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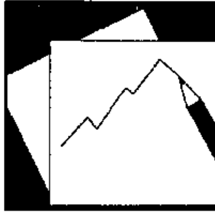

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Globalization, Technological Developments, and the Work of Fiscal Termites

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Globalization, Technological Developments, and the Work of Fiscal Termites [1]

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Abstract

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Deepening globalization and associated or parallel technological and institutional developments are creating conditions which may reduce the industrial countries' ability to sustain high levels of taxation. The paper identifies and discusses eight trends which may generate revenue falls. It also discusses some measures that might neutralize or reduce the impact of these trends.

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I. Introduction

Some recent literature has pointed to the fragility of the countries' and especially of the OECD countries' tax systems in the face of deepening globalization and associated technological and institutional developments. See Tanzi (1995 and 1996). A potentially significant and negative impact of globalization on the economies of countries is likely to come through the tax systems. There is little quantitative evidence so far indicating that the tax systems of the industrial countries are collapsing. On the contrary, for many of these countries the level of taxation is at a historical high or close to it.[2] However, in most countries in the 1990s, the tax level stopped growing and, in several, it actually declined. This behavior contrasts sharply with that of previous decades. Furthermore, some finance ministers have been complaining about the effect of tax competition on the revenue of their countries, and the OECD and the European Union have been concerned about various aspects of tax competition. Thus, **quantitative** evidence on the impact of globalization on tax revenue is still limited, but that evidence may not tell much about the future. The thesis for this paper is that as time passes, the impact of globalization on tax revenue is likely to accelerate and to become obvious in the revenue statistics of the countries.

Globalization, and the associated increased integration across borders, facilitated by rapid technological progress, is likely to affect the countries' capacity to collect taxes. It will also affect the distribution of the tax burden. The reasons for this assertion are several and will be discussed in Section II of this paper. Section III will mention some possibilities for neutralizing the impact of globalization on tax revenue. Section IV will draw some conclusions.

A cursory glance at tax revenue trends in OECD countries over the last three decades reveals a substantial increase in the total tax burden, but also some changes in the composition of tax revenue. Table 1 shows that the average tax burden for OECD countries rose from 26 percent in 1965 to 35 percent in 1985 and to 37 percent in 1997. It also shows that the growth in the tax burden has slowed down over the years.[3]

The composition of tax revenue has also changed. The initial increase in the share of the personal income tax from 1965-85 was reversed in the 1990s and is now close to the level seen in the 1970s. The share of the corporate income tax has remained relatively stable during the period. On the contrary, social security contributions have increased substantially. While the total share of consumption taxes has decreased a little, from 36 percent in 1965 to 31 percent in 1997, there has been a distinct shift from specific taxes to general sales taxes

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[2] For 11 out of 29 OECD countries, for which OECD has reported historical data, the level of taxation in 1997 was at a record high. For most of the others it was close to the record.

[3] From an increase of 21 percent in 1965-75, and 11 percent in 1975-85, to 6 percent in 1985-95 and to almost zero in the 1990s.

(spearheaded by the growing dominance of VAT). The share of property taxes fell until 1985 but remained constant afterwards.

Table 1. Tax Trends in OECD Countries, 1965-97
(Percent of GDP and Percent of Total Tax Revenue)

	1965	1975	1985	1995	1997
	(In percent of GDP)				
Total tax revenue	26	31	35	37	37
	(In percent of total tax revenue)				
Personal income tax	26	30	30	27	27
Corporate income tax	9	8	8	8	8
Social security contributions	18	22	22	25	25
Payroll taxes	1	1	1	1	1
Property taxes	8	6	5	5	5
General consumption taxes	12	13	16	18	18
Specific consumption taxes	24	18	16	13	13
Other taxes	2	2	2	3	3
Total	100	100	100	100	100

Source: OECD (1999).

Specific countries, of course, have had other experiences primarily reflecting differences in their tax policies. While the growth in the overall tax burden varies across countries, Ireland stands out by having experienced a sustained reduction in the tax burden during the 1990s. Other countries that experienced a reduction in their tax burdens in the 1990s are: the Netherlands, New Zealand, Spain, and Sweden. These reductions undoubtedly reflect the policies followed by these countries rather than the general effects of globalization. The impact of globalization on taxation started to be felt more intensely in the 1990s when capital markets were liberalized and economies became more integrated on a global scale.

II. Fiscal Termites

The data reported in Table 1 indicate that, for most industrial countries, the fiscal house is still standing and looks solid. Most of these countries are getting much more revenue today than they did two or three decades ago. However, on closer inspection, one can begin to visualize the work of "fiscal termites" busily gnawing at the foundations of the tax systems. Whether the work of these termites will eventually bring serious damage to the fiscal houses

remains to be seen. It is possible that while the impact of globalization will constitute a challenge to present tax administrations, it may provide opportunities to use new technology and knowledge to raise tax revenue in innovative ways to continue to be able to finance the current high levels of public spending. It is conceivable that, as in the past, new taxes will be invented and used to extract more revenue from taxpayers.[4] However, this possibility does not diminish the need to assess the ways in which current developments are likely to affect the existing tax systems. The rest of this section will describe some of these ways. Eight fiscal termites will be identified although there are possibly others. Not all of these are of equal importance and they are not necessarily listed in the order of their potential impact.

1. Electronic commerce and transactions

The first of the termites is the **growing use of electronic commerce and electronic transactions in general**. See McLure, Jr. (1999). Electronic commerce has been growing at very high rates and is expected to reach high volumes within a few years. A large share of the world commerce, and especially that among enterprises (business-to-business), could soon be arranged through the Internet. Projections for the growth of electronic commerce, of course, are difficult to make given the substantial uncertainty involved. However, according to Forrester Research, transactions over the Internet in 1999 added up to over $150 billion, and it is predicted that by 2003 this figure could grow to over $3 trillion (The Economist, 2000). Electronic commerce will inevitably affect tax revenue. In the United States, sales tax revenue by some states are being affected by this trend as shown by Table 2. By 2003, some states may lose as much as 4 percent of their sales tax revenue. Fox and Bruce have estimated that by 2003 the erosion of the sales tax base for U.S. state and local governments could be almost $11 billion. See Table 2. Given the expected growth of electronic commerce, this loss could quickly escalate into much larger amounts. The international dimensions of the revenue losses will undoubtedly be much larger.

The prevalent political mood in the U.S. seems to be against the introduction of taxes on the Internet, at least in the short term.[5] The US Congress has imposed a temporary moratorium on taxes on Internet transactions. The reason is presumably similar to the infant industry argument (upgraded to the new-age economy), to ensure that the potential of the Internet gets

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[4] For example, the "discovery" of the value added tax in the 1950s and its widespread use in later years must be considered the most important technological development in taxation in the past 50 years. The use of gross assets taxes and of taxes on financial transactions have been less important technological developments in Latin America.

[5] Governor Gilmore of the State of Virginia, who headed the U.S. Advisory Commission on Electronic Commerce, argued that such commerce should be tax free to allow it to grow without impediments.

Table 2. State/Local Incremental Revenue Loss from E-Commerce—2003
($1.000)

US States	Revenue Loss	Percentage of Total Taxes	US States	Revenue Loss	Percentage of Total Taxes
CT	154,697	1.34	AL	144,845	2.88
DE	n.a.	n.a.	AR	101,287	2.74
ME	42,147	1.49	FL	753,577	2.60
MD	157,983	1.29	GA	333,376	2.53
MA	163,074	0.90	KY	128,152	1.41
NH	n.a.	n.a.	LA	243,804	4.36
NJ	274,274	1.29	MS	110,683	2.08
NY	849,308	1.62	NC	238,979	1.90
PA	358,158	1.39	SC	124,267	1.72
RI	29,811	1.29	TN	293,032	3.77
VT	17,066	1.38	VA	195,371	1.57
DC	29,579	0.81	WV	56,222	1.50
NE	**2,076,097**	**1.37**	**SE**	**2,723,595**	**2.38**
AK	n.a.	n.a.	IL	453,747	1.91
AZ	183,391	2.36	IN	174,347	1.47
CA	1,493,238	2.08	IA	87,392	1.53
CO	156,161	2.46	KS	101,806	2.05
HI	85,169	1.79	MI	406,833	1.55
ID	36,017	1.40	MN	219,482	1.54
MT	n.a.	n.a.	MO	212,128	1.48
NV	102,665	2.62	NE	56,718	1.83
NM	102,626	3.55	ND	20,727	1.79
OR	n.a.	n.a.	OH	360,618	1.71
TX	932,350	3.16	OK	160,237	3.66
UT	84,983	2.52	SD	31,006	3.10
WA	347,090	2.79	WI	171,946	1.33
WY	20,670	2.54	**MW**	**2,456,987**	**1.70**
West	**3,544,360**	**2.42**			
US	**10,801,039**	**1.94**			

Source: William Fox and Donald Bruce, "E-Commerce in the Context of declining state Sales Tax Bases," Forthcoming in *National Tax Journal*. The Table is reported in *Tax Administration News*, March, 2000.

fully realized without any stifling impact of taxation.[6] It is argued that the imposing of taxes on sales through the Internet would slow down its use. However, so far little work has been done estimating the impact on tax revenue of Internet transaction. At least for consumer purchases, one would expect parallels to mail order purchases where, in the United States, sales taxes traditionally have been viewed as an important determinant of a decision to purchase goods or services through mail order. Goods bought from states without sales taxes have avoided paying taxes.

Another study based on a large sample of e-commerce transactions in the U.S. found that the tax impact on Internet purchases is likely to be significant, similar to the tax impact on purchases through mail order catalogues (Goolsbee, 2000). See also Table 2. Similar issues arise when, for example, American companies sell goods or services over the Internet to European customers because the United States does not have a value added tax and the collection of the tax at destination is difficult. Recently the European Union has expressed an intention to try to tax these sales.[7]

Several changes implied by electronic commerce will seriously challenge the tax authorities. The long run quantitative importance of these changes is still uncertain but it could be significant.

The first and most obvious change is a shift from transactions requiring papers, which leave various traces for the tax authorities to follow such as invoices, to virtual transactions, which leave less identifiable traces. In many countries tax administrations still rely on paper invoices for monitoring sales taxes. Even though in theory computer-based transactions could be traced, in practice, this is more difficult. When origin-based taxation prevails, sales establishments can locate themselves in places where there are low or no sales taxes. These places may be states or countries, including so called tax havens. Furthermore, some places may be encouraged to become low-taxed jurisdictions. But destination-based taxation may be very difficult to enforce especially with a growing volume of trade and in a world set to facilitate foreign trade. Just think of the U.S. Customs opening every package that enters the United States.[8]

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[6] There may also be the view that the Internet, by affecting growth, may raise other tax revenue. This is a kind of supply-side argument similar to those popular in the early 1980s.

[7] The commission has come out in favour of registration in one member country, applying the tax rate of that country to all sales (origin principle). Presently the European Business Community (UNICE) is discussing whether to put forward to the commission a proposal of a uniform, lower rate for e - commerce.

[8] An article in the *New York Times*, January 10, 2000, p.1, entitled, "Online Sales Spur Illegal Importing of Medicine to U.S." gives a sense of the problem. The article cites the commissioner of the Customs Service that: "The Internet has given us a lot more work. We

(continued...)

The second change is the increasingly important technological shift from the production and sale of **physical** to **digital** products. In contrast to products traditionally sold in shops and in a format that gave them some physical content, many new products are losing or will lose their physical characteristics. As a consequence the location of the sales outlets will be more difficult to determine. Music, writing, photos, engineering plans, movies, medical advice, financial advice, educational services, and so on can now be downloaded directly over the Internet. Furthermore, the downloading can be done from almost anywhere in the world including from satellites. Thus the definition of a "permanent establishment" for tax purposes will become very difficult.[9] These "sales" are likely to increase their share in total consumption in the future.

Given the trends described above, the meaning of tax jurisdiction becomes vague[10] (Kobrin (1999 and 2000)). Who should pay the tax and who should collect the money? And how should this be done? In the brave new world of the future, especially products made up of pure knowledge could be sold from anywhere in the planet, or even from outer space, and the identity of the seller or for that matter the buyer could be difficult to determine. Many goods will disappear as "products". The full implications of these changes are still barely understood but are likely to become progressively more important in the future.[11]

2. Use of electronic money

The second termite is the possibility that, with the passing of time, **real money** will begin to be **substituted by electronic money** (e-cash) in the normal transactions of individuals. The money balances of individuals could be embedded in the chips of electronic cards which could be used to make payments and settle accounts. This trend would surely increase the

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have been deluged with prescription drugs coming in from overseas. It is a major challenge to deal with this large increase in volume."

[9] The European Commission has been particularly concerned about the sale of such "products" from the United States to European countries. Such sales have not had to pay value added taxes. The challenge for the Commission is to find a realistic way of imposing these taxes.

[10] This is already affecting the art world. For example, a painting is sold by a Russian to an American through an auction held in a tax-free place. How is this transaction to be taxed?

[11] For example, the full use of the Internet for providing information and for making contracts and payments may, in time, reduce the need for retailers and shops for many goods and services.

difficulties of the tax authorities as well as those of the monetary authorities (King (1996 and 1999)).[12]

Electronic cash can be divided into on-line and off-line e-cash (Fairpo, 1999). On-line e-cash is likely to be in the form of a software-based system where a user would purchase a "purse" software from a participating bank in which digital "coins" are stored to make micro-payments over the Internet. Web sites would be able to charge miniscule amounts on a pay-as-you-go basis rather than relying on lumpy subscriptions or not charging at all. Off-line e-cash could be a card-based system functioning as a direct alternative to cash more suitable for larger transactions. E-cash in both forms can be made available either through accounted or unaccounted systems. In an accounted system the e-cash issuer maintains central records of transactions, maintaining an audit trail of an e-cash user's receipts and payments. Clearly, this would be preferable for tax administration purposes, but might be considered too intrusive by users. An unaccounted system, on the contrary, is one where no such central record of transactions exist. While this would allow users anonymity, the desire to use this for large-scale transactions may be subdued by the lack of records increasing the risk of fraudulent behavior or the difficulty of resolving disputes. If this latter consideration does not become too significant, a combination of secret bank accounts with off-line e-cash could create a nightmare for tax administrations.

While the technology exists to facilitate the spread of e-cash, the actual use is still very limited (ibid.). In other words, this termite has not yet started its real work. This is partly due to the lack of a single standard for smart cards, but may also reflect a wide gap between the existing technology and present legislation. Until regulatory issues regarding consumer protection and counterfeiting are clarified most consumers may remain skeptical about using e-cash. However, the apparent recent backing of certain major credit card companies of e-cash may provide the impetus to move from imagination to widespread use in the future.

The principal risk to the tax system from e-cash arises from an unaccounted system, since there will be no tax reporting from financial intermediates (ibid.). This lack of audit trail will pose a risk to both VAT and sales tax collections, particularly from sales of electronic goods and services, but also to the collection of income tax—it may be possible in the future to receive payments in e-cash for work delivered over the Internet. This could also affect capital taxation as individuals and companies will be able to transfer money instantly, and at little cost, to low-tax jurisdictions. As a result of reduced transaction costs, the threshold at which a tax-saving mechanism becomes financially worthwhile will be lowered by the commercialization of e-cash.[13]

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[12] It should be recalled that the use of cash has been one of the factors stimulating an underground economy and tax evasion. See Tanzi (1980). The use of electronic money (e-cash) will be a further stimulus.

[13] These transactions may use deposits held in banks and countries which allow secret accounts.

3. Intra company trade

The third termite is the growing importance of **trade** that takes place **within multinationals**, that is among different parts of multinationals situated in different countries. While not a new issue for tax administrators, this potential problem has been attracting more attention in recent years in view of the fast growth in world trade and especially in trade within multi-national corporations. Intra-firm trade now accounts for a large and growing share of total world trade. This trade creates problems for national tax authorities deriving from the potential use and abuse of "transfer prices" by the multinationals including on loans, on allocation of fix costs, and on valuation of trademarks and patents. Many tax administrators believe that some of these enterprises manipulate these prices to move profits from jurisdictions with high tax rates to those with low tax rates.[14] Under present tax arrangements this problem is likely to continue to grow. The tax authorities of many countries are now worried about this trend but are often at a loss on what to do about it.

While transfer pricing is posing challenges for tax administrators, it is also rapidly changing the way international business is conducted. A recent survey on transfer pricing practices by more than 600 multinationals (domiciled in 19 different countries) illuminates the increasing role that transfer pricing plays for international business, and for how multinationals are being taxed (Ernst & Young, 1999). While the surveyed multinationals continue to identify maximization of operating performance, not optimizing tax arrangements, as the most important factor shaping their behavior, the surveyed companies saw a clear connection between the desire to avoid double taxation and the use of transfer pricing. However, many also felt pressured to resolve the complex business and transfer pricing matters arising from globalization, particularly given the growing attention by the revenue authorities of several countries to the practice.

The respondents confirmed that the US-initiated transfer pricing model (with accompanying documentation requirements, penalties, and enforcement) is spreading to other nations, with particular focus on the arm's-length standard enforced by the threat of large penalties for noncompliance. For many multinationals, this has led to a realization of the desirability of a global approach to designing and documenting transfer pricing policies. There is also a desire for certainty of treatment and guaranteed avoidance of double taxation, perhaps resulting in an increased usage of mutual agreement mechanisms such as advance pricing agreements. However, such agreements may, at times, convert a corporate tax from a tax on actual profits to a tax on presumed profits. They also add substantially to the cost of doing business in several taxing jurisdictions.

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[14] Though it could also lead to instances of double taxation if inconsistent transfer pricing rules are applied by different tax authorities. Several empirical studies have pointed to the possibility that companies actually manipulate such prices and some countries, such as Ireland, have been mentioned as potential beneficiaries of these manipulations.

In response to the private sector demand for increased certainty regarding transfer pricing rulings, a growing number of tax jurisdictions is beginning to apply advance pricing arrangements, whereby the criteria for applying the arm's-length principles are determined in advance of the transactions taking place.[15] The Internal Revenue Service (IRS) in the United States has been in the forefront in this regard, but tax administrations in other countries are increasingly making use of similar methods.

To provide some guidance, the OECD recently issued an annex to the previously released Transfer Pricing Guidelines suggesting how to conduct advance pricing arrangements under the so-called mutual agreement procedure (Neighbor, 1999). This allows competent authorities to undertake the mutual agreement discussions and provides guidance on the content usually required in an advance pricing arrangement proposals and the methodology applied, reiterating that the guiding principle should be the application of the arm's length principles.

The rise of e-commerce also implies its own transfer pricing problems (Boyle et al.(1999)). If multinationals become even better at further decentralizing functions, as telecommunications and information technology develops and transaction costs fall, this could result in ever more complex transfer price transactions. This is likely to put more strain on transaction-based transfer pricing rules and may force a shift towards increased use of profit-split methods (as has also been the more recent experience with global trading of commodities or financial derivatives).

4. Off-shore financial centers (OFCs) and tax havens

The fourth fiscal termite is the growing importance of **off-shore financial centers (OFCs) and tax havens** as conduits for financial investments. See Errico and Musalem (1999). The growth of these OFCs has been stimulated by the flow of digital information that now allows money and knowledge to be moved easily and cheaply in real time and by the existing regulatory arrangements of specific countries. Estimates of these deposits exceed US$5 trillion (UN (1998, p. 71)). It is unlikely that many of those who earn incomes on these deposits report them to their national tax authorities.[16] The U.N. report indicates that the proliferation of particular legal entities such as international business corporations and off-shore trusts are routinely used for money-laundering and for tax evasion. These entities provide an impenetrable veil around particular transactions.

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[15] However, for many inputs, created specifically for a final product, there may not be a market or an arm's length price.

[16] One reason is that some of this money represents laundered money. Additionally, it is very difficult, under existing rules, for national authorities to identify the owners of these accounts. And, of course, many of the off-shore centers have laws that allow anonymity.

There is now growing interest on the part of the authorities of some large industrial countries to deal with this problem and the G-7 countries have been paying close attention to it. The United Nation has also been trying to call attention to this problem through conferences and reports. In addition, the OECD has been working intensively on the issue within the context of its work on unfair tax competition. The Financial Action Task Force, set up by the G-7 to deal with money laundering activities, has developed a regulatory framework that if effectively applied by countries, would reduce the possibility of money laundering. But the solutions are politically and technically complex. For example, several small Caribbean states reacted strongly to the OECD publication of a list of tax havens. And several countries have objected to the proposal to abolish bank secrecy laws. Thus, it remains to be seen whether this problem will continue to grow or it will be possible to contain it.[17]

5. Derivatives and hedge funds

The fifth fiscal termite is the growth of new financial instruments and agents for channeling savings, such as **derivatives and hedge funds**. Many hedge funds operate from off-shore centers and are not, or are little, regulated. Even those operating from industrial countries are relatively little regulated. They use new and exotic instruments which raise new challenges for tax authorities which often do not have the skills necessary to deal with them. Furthermore, the same informational problems mentioned with electronic commerce appear to an even greater extent with the investments of these hedge funds. In relation to the earnings from derivative instruments there are huge problems of identification of individual beneficiaries, of transactions, of incomes, and of jurisdictions where the individuals live or where the incomes are generated. The reporting requirements to the tax authorities on the part of the hedge funds that operate from tax havens are very limited or nonexistent. In many cases, unless or until these incomes are repatriated **and** are declared as incomes by those who receive them, their taxation will remain problematic. The amount of funds channeled through them is now estimated at around one trillion dollars.[18] Hedge funds are likely to continue growing as channels for the investments of wealthy peoples.

One of the challenges from the growing use of complex financial instruments, such as derivatives and similar instruments, is that these can be used in tax avoidance schemes by exploiting uncertainties and inconsistencies in their tax treatment (Alworth (1998)). Most tax systems do not capture, sufficiently well, the special nature of financial derivatives even when the funds that use them are domestic ones. As an example, the distinction between capital income and capital gains or losses becomes fluid when a contingent claim (gain or

[17] For a proposal that would aim at curtailing the use of tax havens for money laundering see Tanzi (2000). This paper was originally issued as IMF Working Paper 96/55 (May 1996). Some variants of this proposal are now receiving serious consideration from the United Nations and from G-7 countries.

[18] See article by Howard Davies in *Financial Times*, August 15, 2000, p. 15.

loss) can be created on a structure of certain cash flows (income). Likewise, the separation in the tax legislation between dividends and interest becomes arbitrary since derivatives allow for easy modification between the external attributes of various financial arrangements. Furthermore, any kinks in tax schedules will lead to incentives for tax smoothing and the trading of tax positions that financial instruments can be designed around.

Income from cross-border portfolio investments could be taxed at source by withholding taxes. However, with widespread use of derivatives this approach becomes less appropriate. First, for a derivative that consists of several contracts, for tax purposes each contract is treated as if standing on its own, leading to incentives to use the most tax efficient combinations of contract components. Second, withholding taxes only apply to positive cash flow whereas an increasing number of derivatives envisage both positive and negative cash flows. Furthermore, for tax purposes, in most instances, cash flows from derivatives are not considered income from capital in the same sense as dividends and interest. New financial instruments are being created all the time. These new instruments will challenge the ingenuity of the tax administrators to deal with them. This trend will set the best paid and best trained minds in the financial markets against the modestly paid employees of the tax administrations.

6. Inability to tax financial capital

The sixth fiscal termite is the growing **inability** or, often, unwillingness by countries **to tax**, especially with high rates, **financial capital** and also incomes derived by individuals with highly tradable skills. As the international capital market becomes more integrated and efficient, it becomes more difficult for countries to impose taxes on mobile capital with rates that are much above those that can be obtained abroad. Similar considerations apply to the taxation of highly skilled individuals. High tax rates on financial capital or on highly mobile individuals provide strong incentives to the taxpayers to move capital abroad to jurisdictions that tax it lightly or to take residence in low tax countries. Furthermore, as capital markets have become more efficient and more international, the transaction costs of investing abroad are now much lower. Therefore, even small differentials in rates of return may be exploited by some individuals even when many may continue to prefer to invest in the home market. Similar consideration apply to a growing number of very able individuals with skills that are marketable internationally.[19]

[19] The low proportion of individuals who migrate is a misleading indication of the magnitude of the problem if those who move out are the most productive individuals. See Tanzi (1995, pp.32-41). It should also be recalled that tax collection is generally highly concentrated among the individuals with the highest incomes. Therefore, the loss in revenue may not be reflected by the proportion of individuals who migrate.

The taxation of incomes from financial capital has become a major and so far an unsolved issue within the European Union and has been forcing countries either to lower marginal tax rates on incomes or to introduce dual income taxes. Global income taxes with high marginal tax rates are no longer feasible in a globalizing world. The fact that the marginal tax rates on the incomes of individuals have been falling in recent years in most countries is in part a recognition of the impact of globalization.

7. Growing foreign activities

The seventh fiscal termite is the **increased activities conducted outside of their countries** of residence on the part of some highly skilled individuals. In a world where exchange of information among tax authorities is limited and is likely to remain limited, foreign activity allows individuals to underreport or not to report at all their foreign earnings to their national authorities. At the same time, more and more individuals now invest their savings abroad in ways that allows them to avoid paying taxes. For example, tax free non-resident accounts provided by many countries are a common vehicle.

The investing of savings abroad has been a major concern on the part of the European Commission that has advocated the use of minimum taxes on incomes from financial assets. However, this proposal has been strongly opposed by some European countries. The alternative of total exchange of information does not seem a realistic alternative in the foreseeable future. See Tanzi (1995, pp. 84-89).[20]

8. Foreign shopping

The last fiscal termite is the **increased travel by individuals** which allows them to shop, especially for expensive but low weight items, in places where sales taxes are low. This development has created incentives, especially for small countries, to reduce excises and other sales taxes especially on luxury products in order to attract foreign buyers.[21] This form of tax exporting and of tax competition is progressively reducing the degrees of freedom that countries have in imposing excise taxes on high-priced but easy to transport products. In fact, as reported above, revenue from excise taxes, especially if gasoline and tobacco products are excluded, has been falling rapidly over the years.[22] As the cost of travel (in time and money)

[20] In the view of the author of this paper the EU Summit in Portugal, on June 20th in connection with the Savings Directives was much too optimistic regarding the role of exchange of information.

[21] Some airports such as, for example, those of Hong Kong, Singapore, Bangkok, and others have become huge shopping centers. Some countries have themselves become obligatory stopovers for travelling individuals.

[22] See OECD, *Revenue Statistics* (1999).

falls, and as more individuals travel abroad, it will become increasingly difficult for countries to keep high taxes on luxury products. Even cigarettes and alcoholic beverages are inducing some individuals to cross frontiers in order to buy them in neighboring countries where taxes are lower.

III. CAN FISCAL TERMITES BE EXTERMINATED?

The above section has provided examples of the brave new world we are entering and of the lurking fiscal termites which are likely to reduce tax collections in future years. The weight of the developing evidence indicates that without changes to neutralize the fiscal termites, it is likely that in future years the ratio of tax revenue to GDP will fall in many OECD and, perhaps, even in some developing countries. Of course how large this fall will be depends on how fast the termites will do their work. At this point quantification of these effects is not possible and different individuals may come to different conclusions about the future quantitative impact of these trends. Leaving aside the normative question of whether the decline in taxation that might result from globalization is or is not desirable, a question that has received some attention especially in more academic work, and by individuals with a public choice bent, it may be possible for the world community to develop ways of mitigating, if not totally neutralizing, the impact of some of these fiscal termites or of introducing new taxes to counter any potential revenue losses.

While tax experts have often recommended the taxation of **global** income and while in recent decades countries tried to implement it, a fundamental change may be to shift from the global income taxation approach advocated by Henry Simons (1938) and his followers toward an explicitly schedular approach that would lower the tax rates on mobile income tax bases. Schedular taxes had been popular in the French-Italian tradition of the early 20th Century while the push for global income taxation had come predominantly from Anglo-Saxon experts.[23] The move to schedular taxes would raise questions about the fairness of the tax system but would allow countries to minimize the potential revenue losses from capital flight and from emigration by lowering tax rates on the more mobile tax bases.[24] There has been a tendency in this direction in recent years and some of the Nordic countries of Europe and Italy have introduced systems of dual income taxation combining progressive taxation of (immobile) labor income and transfer incomes with a proportional tax on (mobile) income from financial capital (Sorensen (1994)). However, this change will only partly counter the

[23] See especially Simons (1938) and Goode (1976).

[24] This is the same principle underlying Keen (1999) who argues that preferential tax regimes may serve a strategic purpose in enabling countries to confine their most aggressive tax competition to particular aspects of the tax system. Furthermore, it must be recognized that an expenditure tax now advocated by various tax experts and some politicians is an extreme form of a schedular approach to income taxation because it taxes savings at zero rate.

downward pressure on tax collections, and is likely to be combined with pressure for further reductions in the marginal tax rates.

Governments might develop ways to monitor **electronic commerce** and **electronic money** or they may introduce new taxes such as "bit taxes", "Tobin taxes", or the like. While the political mood especially in the United States seems against imposing new taxes on the Internet, at least in the short term, progress might be made in clarifying how e-commerce transactions can be taxed within the existing tax framework.

The implications of electronic commerce for revenues are still unknown, however. Some experts feel that the existing tax system, with certain modifications, could accommodate a larger presence of electronic commerce (Boyle et al., 1999). The overriding principle should be to maintain neutrality in the treatment of electronic commerce relative to other economic activities. This would imply that existing permanent establishment rules, requiring sufficient physical presence, would also apply to e-commerce, so that the mere location of a server or a web site would not give rise to a permanent establishment and a tax liability; rather, the determining criterion would be where value and wealth were created by capital, equipment, and human activity. This, however, may not be an easy matter. It may also be feasible to classify most e-commerce transactions by the same principles as conventional transactions, as involving a good when a customer acquires something from a provider, even if this is ordered through the Internet or comes in an electronic format. It is open to question whether these optimistic views reflect the new, and yet evolving reality.

While the international consensus advocates the use of arm's-length principles in determining the tax liability of multinationals, this has been criticized both for its added administrative complexities, often involving inter-country negotiations between sovereign tax administrations, but also for disregarding that related entities may be economically different from unrelated ones (Lebowitz (1999)). Currency and credit risks, for example, affect related and unrelated parties quite differently, even though applying arm's length standards to transactions will require the hypothetical sharing of cost and risk that might bear very little resemblance to economic realities.

To overcome these difficulties, it has been suggested to replace the arm's length principle by formula apportionment of profits. See Tanzi (1995) and Mintz (1998). This is a way to allocate the consolidated income of multinational businesses across tax jurisdictions, rather than focus on individual transactions. The main challenge remains to devise a list of objective and easily measurable criteria that could be used to allocate, in an equitable manner, taxable income across tax jurisdictions. Possible criteria could include the share of physical assets or perhaps intangible assets (though this would lead to valuation problems), or share of employment. The share of sales is perhaps a less attractive criterion, essentially

taking us back to the problems of non-arm's length transactions. With flexible exchange rates, various accounting difficulties would have to be met.[25]

Another advantage from the formula apportionment approach, in addition to removing the incentives for multinationals to engage in transfer pricing for tax purposes, is that double taxation will no longer be possible if this approach is being consistently implemented. Therefore, foreign tax credits will become unnecessary. This could substantially simplify international tax administration. The proposal, though, has its own difficulties particularly as regards the definition of the "enterprise" on which basis the consolidation of income would be done, as well as the need to develop an international consensus on tax accounting standards and methods to determine the taxable income to be shared. Of course, it would also require the development of an international consensus in favor of this approach, and a mechanisms for its implementation, which might in itself prove an insurmountable task.

It is possible that **off-shore financial centers and tax havens** are driven out of existence by strong, punitive actions on the part of the industrial countries. The OECD has been preparing guidelines for identifying tax havens, particularly highlighting the lack of effective exchange of information with other tax authorities and the lack of transparency (OECD, 1998). One recommendation arising from this work has been the publication of a list of tax havens as a first step toward stemming money laundering and tax evasion. The identified tax havens are being encouraged to remove aspects of their fiscal regimes that are perceived as contributing to harmful tax competition. However, as expected, these steps have been received with suspicion and apprehension on the part of many smaller states and some not so small states. The concept of harmful competition has itself been subject to questions.

Countries might agree to unlimited **exchange of information** on taxpayers facilitated by computer technology.[26] Most bilateral tax treaties include provisions for the exchange of information between tax authorities, many modeled after UN and OECD model tax conventions. These are useful in providing information to assess multinationals or other specific foreign direct investors, since in these cases the taxpayer is usually well-known. However, the sheer volume of required data exchange and the use of different languages can make this an overwhelming and frustrating exercise when the exchange of information extends beyond a small number.

It is a different matter with portfolio investors. Here the number of investors is often large and their identities are typically unknown to the tax authorities, a problem that has been exacerbated by innovations in information technology and the global trading of financial

[25] Income is allocated by formula among the U.S. states and among the Canadian provinces.

[26] However, legal restrictions, technical difficulties, and national interests are likely to prevent this from happening any time soon. See on this issue Tanzi (1995) and Tanzi and Zee (1999).

investments.[27] The exchange of information, even if conducted on a systematic and sustained basis, is often incapable of capturing these taxable flows (Tanzi and Zee, 1999). More recently, though, some OECD members have pledged to impose a ban on anonymous bank accounts and have restated the need to give tax authorities access to bank information and pass this on to foreign tax administrations when requested.[28] So, perhaps, efforts to enhance information exchange will get new impetus in the coming years. Still, it would be unrealistic to assume that the substantial technical, legal, linguistic, administrative, and political limitations that presently inhibit the exchange of information can be overcome.

Hedge funds might be subjected to closer scrutiny and stronger regulations. The impact of these has been the object of international discussions in the Financial Stability Forum (among other fora) with a view to reforming the international financial architecture. However, so far there has been little explicit focus on the taxation implications in these deliberations. Little action has accompanied the statements that more needs to be done.

The difficulties with applying, in a comprehensive manner, a source-based, gross withholding tax to many **financial derivatives** has lead to some calls for a more comprehensive treatment of income tax applying a residence-based system on cross-border financial transactions (Alworth (1998)). This could be achieved through an ad hoc calculation of income where each component of a derivative is defined and treated separately before the overall tax liability is aggregated. Another approach would be to use accruals taxation by "marking to market" financial positions or by adjusting realized gains for past accruals. The former is administratively complex, particularly for individuals and small businesses, as well as if assets are traded only infrequently in thin markets, and may result in liquidity problems. Moreover, a shift towards the residence principle can only be enforced through increased exchange of information across borders, which takes us back to the same informational problems as discussed just above.

As has already been touched upon, there are also a number of **multilateral initiatives** being undertaken to counter the possible negative impact on tax collections from globalization. The OECD has prepared guidelines on how to address harmful tax competition both at the national and international level (OECD (1998)). The EU is also discussing the impact of tax competition, including by the formulation of a code of conduct for business taxation to help reduce distortions within the EU, to prevent excessive losses of tax revenue and to develop tax structures with less adverse impact on employment. Governments may one day even create an International Revenue System that could be charged with collecting some taxes (see Tanzi (1988)) or a World Tax Organization which would help in discussing problems and in

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[27] More than a trillion dollar of value is exchanged every day. Just think of the difficulty in identifying each transaction.

[28] However, some countries are opposing this change.

developing and coordinating solutions (Tanzi (1999)). But these are distant and, perhaps, utopian possibilities.

IV. Concluding Observations

In Section II we discussed various fiscal termites and the way in which they individually could affect the revenue from various taxes. We did not discuss the possibility that some of these termites will interact to create situations that we have not even contemplated.[29] But the possibility for this interaction is clearly present and the imagination and the incentives of the millions of taxpayers will make sure that these interactions are discovered, developed, and used. Furthermore, new termites are likely to appear and to create additional tax-avoiding possibilities.

It is unlikely that all the actions described in Section III will be taken or that, if taken, they will succeed in neutralizing all the fiscal termites and in protecting the tax systems. Thus, the conclusion must be that it would be prudent for many countries, and especially for those with high tax burdens, to begin preparing themselves for what could prove to be significant downward pressures on tax levels in future years. This should be accompanied by new thinking as to how the impact of globalization and new technology could be turned around to facilitate a constructive change in the way, and on what, taxes are being imposed.

While it is uncertain exactly how, and to what extent, globalization will affect tax collections, it is clear that tax administrators and policy makers will face a challenge in the coming years that might change the way in which taxes have hitherto been levied and collected. Responding to this challenge in a successful manner will require policy makers to mobilize so-far hidden imaginative reserves. It will require relying more on taxes that will be little affected by the problems described above—such as taxes on immobile factors or resources—and by developing new tax technologies. What should not be done is to assume that somehow the problem will go away. It seems reasonable to assume that the tax systems of the future will have different structures and probably lower levels than those of today.

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[29] See, for example, Andersson (2000).

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