existing regimes in the more complex e-commerce environment. This is understandable because business tax accountants, trade negotiators, and government revenue authorities have to deal *now* with the questions of, on one side, what duties do I owe to whom, and, on the other, how much revenue are we likely to collect.¹

Governments generally do not want to take precipitous action. Maintaining a tax and tariff environment with clear rules is important for businesses, consumers, and government. But policymakers see the potential for a premature (and, they believe, undesirable) liberalization of trade and an erosion of their revenues. Governments have responded in both international forums and in their own marketplaces, inconsistently, and without foresight. This incremental approach increases the likelihood that

1. See *International Tax Review*, September 1999, for a review of how the following countries and regions are interpreting existing tax law in electronic commerce: Australia and New Zealand, Canada, Germany, India, Ireland, Israel, Japan, Latin America, the Netherlands, Singapore, South Africa, and the United Kingdom.

the evolving system will be distorting, with incentives to avoid or evade that will affect both domestic and international business and consumer strategies.

Government Discussions in International Forums: WTO, OECD

Governments have taken explicit action to keep electronic commerce free from customs duties. At the WTO Ministerial in Geneva in 1998, the members agreed to a temporary moratorium on imposing customs duties on electronic commerce and products delivered electronically. The decision was in large part a recognition that the rapid evolution of the Internet, particularly the greater use of digitized information, was blurring the traditional distinction between goods and services—a distinction of great importance under WTO rules and domestic tax regimes (further discussed below).

Since 1997 the OECD, in conjunction with nonmember governments and private groups representing business and tax accountants, has been analyzing how electronic commerce might affect international and domestic taxes. The outcome of that effort was “Tax Framework Conditions,” which reaffirms five principles that guide governments generally in applying taxes: neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility.² Tax neutrality and perhaps fairness appear to be the overarching principles as governments face e-commerce, although their interpretations of neutrality are not consistent (see discussion below).

The OECD’s initial conclusion was that, generally, existing domestic and international tax systems could cope with the networked world (OECD 1997a). The indirect taxation areas targeted for further examination were cross-border application of consumption and value-added taxes, particularly the varying treatment of goods and services. In the area of direct taxation, the OECD’s Model Tax Convention (the basis for many bilateral international tax treaties)³ was generally thought to apply, with further analysis targeted at how electronic commerce might be treated under the rules of permanent establishment, how transactions might be defined as either business profits or royalty income, and how transfer-pricing rules might be affected. In fact, these areas targeted for additional OECD analysis are exactly the areas where governments are trying to extend existing tax law to e-commerce transactions, leading to inconsistent treatment of transactions, within and beyond countries’ borders.

2. See http://www.oecd.org//daf/fa/e_com/e_com.htm#top_e_commerce.

3. Many countries have used the OECD Model Tax Convention as a blueprint for tax treaties that apportion responsibility and revenue to avoid double taxation of income earned through foreign investment. See <http://www.oecd.org//daf/fa/treaties/treaty.htm>. See also: http://www.oecd.org//daf/fa/material/mat_07.htm#material_Model for the most recent information on the model convention.

Treatment of Indirect and Direct Taxes

Most countries have not faced the fact that applying customs duties or indirect taxes to cross-border sales will be increasingly difficult. In some countries, such as Morocco, tax authorities believe that their net is dense enough to capture transactions that should generate either a tariff or a domestic tax. In others, such as in Taiwan, the tariff implications of digital downloading are understood, and they are considering whether to set up mechanisms to apply tariffs to digital products, even though they acknowledge that international transactions of services are not subject to tariffs now.⁴ For right now, research suggests that little revenue has been lost so far (UNCTAD 2000, Goolsbee 2000, and Mattoo and Schuknecht 2000). So governments have time to consider an approach that recognizes and works effectively with the changing economic environment.

The US states and the EU Commission are examples of tax authorities and jurisdictions that have started to make explicit recommendations for how to apply sales and value-added taxes to e-commerce transactions. Neither body fully recognizes that domestic decisions have cross-border implications. Inconsistent tax treatment of transactions between the United States and the European Union already has surfaced. The approaches taken by these jurisdictional units points out the challenges to be faced by other policymakers as electronic commerce expands.

In the United States, when Congress passed the Internet Tax Freedom Act it mandated review of the implications of electronic commerce for domestic sales taxes. The Gilmore Commission (see box 6.1) recommended that digital products downloaded over the Internet (software, books, or music) should not be taxed—and in the interests of tax neutrality, their tangible equivalents also should be tax-exempt. The issue of taxing services delivered over the Internet did not come up with the Commission because generally services are not taxed.

In contrast, the EU tax authorities are drawing a bright line between goods and services and to a greater extent than the United States already have drawn Internet transactions into their tax orbit. All electronic transmissions under the general term “soft goods,” including downloaded software, digitized books, or architectural drawings, are services that should be taxed at the appropriate value-added tax (VAT) rates.⁵ While the EU ruling would seem to simplify and increase certainty, in fact it does not because there are so many different rules for VAT taxes on services.

Moreover, the European Union places transactions under the purview of GATS in the WTO (WTO 1999). (As discussed below, the United States and other countries have effectively delayed characterizing these transac-

4. Field research by Catherine Mann in Taiwan, August 1998, and in Morocco, September 1999.

5. For an overview of the treatment of e-commerce transactions see <http://europa.eu.int/scadplus/leg/en/lvb/l31041.htm>.

Box 6.1 The US and domestic sales taxes: The Gilmore Commission

The Internet Tax Freedom Act took effect on October 1, 1998, and kept domestic Internet transactions free from any new taxes for three years; existing sales or use taxes apply, although they are difficult to enforce. The act remanded the question of how or whether domestic state and local sales taxes needed to be changed to an Advisory Commission on Electronic Commerce composed of business, government, and consumer representatives (the Gilmore Commission). When the life of the Commission ended (March 2000), members did not reach the required two-thirds majority to formally recommend a course of action to the US Congress. A simple majority called for a five-year extension of the moratorium on new taxes and simplification of domestic sales taxes, among other things. The Commission also recommended that digital products downloaded over the Internet (software, books, or music) should not be taxed, and, in the interests of tax neutrality, that their tangible equivalents also would be tax-exempt.¹

Despite the obvious point that any decision about the treatment of cross-state taxes might affect the treatment of cross-border taxes or the effectiveness of international trade and tax agreements, it was not within the mandate of the Gilmore Commission to consider international transactions or taxes. So it did not. Meantime, Congress, in advance of the WTO Ministerial in Seattle, passed a non-binding "sense of the Congress" resolution that encouraged the US administration at the Seattle negotiations to try to make permanent the cross-border moratorium on customs duties for Internet transactions. The legislative language seemed to ignore the fact that domestic taxation of Internet transactions (as through sales taxes) represented a quite similar issue.

1. See Patricia Fusco. 2000. (31 March) http://Internetnews.com/ec/news/print0,,4_331801.html and Jeri Clausing. 2000. Foes of Internet Tax Ban Vow to Fight On, *New York Times*. <http://nytimes.com.library/tech/00/04/cyber/capital/04capital.html> (4 April).

tions for the purpose of WTO rules.) The EU approach highlights the inter-relationship between decisions in the trade and in the tax arena on how to treat e-commerce transactions.

Further, the European Union has proposed that businesses both within and outside the European Union apply, collect, and remit VAT taxes on products (including software, books, and music) purchased or downloaded from the Internet by non VAT-registered entities (usually individuals) (Andrews, *New York Times*, 2 March 2000).⁶ It has suggested that non-EU firms should establish their tax identity within an EU locality in order to determine which rate of tax applies when they sell products B2B.⁷ In the interests of tax neutrality, the EU approach implies that a

6. The amount of "lost" tax revenue from cross-border sales appears to be minuscule. Of greater likely import is the argued disadvantage of bricks-and-mortar stores vis-à-vis online merchants who have not had to collect VAT.

7. Document of the EU Commission regarding electronic commerce and indirect taxation: <http://www.europa.eu.int/scadplus/leg/en/lvb/l31041.htm>.

cross-border tax on sales of digital products should be collected by the foreign firm and remitted to the national authority rather than have a cross-border customs duty collected by an EU customs agent. This approach yields a unilateral and extra-territorial application of a national tax law.

Though sales and use taxes have received the most attention, properly accounting for the global distribution and origin of business income was an ongoing tax issue facing policymakers in both industrial and developing countries even before electronic commerce complicated matters further. Under the OECD Model Tax Convention, the authority to tax income in a particular country is limited to income earned by a “permanent establishment” in that country. International income tax treaties are designed to allocate income among the parties to the treaty and to avoid double taxation. However, many non-OECD countries do not subscribe to this convention, are not participants in international tax treaties, and view income earned by any assets in their country as falling within their tax jurisdiction (Maguire, *International Tax Review* September 1999, 3-12).

Moreover, countries do not classify income earned (business profits or royalty income) consistently. In March 2000, the OECD Technical Advisory Group (TAG), which included OECD member governments, nonmember governments, as well as business advisory groups, tabled for comment the Treaty Characterization of E-Commerce Payments.⁸ It does not resolve the issues, although it presents the majority and minority views on how to treat e-commerce income. (Note that the TAG’s mandate was simply to interpret existing tax codes, not to modify the tax code.)

How do some country practices accord with the TAG review? The EU application of VAT to all soft goods transactions does not accord with the TAG majority view, in which these transactions would generate income that would be taxed as business profits. In Israel, taxation depends heavily on the rights that are conferred when the digitized product is used, which follows the spirit if not necessarily the details of the majority view (Katz, *International Tax Review* September 1999, 65-6). In India, where payments for the use of online information, technical support, and software used to access a database would all be treated as royalty income subject to withholding taxes in India rather than the country of the multinational, the system appears to follow the TAG minority view (Basu and Visser 1999).

How Should Governments Be Responding?

Policymakers have made few changes to their tax regimes in light of e-commerce transactions. They have taken the existing tax regime as a

8. See <http://www.oecd.org//daf/fa/treaties/tcecommpay.htm>.

given; electronic commerce has been shoe-horned into that regime, while at least nominally following the OECD principles. Already this effort has created different treatment of e-commerce transactions inside and across borders. As electronic commerce becomes pervasive, governments must rethink their tax and trade regimes.

So how should they be thinking about modifying their tax and tariff regimes? On the trade side, there is a rising tension between the simple division of all transactions into goods or services. On the tax side, there is a rising tension between the domestic bounds (and legislative authority) of most tax regimes and increasingly global economic activity.

Tariffs in a Networked World

Electronic commerce poses a true challenge to the organizing framework of the WTO⁹—the classification of all cross-border transactions into either the General Agreement on Tariffs and Trade (GATT) or GATS. If this classification is maintained, should electronic commerce and digitized products be classified into GATT or GATS? The European Union advocates the latter; the United States (along with most other countries) remains agnostic.

Although this classification issue seems clear, questions remain. Products purchased electronically but delivered physically (such as books from Amazon.com) would appear to be subject to WTO rules on trade in goods: the same tariff would apply to the book whether purchased over the Internet or not, although on small-package imports, enforcement might be difficult. An architectural blueprint delivered electronically would continue to be classified as a service, where generally tariffs are zero. A non-tariff barrier, such as a professional license, might prevent this service from being offered if it were delivered physically, as by mail, but enforcing the barrier over a downloaded drawing might be difficult (as would enforcement of VAT on services as noted above). And consider software downloaded from the Internet, which may or may not exist on a hard medium such as a CD-ROM. Is this a good or a service? Would customs agents even know that a transaction on which a tariff should be paid had happened?

Applying taxes on both domestic and cross-border transactions causes even deeper confusion. The WTO moratorium on customs duties did not reach inside any country to apply to taxation of domestic sales over the Internet. Nor did it address how income earned over the Internet should be taxed. But, “domestic” tax systems are now applied in one way or another to cross-border transactions. For example, VAT systems apply taxes differently to cross-border transactions, depending on whether the

9. Electronic commerce and the WTO are explored more fully in Mann and Knight (2000). See also WTO (1997).

Box 6.2 Indirect tax systems

The VAT is a tax on supplies of goods and services applied at all stages of the production process. It is charged by the supplier and then credited by the users of the inputs in the course of doing business. Because each transaction leaves an invoice path, the VAT system essentially relies on double-entry bookkeeping by VAT-registered businesses on both sides of a transaction. The final consumer, not being a VAT-registered entity, ultimately pays the tax. Some businesses, such as financial intermediaries, find it difficult to get credit for VAT, so ultimately the financial institution pays the tax.

The US sales tax system is different in that final users (usually buying at retail) pay the taxes, usually on tangible property only (with exceptions), not on services. Business inputs generally are exempt from the tax. The administrative burden of the sales tax system comes principally from the 30,000 different tax rates that apply depending on location. Tax ignorance, rather than tax avoidance or evasion, is a real issue.

The goods and services tax used in many developing countries and in Canada and Australia is applied at the point of sale and collected by the seller. In the current economic environment in many countries, it is administratively straightforward, which enhances its popularity with governments. However, to avoid the distributional consequences of such a regressive tax (and of the US sales tax as well), there is often an extensive schedule of exceptions to the tax, including food, clothing, public transportation, and so on.

transaction is an import or an export.¹⁰ Direct tax systems must determine how to tax income earned by a business in more than one country so as to avoid double taxation.

Thanks to the Internet, governments have had to grapple with how to mesh their domestic and international taxes and tariffs in a much wider range of cross-border transactions. For example, following the EU approach, if all e-commerce transactions are services, classified under GATS, they all should be taxed the same way. To do otherwise would imply inconsistent VAT treatment of electronic transactions within and outside countries. The approach the European Union has therefore taken effectively “harmonizes up” tax rates in order to maintain tax neutrality. In contrast, the Gilmore Commission embraced a bias toward lower tax rates by recommending that selected electronic soft goods and their tangible equivalents be sales-tax free. This “harmonizing down” may generate inconsistent tax treatment of purchases over the Internet and through other means of products not explicitly exempted. Over time, this approach could yield lower tax rates as more products are exempted.

Indirect Tax Regimes in a Networked World

Many tax systems depend on indirect taxes, such as sales taxes, VAT, or goods and services taxes (GST) to raise a substantial share of government revenues (see box 6.2). In the OECD, all the countries except the United

10. Importers include the VAT but exporters receive a credit.

States have or will soon have a VAT/GST system. In the countries of the European Union, VAT revenues account for about 30 percent of total tax revenues. In states in the United States, sales and goods taxes account for about 12 percent of total revenues, but can reach much higher percentages. In developing countries, VAT and GST systems are the mainstay for raising revenues.

Fifty years ago, VAT was simple to administer and audit. But times have changed, and VAT has not. International transactions were the first hurdle. Since VAT is supposed to raise revenues *within* a country or region, exporters receive a VAT credit rather than forward the tax burden to customers abroad, and imported products are assessed VAT so as not to have a tax advantage over domestic competitors (OECD 1997b, 16).

Services transactions are the next hurdle. They fog the clarity and simplicity of the VAT system. For many services, VAT is collected by the supplier on the presumption that the customer needs to be relatively near to receive the services. However, for intangible or intellectual services (copyrights, licenses, advertising, professional and consultant services and financial transactions) VAT is already paid by the customer. A customer who is not VAT-registered is supposed to declare the transaction and pay the tax (OECD 1997b, 15-9). Certain types of service firms, including financial intermediaries (and looking forward, possibly ISPs) often cannot recover VAT so they pay it as if they were the final consumers.

If digitized products are treated as services, VAT gets more murky. For products like books and music, VAT treatment as a good yields lower tax rates than VAT treatment as a digital product classified as a service. On the other hand, if the digital product is downloaded from a site outside the VAT jurisdiction (for example, the European Union), no VAT gets paid unless the customer declares and pays it.¹¹ So one product and one tax regime yield three possible tax rates—hardly the OECD goal of “neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility.”

These examples are simple: E-commerce transactions are becoming much more complex. For example, ISPs are the “portal” or starting point for many activities on the Internet. ISPs could end up playing tax collector (as the delivery man does with flowers) or paying the service VAT themselves (like financial intermediaries). Clearly the incentives are to move ISP activities offshore so as to blur responsibility for paying the VAT, and indeed some European ISPs have set up in low-tax jurisdictions.

The sales tax issue facing the United States yields additional examples of tax strategizing. BarnesandNoble.com incorporated as a separate business entity from the parent stores so as to avoid “nexus” (or physical presence) and the requirement to collect sales taxes on all its sales through the

11. Pending the acceptance of the proposal of the European Union, discussed earlier.

Internet. However, because the entities must remain separate, business synergies and brand extension cannot be exploited. For example, someone who buys a book online (because they like the additional features of book reviews available online) cannot go and pick up the book at a local store branch.¹²

The Internet marketplace characterized by cross-border trade in information-rich products will increasingly strain the VAT system. Economic transactions created from a variety of international and domestic locations make it increasingly difficult to apply the credit-invoice method of accounting for VAT at each stage of the value chain. There is no value chain; this is a *network* creating value. Or, how should VAT be applied to a continuous stream of services? For example, how should Bloomberg's real-time access to stock-market data streams, international financial reporting, and on-line discussion topics be classified under VAT?

Cross-border services are particularly murky because they often incorporate both a domestic and a foreign element: data-processing or consultant services, for example. The burden of VAT on transactions will be increased with the complexity of production. For example, "build to order" computers get parts and inputs from numerous sources, some have preloaded software, and the final assembly may be done by the delivery firm. VAT administration in this case will be hugely complex. Governments must look at other ways of raising tax revenues.

Direct Tax Regimes in a Networked World

The other major form of taxation is direct taxation of corporations and individuals. In the United States, income taxes account for 60 percent of total federal tax revenues, with about 80 percent of that coming from individuals. Generally, income earned by US firms and individuals are taxed at US rates regardless of where the income was earned—this is *residence-based* taxation. Developing countries to varying degrees also depend on income taxes, including taxation of income earned by non-resident firms operating in the country—*source-based* taxation.

Because source- and residence-based taxation in the global context must yield double taxation of some income, tax treaties attempt to allocate income earned to the source and the residence according to "permanent establishment" and give tax credits to minimize double taxation (Lukas 1999, 26-7; Sher 1999). Value creation in the global networked marketplace will increasingly strain the definition of permanent establishment, making the allocation of income increasingly difficult. The threat of double taxation increases, too, along with the incentives for noncompliance, particularly by mobile firms.

12. IBM "e-business solutions" division has a clever advertising campaign that plays on the potential synergies between online and on-site stores that could be exploited by IBM software. It is clear that software is not the only hurdle.

The definition of a permanent establishment rests on two foundations: (1) fixed place of business or physical presence,¹³ and (2) dependent agents who, among other activities, can conclude contracts on behalf of the corporation as a normal course of business. “Permanent establishment” runs into trouble in the networked world. First, the information-based and network-based creation of products means that physical presence is much less important as a criterion for participating in value-creation (consider software code). Second, the mobility of information-based firms not only undermines physical presence but also calls into question the characterization of dependent agents. Finally, the complexity of Internet marketplaces (consider the virtual auctions and exchanges for B2B transactions) challenges the notion that there is a single “head” to the organization that could help define either physical presence or dependent agent.

Most practical attention to this question has focused on Web sites and servers: do they constitute physical presence if located within a country or do they constitute a dependent agent even if they are not located in a country but are “open for business” there? There is no consensus yet, but arguments revolve around the range of activities available on a Web site and the extent to which a server is tied to a firm.

Servers control data flow among computers on a network. Web sites are the presentation of information or locus of activity for a firm. Data flows can be initiated by the server and the Web site (for example, targeted advertising) or by the user (for example, information-gathering). Do these activities represent permanent establishment?¹⁴ If the server or Web site merely broadcasts information or advertising, it does not contact the purchaser, but the purchaser contacts the Web site, which then contacts the server. In this case, it would seem impossible that the physical location of the server or the Web site would constitute a dependent agent or nexus.

Looking forward, however, what if the server can individually target a consumer in another country? Does this change the notion of permanent establishment, dependent agent, or nexus? Consider two buyers in the same country who digitally download the same product from the server. One buyer was contacted by the server in a targeted effort; the other happened upon the Web site and downloaded the product. How can it make sense (and what kind of incentives result) when the two purchases are treated differently for tax purposes? One can imagine a service where the server would automatically route purchases through the least-taxed environment, much as call-back telephone services re-route and reduce telephone charges for callers in countries with high telephone tariffs.¹⁵

13. However, facilities for inventory or for collecting information do not confer physical presence.

14. The analogy in the context of US sales tax is nexus.

15. Two other issues for the direct tax of corporate earnings are treatment of royalty income and transfer pricing. Income earned from sales and that earned from licenses or royalties are taxed at different rates, and the nature of network transactions that give rise to royalty

In the end, the complexity of Internet products challenges the formula for allocating income according to how much value was created or income generated by certain geographical locations and types of transactions. Trying to fit Web sites or servers or royalties into the existing definitions of permanent establishment or character of income is just putting a finger in the dike. As Internet products and activities increasingly are composed of information and intellectual property, the character of income will be even more difficult to determine. As technology increases the range of delivery devices and the web presence for Internet activities to telephones and TVs, permanent establishment will be eroded. Governments must look at single tax rates for all types of business income and for ways to avoid having to allocate income to different countries.

Trusted Third Parties and Shoring Up Existing Tax Systems

The characteristics of the Internet marketplace challenge the foundations of both main tax systems. VAT cannot adequately handle information-rich products, and is administratively cumbersome for global transactions and bundled value-added. Direct tax regimes that depend on concepts like permanent establishment to allocate income will come under stress because Internet transactions are so complex. Both systems will be confounded by the mobility of firms.

Can technology itself be used to shore up the existing system? Governments could use the Internet's information-tracking capability to track the origin and destination of each transaction or each element of a product bundle, and apply the appropriate tax. Would this violate other rights of the citizen? Would it require extraterritorial reach of the taxing authority or lead to trade barriers at borders?

Several proposals being considered to improve the yield of existing tax regimes rely on private software and trusted third parties (TTP) to stand between the buyer and seller to calculate, collect, and remit the tax to the appropriate jurisdiction. In the United States, the Gilmore Commission reviewed this proposal in its investigation of alternatives to state sales-tax administration. The European Union proposed a narrow variant when it argued that international credit card companies should collect and remit VAT taxes. The Indian Central Board of Direct Taxation has suggested that an international organization be set up to "detect commercial and

income differs by country. The higher information content of network products highlights these disparities and creates incentives for tax avoidance.

Transfer pricing on the Internet is potentially a larger issue, but not necessarily as a form of tax avoidance. Transfer pricing, or more generally the pricing of transactions at non-transparent, non-arms-length rates, is more likely for complex information-based products where network effects are a key component of prices. Or consider auctions where prices are endogenous to the number of participants in the market. For more on practical analysis of transfer pricing rules, see Rolph and Niederhoffer (1999).

financial transactions on the Internet.” More broadly, a World Tax Organization could be the venue for discussing these and other issues (Tanzi 1999).

While technology and TPPs could be the tax collector, to do so with sufficient depth and care would yield a lot more information about the details of the transactions and the activities of participants than when the retail store or delivery truck driver collected the VAT; an individual’s identity and purchasing habits would be in the hands of a TPP. The information collected by TPPs for tax purposes could reveal proprietary business strategies or alliances (terms of each sale and who with). At least some of the TPPs would have to have international reach, since the most difficult aspect of e-commerce taxation is cross-border activities.

Depending on TPPs to administer taxes raises issues going far beyond the tax regime, on which governments already disagree. First, having a private institution administer taxes should give governments pause. If TPPs work for electronic commerce, why not privatize the whole tax system? Second, what would be the jurisdiction of TPPs? They would operate on behalf of a government, yet outside its political jurisdiction. Therefore, international agreements as to the scope of their activities would be required. Third, what about enforcement? With a multilateral authority like the WTO, countries have found inside-the-border interference to be anathema¹⁶—and the objective of this entity would be to tax! Finally, the TPP would have to be paid. History shows that when private entities are paid to raise public funds, it is difficult to come up with politically or economically “incentive-compatible” contracts.

Moreover, there are already differences between the European Union and the United States (and other governments as well) over the cross-border transfer of data, particularly personal information. In the international tax context, the European Union would have to allow the TPP to collect such data. Yet the European Union has already significantly restricted the collection of such information for commercial purposes. In contrast, the United States allows these data to be collected for commercial use, but prevents the US Internal Revenue Service (IRS) from collecting it as a matter of course (see the discussion of privacy in chapter 7). The conflicts over what data would be collected for tax purposes could impact business strategies, much as tax differences now do.

The TPP approach exemplifies a common theme in the policy arena: issue convergence and policy overlap. Whereas technology could help a TPP to improve the working of current tax regimes, privacy policy would dampen the desire to adopt this approach. More generally, policy

16. Consider the difficulties in Seattle in November 1999 on issues of labor and the environment. Competition policy, another “inside-the-border” issue, has regularly been rejected as not within the purview of the WTO.

approaches to one issue increasingly impinge on how governments pursue policies on another issue. Policy choices are increasingly interdependent.

Towards an Alternative Tax Regime

The new international marketplace is network-driven and information-rich. Value is created around the globe in complex, real-time interactions. In contrast, tax and tariff laws are based on domestic jurisdictions, simplistic notions of the value chain, and contiguous production and consumption. The systems are static, founded on rules formed incrementally by case law or infrequent multilateral negotiations. So far most governments treat electronic commerce as just another way to engage in trade, not something that will warrant a change in policy.

The validity of domestic-based tax systems increasingly is being pressured by the global environment and a new economy that is dynamic. Policymakers must take a proactive stance and think about what an international tax system might look like. Now is the time—when what is being done on the Internet and through electronic commerce is still relatively easy to understand—to seek the most efficient and effective way to raise government revenues. VAT is not the answer; neither are direct taxes allocated on the basis of permanent establishment or on residence (see box 6.3). Soon electronic commerce will generate ever more complex interactions of media, people, information, and things. The current incremental strategy will yield an increasingly rules-driven and fragmented system that invites evasion and forum-shopping, is costly to administer, and does not support the maximum benefits that can be achieved with Internet-based commerce. Governments must rethink their tax regimes.

Government is in the business of raising and redistributing taxes and providing public services. That business will continue. Policymakers should take the opportunity now when the challenges are “big enough to see, but small enough to solve” (Leavitt 2000) to chart the direction toward a simpler, fairer, and more liberalizing approach to taxation and tariffs.

These observations lead us to examine a significant source of income for raising tax revenues: labor compensation. How does the global network impact its taxation? Among the sources of income to tax, labor wages has probably been the least affected by the Internet and electronic commerce. Labor, by and large, remains within the same political jurisdiction as the tax authority.¹⁷ How much it pays its labor is one of the economic transactions that a firm keeps close track of, even in the Internet marketplace. Labor income can be taxed using methods that include reporting, audit, or declaration.

17. This is not to say that labor cannot move; but it is relatively less mobile than firms, particularly at the margin of electronic commerce.

Box 6.3 Alternatives to the current tax systems: A “residence” approach?

Recognizing the increasing complexity of allocating income, a residence-based system has been suggested, among others by the United States in one of the earliest concept papers addressing the issue.¹ Residence would be defined as where the firm most central to the bundled product maintains its “strongest ties.” This concept is murky; does it mean residence of incorporation, in which case tax avoidance through havens becomes a likely problem. Moreover, countries, ranging from Australia to India and South Africa that depend on source-based direct taxation of income for tax streams would lose revenue under a residence-based scheme, unless an adequate tax-transfer mechanism could be implemented. Many governments see the residence-based scheme as unfair and too favorable to the US because of the high percentage of multinational firms, and increasingly high-tech Internet firms, that are resident in the United States but create products using value-added from around the world.

International cooperation to allocate tax revenue is an obvious requirement for such a system, but having the United States effectively hold the pursestrings for another government creates difficulties. Moreover, the residence-based scheme does not solve the inherent difficulty of accounting for different sources of value-creation when the value-added derives from a global network of inputs. The foundation for allocating tax revenues must depend on something other than trying to break down the production process to determine how much value was added at what point and in which location.

1. US Department of the Treasury (1996).

Taxing wages does not solve all problems. Wage income is only one source of labor’s remuneration. Increasingly in the United States, for example, stock options and other benefits and bonuses are part of the employment package. Differential treatment of stock options between the United States and the European Union has already affected the behavior of labor and encouraged it to become more mobile across the Atlantic.

Cross-border information flows of wage and benefit statements from international firms raise privacy concerns. Moreover, a firm must be willing to comply with an extraterritorial request for information, although this is less onerous than actually collecting and remitting taxes. International cooperation among governments and firms remains paramount.

The questions of fairness and compliance inevitably arise when labor income is taxed relatively more than capital income. Tax evasion of both labor and capital income taxation in many countries is why they have chosen the VAT, GST, or tariff systems. These are not new issues, but the reduced ability to tax value-added, transactions, or corporations raises the stakes for finding appropriate answers and charting a course toward changing tax regimes to reflect the new realities.

A superior outcome can be achieved if governments recognize that the Internet and electronic commerce warrant a regime shift. New ways of

creating value and jurisdictional overlaps will demand more international cooperation and new tax regimes that raise taxes on the bigger targets (income, not transactions) and at the ultimate source of value (people, not firms). Along with the objective of tax neutrality, this should engender a downward bias for tax rates on transactions and a global low rate on corporate earnings. Broad based and progressive taxation of personal income can generate sufficient income for government programs, and can be more socially aware and progressive, as well as administratively less burdensome.

Government Administration

Government as a big business has a lot of “customers.” Even where a government is streamlined, it has a large labor force, is a big spender, and interacts in many ways with its citizens. Streamlining administrative costs, improving the efficiency of procurement, and making communication with citizens as well as other governments more transparent are ways the Internet and electronic commerce can improve the relationship between governments and its constituents.

Administration

Many countries have already put information about government structure and services online. Increasingly they are using Internet technology and electronic commerce to streamline paperwork and payment processes within agencies, between agencies, and between the government and its citizens. This use of the Internet and electronic commerce can be a powerful force for building the infrastructure that supports private electronic commerce. In addition, it can help foster confidence in electronic commerce. But whereas the government may indeed play a key role in jumpstarting Internet usage, it should be willing to relinquish its position to private firms as they offer superior services.

Providing information about government agencies and activities online can help coordinate federal and sub-federal missions. In Morocco, the Ministry of Information Technologies is putting information about all federal ministries and departments online (including all business regulations) and is installing computers in regional government offices to make this information accessible to the public. Heads of the main sub-federal units (the Wali) are considering whether to connect their regional headquarters “downward” to provinces and prefectures as well as “upward” to the federal site. Not all levels of government are convinced of the benefits of information-sharing (indeed, an individual bureaucrat’s power can be constrained by openness of information on the Internet).

Government Web sites can improve communication between government and citizens. In Bulgaria, the government Web site includes the text of all laws as well as pending legislation.¹⁸ All agency directors have e-mail boxes—and apparently they even answer their mail! In other countries, addresses but no links are available. In still others there are e-mail links, but no one answers the mail. The promise of the Internet for improving the relationship between government and its citizens is in its capability for interactive two-way communication, in contrast to papers or TV broadcasts, where information generally flows only one way.

Governments can also partner with private firms that have built regional Web sites. AfricaOnline was founded in 1994 by three Kenyans who had studied at US universities, then returned to Kenya to open ISPs with operations in Kenya, Côte d'Ivoire, Ghana, Tanzania, and Zimbabwe, and links to businesses in and local information about Swaziland and Uganda. On the private sector part of their Web site, there is information about businesses as well as NGOs and aid agencies. On the official links, there is information about the economy, links to chambers of commerce, and so on. The links to the Côte d'Ivoire site are in French, the official language.

Government experimentation with Internet and electronic commerce can reveal weaknesses in key infrastructures that support electronic commerce (as well as economic development more generally). Within government, one agency's desire to use the Internet and electronic commerce might be stymied by another agency's regulation of infrastructure. This can be a powerful force generating change within a government. Two years ago, the agency for tax administration in Taiwan began making tax forms and information available online; the objective was to get citizens used to using the Internet and to eventually file taxes online, ultimately lowering the cost of tax administration. However, the first year of the experiment, it took so long to download the information and forms and the telephone charges were so expensive that a person who used the online method ended up being "taxed" to pay their taxes on-line.

In contrast, the Brazilian government has paved the way for on-line filing using secure connections and easy payment: typing <http://www.receita.fazenda.gov.br> takes the tax payer to a simple tax preparation site where personal information can be typed in, and taxes paid via bank card. The ability of the Brazilian banking system to facilitate these transactions was a prerequisite for electronic commerce by the government.

A different problem has faced tax authorities in Sri Lanka and Morocco, for example. Internet technology in both countries could significantly reduce the cost of tax administration, which at present is based mostly

¹⁸ Field research by Randy Hartnett in Bulgaria, October 1999, and Catherine Mann and Sarah Cleeland Knight in Morocco, September 1999.

on paper and pencil. In Sri Lanka, a high fraction of the tax revenue raised is needed to administer the taxes, so there is a real potential for efficiency gains; in Morocco, the myriad special excise taxes create a fragmented tax system that invites evasion and abuse and is costly to administer. In both countries, additional efficiency gains and enhanced transparency would come from linking domestic tax systems with the customs systems.

The main barrier to moving forward is the shortage of human capital to modify existing systems and to write software. The Sri Lankan tax ministry is seriously understaffed. The Moroccan tax authorities have the hardware but would be helped by having a “best practices” manual sourced from experience by other developing countries on how to apply electronic commerce to the tax system.¹⁹

A partnership between private business and government projects can help bridge the human capital needs and may jump-start government use of the Internet. One strategy is to create an elite consulting service to the government for information technology—an “IT strike force.” While it would be best to source the team from the domestic economy, some members of the group could come from abroad, funded by international agencies. This consulting group would work with tax agencies within a country to bring their operations online, and then train agency staff to take over once the consulting team has gone.

The advantage of the IT strike force is two-fold: (1) Government agencies often find it difficult to compete with private-sector salaries—particularly as the IT sector starts to develop within a country and as people who are trained have opportunities abroad. (2) Most government agencies do not want or need a large permanent IT staff. A strike force can “connect” the agency, train the people, and then move on. Even better, the strike force could help ensure that the systems of various agencies are interoperable.

Procurement

B2B electronic commerce is reducing costs and increasing efficiency in resource use in private-sector manufacturing by 10 to 50 percent (see chapter 2). Why shouldn’t government get the same benefits? The Internet and electronic commerce offer several ways that government procurement can be made more efficient and transparent.

First, simply putting online information about upcoming procurements, with contract specifications, enhances transparency. Moreover, embedding well-functioning search engines within a procurement site enables small and medium firms to more actively compete with large firms. Going

19. The electronic commerce roundtables sponsored by UNCTAD are helping developing countries learn from each other what are the most successful approaches to common challenges.

further, putting winning bids and performance evaluations online raises the professionalism of government procurement as well as of the firms that satisfy the contracts, and helps citizens see for themselves how the business of government is conducted. Finally, putting government administration of procurement online can be part of a virtuous cycle that strengthens other key infrastructures, such as telecommunications and financial intermediation. All this increases the likelihood that government (and thus the taxpayer) will get its money's worth, and that the process is fair and open.

For example, the Taiwanese government is putting its register of upcoming government contracts on its Web site. The Mexican government is putting \$25 billion of government contracts out for bid on *compranet*. Mexico's site will include information on competing bids (*Business Week*, 1 November 1999). Chile wants to procure everything from paper clips to toilet paper through its Web site. The pressure by the government to benefit from electronic commerce may push ahead the telecommunications deregulation process (*Latin Trade*, March 2000, 38).

As the private sector builds e-commerce capability within a country, the government gains a powerful partner to further efficiency and openness in procurement and administration. In the United States, for example, two years ago, the Defense Logistics Agency (which is responsible for \$900 billion in procurement for defense forces worldwide) constructed EMail for small-ticket purchases (under \$2,500). The procurement officer goes to EMail, finds the part or product that s/he needs, orders it, and receives it the next day, rather than filling out a paper form, mailing it, waiting for another procurement office to ask firms for bids, and then waiting for the part to arrive. EMail streamlines the process so much that in 1999, the cost of some of these purchases was cut in half (*Washington Post*, 5 April 2000, 5).

A private sector firm, FedCenter.com, has since opened a procurement site especially for business-to-government sales. It includes vendor descriptions (whereby firms can identify themselves by geography or targeted groups, such as small, women, or minority-owned business), as well as links to the Federal Acquisition Regulations. On another private sector site, GovWorks.com, the government purchaser can look for auctions, which can reduce procurement costs even more. These private and government sites that occupy different parts of the market space are linked to each other.

To maintain competition and incentives for further private innovation, it is important that the government-initiated sites and the private-sector sites operate on a level-playing field and work to complement each other. In Singapore, for example, a private-sector site and a government portal are both vying for the market for procurement of office products and recruitment services (Levander, *Asian Wall Street Journal*, 25 October 1999).

Some governments are big sellers as well as big buyers. At China-TradeWorld.com, foreign businesses can buy everything from shoes to tools from any of 180,000 state-authorized firms. This site also contains trade and financial news from the official Chinese Trade Ministry, English translations of Chinese laws, and translation services (Hillebrand, *E-Commerce Times*, 28 February 2000). Looking forward, it will be important that Chinese authorities allow small private enterprises to trade with business abroad, rather than acting as the sole portal and authorizing agent for e-commerce trade between China and the rest of the world. China's concern is that poor quality and performance of some firms could undermine buyers' interest in Chinese products. This is a legitimate issue, but can be addressed through private-sector certification rather than state certification (see chapter 7).

Over time, as both the government and private-sector firms integrate electronic commerce into their operations and strategies, and as necessary financial and telecommunications linkages are enabled, private-public partnerships will bridge Web sites. Over time, the private sector can play a more major role in government administration. In the United States, *egovnet.com*, and in the UK, *ecommerce.iosis.net*, are private-sector sites that present current regulations, for example for professional licensing, and allow professionals to renew their licenses online by linking to the appropriate governmental (federal or subfederal) site. In the United States, for example, *GovWorks.com* offers a range of activities for the individual-to-government relationship, such as the ability to pay parking tickets, real estate taxes, and so forth.

Even if only information about administrative guidelines is available online, it increases the likelihood that such guidelines will be administered fairly by local authorities. For example, foreign businesses desiring to start activities in Morocco have complained about obscure regulations and of the near-requirement to hire a local facilitator. Because the Moroccan government would like to encourage new enterprise (both foreign and domestic), it is moving to put the regulations for business activities online so as to enhance transparency and regularize administration. This is also giving the government the opportunity to review its guidelines to determine whether they still serve their intended purpose. The WTO government procurement agreement is a framework for information transparency and fairness (see box 6.4).

Communication

The Internet greatly increases the capability of a government to communicate with its citizens and of governments to communicate with each other—enhancing cohesion within political boundaries and defusing cross-border conflict. Government could become more responsive to citizen concerns and better explain the rationale for government policies.

Box 6.4 The agreement on government procurement in the WTO

Government procurement of products and services for its own purposes is an important share of total government expenditures, usually estimated at 10 to 15 percent of GDP. It thus has a significant role in domestic economies.

While governments usually try to get the best value for their money through open and nondiscriminatory procurement regimes, sometimes they try to use the procurement process to achieve other domestic policy objectives, such as promotion of local industries. This kind of discrimination may be overt, as when it is mandated by statute, or more covert, as when foreign products and services face barriers in trying to compete for government business. Typical barriers are set up through selective tendering, technical specifications, and, most commonly, lack of transparency in tendering procedures, including contract awards.

Government procurement of both goods and services was effectively omitted from the multilateral trade rules. Discriminatory government procurement does cause international trade distortions; there is increasing awareness of its trade-restrictive effects. Also growing is the desire to close these gaps in trading agreements. The first steps to bring government procurement under international trade rules were taken in the Tokyo Round of Multilateral Trade Negotiations. The Agreement on Government Procurement (GPA) was, however, amended several times before it was signed when the WTO was established on 15 April 1994.

The GPA establishes rights and obligations among its members with respect to their laws, regulations, and procedures for government procurement, of which the cornerstone is nondiscrimination. Article III:1 states that parties are required to give the products, services, and suppliers of any other party to the agreement treatment “no less favorable” than what they give their domestic products, services, and suppliers. The GPA also permits parties to modify this if certain procedures are followed (article XXIV:6). The agreement does not apply to all government procurement; exceptions are allowed for developing countries in certain situations (article V) and for noneconomic reasons such as national security, public morals, public order or safety, human, animal or plant life or health, and intellectual property (article XXIII). Thus, not all WTO members are bound by the agreement, making the GPA “plurilateral.”

Source: The WTO Web site, <http://www.wto.org>.

Many governments in developing countries have begun to provide more information on government activities on the Internet. This helps reduce the costs of communicating (of particular value in large countries) and helps to forge common bonds among citizens who are far apart.

Of course, some governments are concerned about the communication capabilities of the Internet. China and Singapore, among others, try to selectively filter information for their citizens. But censoring the Internet is difficult, and it could erode the increased transparency and trust that should be the outcome of government online.

The Internet improves communication among countries within a region, often to help promote discussion of common concerns. For example,

USAID's Leland Initiative is working to increase communications among policymakers in East African countries on common approaches to technology uptake as well as to assist in democratic institution-building. The Eizenstat Initiative focuses, among other issues, on water usage by countries in Mediterranean Africa. SIDSnet (the Small Islands Developing States Network) brings together 42 nations to discuss common issues, such as tourism, energy, ecology, and resources (Human Development Report 1999, 60).

The promise of the Internet is that a government will be able to do more for its citizens at less cost. By increasing the effectiveness of government activities, the quality of the relationship between government and its citizens should increase: importantly, citizen well-being generally will be enhanced. A key caveat is that technology alone cannot promote well-being: people remain the key ingredient. Using technology to create a virtuous circle where it reduces costs, raises awareness, and supports skills, which in turn leads to more effective use of technology, is the ultimate objective of government intervention. (A complete discussion of this topic is in chapter 9.)