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CAN DEVELOPING COUNTRIES IMPOSE AN INDIVIDUAL INCOME TAX?

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1. Introduction

The individual income tax (IIT) is widely used in most all countries around the world, and is often a significant source of revenues for the government. So the short answer to the title question is “of course”.

However, the more fundamental issue is the type of IIT that developing countries are in practice able to impose. In particular, will the IIT that emerges in developing countries meet the usual canons of a “good” tax – equity, efficiency, and adequacy? We argue in this paper that it is unlikely that a developing country can actually administer a broad-based, “global” individual income tax, in which income from all sources is aggregated and is subject to a single rate structure after adjustments for personal exemptions and deductions. Instead, we argue that the most suitable form of the IIT that most developing countries are likely to be able to achieve – at least at this point in time – is one characterized by a “schedular” approach to income taxation, in which each of the main types of income flows (e.g., wages and salaries, dividends, interest, rent) is subject to separate rate schedules that are not typically graduated. Such a less ambitious scope for an IIT in developing countries seems better able to achieve the goals of equity, efficiency, and adequacy in the taxation of individual income.

We make this argument by first looking at a framework for thinking about taxes, and then examining the world-wide practice of income taxation over the last several decades. Information from Government Finance Statistics on the shares of individual income taxes in Gross Domestic Product (GDP) indicates a slight upward trend in the importance of the IIT for some – but not all – countries. We then focus on one developing country in particular. The Government of Jamaica has worked hard to reform its individual income tax, and has made significant progress in expanding the base, lowering marginal tax rates, and simplifying the structure of the tax. During this time, the IIT has shifted from a global income tax to one that has important schedular elements. Even so, there is at least suggestive evidence that there remain massive amounts of evasion/avoidance in the Jamaican IIT, that its distribution of tax burdens is much less progressive in fact than in principle, and the tax likely generates significant distortions in behavior. In short, despite the major efforts of the Government of Jamaica in addressing the

shortcomings of the IIT, the tax is one that is still plagued by avoidance and evasion and one that still introduces significant inequities and inefficiencies. Nonetheless, we argue that the positive achievements in the Jamaican IIT have come largely as a result of a move toward a more schedular approach to income taxation. We conclude by suggesting that Jamaica should continue its move toward a schedular approach to individual income taxation. More generally, we argue that the individual income tax should remain in most developing countries' tax portfolios, but that a schedular approach to income taxation is likely to be the most appropriate road for developing countries to travel, especially given the emerging forces that reduce the ability of governments to collect income taxes.

2. A Framework for Analysis: Characterizing and Implementing a “Good” Tax System

It is useful at the start to discuss the canons of a “good” tax system because these criteria help frame the discussion of the type of individual income tax that developing countries are able to impose.

We have numerous goals for taxes:

- to be fair
- to be nondistorting
- to generate adequate revenues
- to be simple
- to help stabilize the economy
- to promote economic growth.

Still, a careful examination of these factors (Alm 1996) suggests that they mainly involve tradeoffs among three criteria:

- How does the choice affect the distribution of the burden of taxation among individuals, where the burden is defined broadly in terms of the tax burden and the compliance cost burden on taxpayers (*equity*)?
- How does the choice affect the decisions of individuals and firms, where the decisions are defined broadly in terms of the responses of the agents to the entire tax, compliance, and enforcement parameters (*efficiency*)?
- How does the choice of taxes affect the yield of the tax collections, where the yield is defined broadly in terms of the gross collections in excess of administrative and enforcement costs (*adequacy*)?

(Note that we do not define a separate criterion for simplicity. Instead, simplicity is implicitly considered in its effects on the other three dimensions of a desirable tax system.) Consequently, analysis of taxation requires balancing the tradeoffs between equity, efficiency, and adequacy, where each is broadly defined and commonly measured.

Consider the application of each criterion to the individual income tax, beginning with equity.

What is a “fair” tax system? There are various notions of a “fair” distribution of taxes:

- Taxes are fair if people pay taxes in accordance with their ability to pay, with those people having equal ability paying the same taxes (or “Horizontal Equity”) and those having greater ability paying more taxes (or “Vertical Equity”). This is called the “Ability-to-Pay Principle”.
- Taxes are fair if people pay taxes in accordance with the benefits they receive from government expenditures. This is called the “Benefit Principle”.

These notions depend on one's own values and these values differ for different people, so there is not much that we can say in general about what is a “fair” tax. Still, it seems obvious that one's notion of a fair tax will depend in some way on how taxes affect the distribution of income; that is, is the distribution of tax burdens progressive, proportional, or regressive?

A second criterion is efficiency. When a tax is imposed, agents respond by changing their behavior to avoid paying the tax. The tax therefore distorts the behavior on both sides of the market by changing the prices faced by economic agents, causing agents to change their behaviors solely because of the tax. This change in behavior is a distortion from the tax, and leads (in most cases) to a loss in efficiency. To minimize these distortions, taxes should be imposed on those agents or activities where any changes in behavior are smaller. Keeping marginal tax rates low, tax bases broad, and taxes simple also reduces distortions.

As for adequacy, a government must generate sufficient revenues from its various tax instruments to pay for the goods and services that it wishes to provide to its citizens. The government must consider the responses of demanders and suppliers when estimating the revenues from the tax. Because most any tax will lead to a lower quantity bought and sold, the revenues will be less than predicted if these responses are not considered. In general, a tax imposed on a responsive base will collect fewer revenues than predicted; similarly, to collect more revenues, taxes should be imposed taxes on agents or activities

where responses are lower. Over time, as the economy grows, the tax revenue needs to grow to fulfill increased demands for public goods. Further, on administrative grounds, governments should impose taxes on bases that easily identified and monitored; that is, the costs to the government of collecting taxes need to be considered, and the costs to taxpayers of paying taxes need also to be considered. In this regard, reducing administrative and compliance costs requires doing such things as:

- Keeping taxes simple, because complicated taxes require skilled – and expensive – people to administer
- Collecting taxes from a few “points”, because the more agents from which a tax is collected, the more people must be watched and monitored
- Using withholding at source
- Levying only a few taxes
- Exempting low-income households and firms
- Keeping tax structures in place without frequent change
- Using presumptive taxes
- Imposing taxes on a broad base
- Imposing taxes at a low rate.

Achieving adequacy also requires that the tax administration enforce the tax laws (e.g., locate and register taxpayers, use computers where possible, develop adequate audit procedures, enforce penalties, provide services to taxpayers to make it easier for them to comply).

When it comes to the IIT, a classic tax policy question is: “Why have an individual income tax?”

There are a variety of ways for the government to raise revenue, with the IIT only one potential type of tax instrument. Proponents of the IIT typically list the following reasons for having the tax:

- It is income elastic; that is, its revenues grow in proportion to income.
- It is progressive in its distribution of tax burdens.
- It can be relatively neutral in its effects on economic decisions, thus reducing distortions in the economy.

Those who are less taken with these virtues of the individual income tax also make strong arguments against the income tax:

- Because it is income elastic, revenues may decline during economic downturns.
- “Bracket creep” due to inflation results in potentially increased tax burdens with no change in real income, and a progressive rate schedule means that taxes will grow faster than real income.
- The tax is often used to give special preferences to certain groups or certain income types, thus disrupting the equity and efficiency advantages of the tax.

- Taxpayers (employers, employees, and self-employed) often feel that compliance with the tax is cumbersome and expensive.
- The tax may require a high level of administration, which imposes costs on the government tax agency.

Even so, the IIT is a staple feature of most tax systems. The next section discusses the practice of income taxation around the world.

3. Individual Income Taxation around the World

Individual income tax systems can be broadly classified into three main types (Goode 1984). A “global” income tax combines incomes from all sources into a single aggregate measure of income, adjusts this aggregate measure for such items as personal exemptions and deductions, and then applies a single rate or a graduated rate structure to determine the tax liability. In a “schedular” income tax, each of the main sources of income is subject to a separate tax; the tax rates across these different income flows can differ, but are not imposed at graduated rates, and personal exemptions and deductions are typically not allowed. There can also be “mixed” systems, which combine elements of both global and schedular income taxes.

Global systems tend to be found now mainly in developed countries, although in several countries – France, Belgium, and France – global systems have emerged only since the 1950s. The individual income tax systems in developing countries are often driven mainly by colonial history. Global systems tend to be found in former British colonies (e.g., Jamaica), while schedular systems are more common in Francophone Africa and some Latin American countries.

The advantages often claimed for a global system are that a global tax is thought to be most closely in line with the Ability-to-Pay Principle of equity in taxation; that is, a global tax is better able to achieve equity in the distribution of its tax burdens because it is imposed on a comprehensive definition of income that reflects individual circumstances via deductions and exemptions. Further, a global tax on something close to “comprehensive income” is seen as a more neutral tax because a broad-based income tax reduces the incentives for income-shifting activities, thereby reducing the efficiency costs of the tax.

Finally, a global income tax imposed on a broad-based definition of income has greater revenue potential than one imposed on a narrower base. A schedular tax is often justified more on the basis of ease of administration. Withholding at source at the main types of income flows – wages and salaries, interest, dividends, rents, and so on – largely eliminates the necessity of individual returns. This administrative advantage comes at the expense of equity and efficiency considerations.¹

What is the current practice of individual income taxation? Table 1 provides some information on the overall level of taxation in OECD countries and in a selected sample of developing countries for two recent subperiods, 1986-1988 and 1996-1998. As shown there, the overall level of burden, expressed as a share of GDP is roughly double in the OECD countries than in the developing countries in both subperiods. There is also a tendency for the overall level of taxation to rise over time, but this tendency is small for both groups of countries. This evidence is consistent with the notion that higher levels of economic development are associated with higher levels of taxation (Bahl 1971; Tanzi 1987; Tanzi 1992; Burgess and Stern 1993).²

Table 1. The Importance of the IIT in Tax Revenues (as percent of GDP)

	1986-1988		1996-1998	
	Total Taxes	Individual Income Taxes	Total Taxes	Individual Income Taxes
OECD Countries:	36.8%	11.4%	38.1%	10.9%
America	30.9	11.4	32.8	12.6
Pacific	30.8	13.4	31.9	11.7
Europe	38.6	11.5	40.1	11.0
Developing Countries:	17.7	1.9	18.4	2.5
Africa (10)	19.4	3.1	20.0	4.0
Asia (10)	16.2	2.0	17.7	2.9
Middle East (8)	16.8	1.2	18.1	1.5

Source: Computed by authors from various issues of *Government Finance Statistics*.

¹ For further discussion of global versus schedular income tax systems, see Plasschaert (1976, 1977, 1978, 1980). For more general discussions of the administrative dimension of taxation, see Goode (1981), Bird (1989), and Bird and Casangera de Jantscher (1992).

² See Wallace and Alm (2004) for information on the practice of individual income taxation in Caribbean countries.

Of more relevance here, the individual income tax is of considerably more importance in tax revenues in developed than in developing countries. For OECD countries, the IIT averages less than 1/3 of total revenues; for developing countries the fraction is closer to 1/9. More generally, taxes on consumption (e.g., value added taxes, sales and excise taxes, taxes on trade) are of much greater relative importance in developing than in developed countries, while taxes on income are more important in the developed world. Even so, the IIT has tended to decline in relative importance in OECD countries, at the same time that it has increased slightly in importance for developing countries. In the United States (as in most developed countries), the individual income tax is a major source of revenues for the central government. The IIT in the U.S. is imposed on income aggregated over all sources of income (e.g., a global income tax). The evidence on the IIT for the U.S. is that:

- The IIT is borne largely by the individual, with a somewhat progressive pattern of incidence.
- The IIT has a number of distorting effects on individual behavior (e.g., labor supply, saving, portfolio choice, tax preferences, tax avoidance/evasion, family structure).
- The IIT imposes significant administrative and compliance costs.
- The vast bulk of the tax is collected from employer withholding at source on wages.

This last observation may be somewhat surprising. Even though the U.S. is widely seen as having the most effective tax administration in the world, as recently as the 1980s well over 90 percent of all IIT collections came from source withholding. This percentage has declined somewhat in the last decade, and has sometimes fallen to roughly 80 percent of IIT revenues. Nevertheless, it remains the case that most individual income tax revenues arise from employer withholding on wage and salary income. At this point, such evidence is merely suggestive that a “scheduler” income tax may be appropriate in countries without the tax collection machinery present in the U.S.

Similar evidence is hard to come by for many other countries. Even so, and despite the predominance of global income tax systems in developed countries, the U.S. General Accounting Office (1996) provides evidence that thirty-four countries employ variants on an individual income tax system in which individuals are not required to file end-of-year returns.³ Such “no-return” or “final withholding”

³ According to the General Accounting Office (1996), the countries include: Argentina, Austria, Chile, Colombia, Costa Rica, the Czech Republic, the Dominican Republic, Ecuador, Egypt, Germany, Hungary, Indonesia, Iran,

tax systems vary significantly, but many share some common characteristics. For example, most all countries use employer withholding on wages and salaries. Also, taxes on interest and dividend incomes are exempt or limited; in many cases interest and dividend income is taxed at a flat rate, with the tax withheld by the financial institution or the company. Finally, the unit of taxation is the individual, so that a spouse who elects final withholding must file as an individual rather than jointly. Put differently, there is much evidence of individual income tax systems that have important schedular components. The next section discusses the experiences of one country, Jamaica, that has had the tradition of a global income tax but that has also moved toward a more schedular approach to taxation over the last two decades.

4. The Jamaican Experience with Individual Income Taxation

The individual income tax in Jamaica has long been one of the major workhorses of the Government of Jamaica revenue system. In fiscal year 2002-2003, the Pay-As-You-Earn (PAYE) portion of the income tax accounted for 21.7 percent of total government tax revenues. Only the general consumption tax (at 27.4 percent of total tax revenue) is as important a tax revenue source in Jamaica. This general pattern has not changed much since the 1980s.

The individual income tax is governed by the Income Tax Law of Jamaica, which is the same law that covers the corporate income tax and the taxation of interest and dividends. We focus on the income taxes directly accruing to individuals (including sole proprietors and other self-employed individuals), as well as capital income taxation for individuals.

The law granting an income tax was passed in 1919, and the first general income tax took effect in 1920. The tax had a basic threshold (or zero rate), and the rate structure was progressive from 1 to 10 percent of the tax base (Mendes and McLean 2003). The modern income tax was legislated in 1955, and in 1976 the Income Tax Act came into effect. The IIT was subject to a major reform in 1986, when the

Ireland, Japan, Kenya, the Republic of Korea, Luxembourg, Malawi, Mexico, Morocco, the Netherlands, Nigeria, Panama, Papua New Guinea, Peru, Poland, Romania, the Russian Federation, South Africa, Tanzania, Turkey, Uganda, and the United Kingdom.

current flat-rate income tax became effective and numerous credits (e.g., “allowances”) were replaced by a standard deduction.

In this section, we discuss the evolution of the IIT in Jamaica over the last two decades. Our basic points are simple. Despite the major efforts of the GOJ in addressing the shortcomings of the IIT – and the successes that these efforts have produced – the tax is one that is still plagued by avoidance and evasion and one that still introduces significant inequities and inefficiencies. Even so, we believe that the positive reform achievements have come largely as a result of a move toward a more schedular approach to income taxation. Further improvements in the IIT will likely require further moves toward schedular taxation.

The Jamaica Individual Income Tax Prior to the 1986 Reform

At the time that tax reform efforts began in the early 1980s, the individual income tax was the largest and most productive source of revenues for the GOJ and certainly its most visible. In 1983, the IIT was the largest single revenue source, with revenues of 28.9 percent of all government revenues and 7.6 percent of GDP. The IIT had evolved over time, typically by piecemeal changes that had led to increasingly higher tax rates on an increasingly smaller tax base. In theory, the IIT that had emerged was highly progressive, due to its global definition of income, its graduated rate structure, and its use of numerous tax credits that attempted to take into consideration the special circumstances of individual taxpayers. In practice, however, the progressivity was dramatically reduced by many and various loopholes that enabled individuals to avoid and evade taxes on a massive scale. As a result, the tax produced far less revenue than it might have, its impact on the distribution of tax burdens was arbitrary, capricious, and unfair, and it was widely seen as the source of severe distortions in individual behaviors.

These problems eventually led the GOJ to introduce in 1986 a major reform of the income tax. However, before the reform package could be designed, it was essential for the GOJ to have an accurate picture of the workings of the tax. Efforts to inform the tax reform process led to the following picture of

the IIT, based largely on information surrounding 1983 and stemming from the work of Alm and Bahl (1985) and Alm, Bahl, and Murray (1991) with the Income Tax Department of the GOJ.

At that time, two types of individuals paid the tax: those with income only from wages and salaries, and those with income from any source in addition to wages and salaries (e.g., interest, rent, dividends). The first group of taxpayers had taxes withheld by their employer under the Pay-As-You-Earn (PAYE) system, and these individuals were not required to file an income tax return unless some error was made in withholding. The second type of income recipient, often referred to as the “self-employed”, also had PAYE taxes withheld on wage income, if any such income was earned and if the employer was registered. In addition, these individuals were required to file a tax return upon which all income was totaled and income taxes on total income were paid. In practice, over 90 percent of IIT revenues came from employer withholding. Although the specific features of the base and rate structure of the income tax have changed considerably over time, the broad outline of the tax has remained largely the same.

On paper, the IIT in 1983 was broad-based, with only interest income exempt, and the tax rate structure was high and steeply progressive, rising from a marginal tax rate of 30 percent on the first J\$7000 of taxable (or “statutory”) income to 57.5 percent on all income above J\$14,000.^{4 5} However, in practice the base and progressivity of the IIT were reduced by several factors.

First, an individual’s tax liability could be reduced to zero by the application of up to sixteen tax credits of various amounts, for such purposes as personal and child tax credits, alimony, medical expenditures, the employment of household helpers, and participation in savings and life insurance programs. Second, there was a well-entrenched system in which employers provided nontaxable fringe benefits called “allowances” to their employees; among the more popular allowances were those for housing, transportation, utilities, and entertainment. Such allowances were supposed to be included in

⁴ The exchange rate between Jamaican and U.S. dollars was 1.93 in 1983, 3.94 in 1984, and 5.56 in 1985. The current exchange rate is J\$55 = US\$1.

⁵ There was also an extensive system of wage-based payroll taxes and contributions, which in their entirety could increase the marginal tax rate on wage income to well in excess of 70 percent. This system was remained largely unchanged since the 1980s.

taxable income under the Income Tax Act. However, in practice no taxes were imposed on the allowances. Indeed, the allowances were often paid simply in cash, with little verification of the actual individual expenditure. Third, income earned from “overtime” activities received preferential treatment. Overtime income was taxed at the lowest marginal tax rate of 30 percent, even if the individual’s total income placed him or her in a higher bracket. Fourth, the tax base was reduced by individuals who filed tax returns but who underreported taxable income (termed “underreporters”); the base was also reduced by individuals who simply did not file any tax return (“nonfilers”).

Of course, the difficulty here was to quantify the magnitudes of these actual and potential tax bases. The GOJ had little information even on the size of the actual tax base (e.g., the PAYE and the self-employed taxpayers). It had no information on the magnitude of the base erosion via credits, allowances, overtime, underreporting, and nonfiling. To make these estimates, Alm and Bahl (1985) and Alm, Bahl, and Murray (1991) worked with the GOJ to assemble a variety of original data bases that allowed them to estimate the magnitudes of these actual and potential bases.

For example, Alm and Bahl (1985) and Alm, Bahl, and Murray (1991) estimated the size of the actual tax base via several random samples of individual and firm taxpayer records and returns. These returns also allowed them to estimate the extent of base erosion via the use of tax credits and of overtime income. The extent of allowance use was estimated via a special survey of public and private sector employers, conducted by the GOJ.

Estimating tax evasion was much more difficult. The extent of underreporting was estimated using information provided by the Audit Department of the Income Tax Department. All audited tax returns were first collected; these returns gave information both on items reported by the taxpayer, as well as information on post-audit, or “true”, return items as determined by the tax auditor. Statistical techniques were then used to estimate the extent of underreporting by all self-employed taxpayers.

As for nonfiling, the extent of nonfiling was estimated in several steps. First, a “master list” of names was compiled for various occupations from various third party sources of information (e.g., telephone directories, trade association lists, firm registration lists from the Small Business Association of

Jamaica or from the Ministry of Health). These occupations included service stations, customs brokerages, auto repair, auto parts, hair care, real estate, contractors, transport operators, and spirits outlets; they also included accountants, architects, attorneys, doctors, optometrists, and veterinarians. Second, a stratified random sample of names was drawn from this master list, and these names were then taken to the Income Tax Department to determine whether these individuals filed any tax returns and paid any income taxes. Third, the characteristics of those from the master list who filed returns were used to impute the characteristics of those who did not file any returns.

These procedures should be viewed with some caution. Nevertheless, the picture that emerges from these various estimates is a consistent and plausible one. Tables 2 and 3 give some of the results of these procedures. As shown in Table 2, the statutory distribution of tax burdens appeared on the surface to be quite progressive. The average tax rate rose monotonically (after the first income class), reaching 43.7 percent. When the self-employed and the PAYE taxpayers were examined separately, the progressivity appeared even more apparent. Self-employed taxpayers tended to be higher income than PAYE taxpayers (J\$11,012 versus J\$7530), and the average tax rates for the self-employed ranged from 0 to 52.2 percent versus 6.9 to 40.0 percent for PAYE taxpayers. This progressivity was also increased by the use of tax credits (Table 2). Tax credits reduced the tax liabilities across all income groups, but lowered them by greater proportionate amounts in lower brackets.

However, avoidance and evasion activities seriously compromised this apparent progressivity. As shown in Table 3, overtime income was calculated to equal J\$96.7 million, or nearly 5 percent of statutory income for all PAYE taxpayers. Of more significance, undeclared income of non-filing self-employed individuals was estimated to equal J\$583.8 million, or over one-fourth of the official tax base, which resulted in an estimated loss of IIT revenues of J\$162 million. Underreported income of self-employed taxpayers was estimated to equal J\$112.3, an amount that reduced revenues by over J\$50 million. Untaxed allowances were also quite significant, estimated to equal J\$246.6 million with an implied revenue loss of J\$117 million.

Table 2. Distribution of Income and Taxes for Taxpayers, 1983

(J\$ amounts in thousands of Jamaican dollars)

	Tax Returns	Statutory Income (J\$)	Tax Credits (J\$)	Taxes Paid (J\$)	Average Tax Rate
Under J\$2000	26,640	J\$28,023.0	J\$6863.3	J\$2083.5	0.074
2001-4000	44,365	136,653.1	32,250.5	8745.4	0.064
4001-6000	58,097	293,202.4	60,124.9	27,835.9	0.095
6001-8000	49,300	339,036.7	61,033.1	41,459.5	0.122
8001-10,000	37,469	332,894.5	55,116.6	50,909.0	0.152
10,001-12,000	28,157	307,933.4	45,206.7	58,170.9	0.189
12,001-14,000	15,922	207,348.7	25,682.5	47,098.6	0.227
14,001-16,000	7973	119,501.2	12,293.2	31,876.9	0.267
16,001-18,000	5284	89,643.7	8163.4	26,061.3	0.290
18,001-20,000	4411	84,011.8	6524.2	27,607.6	0.318
20,001-25,000	4735	104,003.5	7504.5	36,039.1	0.346
25,001-30,000	1691	46,153.2	2118.8	18,728.7	0.405
30,001-50,000	1243	45,310.4	1600.9	18,523.3	0.409
Over 50,000	583	47,331.6	716.3	21,883.1	0.437
Total	285,870	2,181,047.2	325,198.9	417,022.8	0.191

Source: Alm, Bahl, and Murray (1991).

Overall, fully taxed income of self-employed and PAYE taxpayers was roughly J\$2.1 billion; total comprehensive income was more than J\$1 billion greater. The actual tax base was only two-thirds of its potential, with the major sources of tax base erosion stemming from the failure of many self-employed individuals to file any tax return and from the use by many taxpayers of untaxed allowances. The failure to tax all of these potential bases led to an estimated revenue loss of J\$349 million, or an amount equal to 84 percent of the IIT revenues actually collected (J\$417). Recall that the tax credits generated another J\$325.2 million loss in tax revenues. The total revenue erosion therefore exceeded J\$674 million, an amount equivalent to 1.6 times the amount actually collected. Given the patterns of tax base erosion, this revenue loss was essentially a transfer from lower income to higher income individuals. The impact of this base erosion on the presumed progressivity of the IIT was even more striking. Recall that the average tax rate on statutory income increased steadily as statutory income increased (Table 2). However, when the average tax rate is calculated by dividing taxes paid by comprehensive income, a very different picture emerges. As seen in Table 3, the average tax rate now rose somewhat in comprehensive income rises initially, but then fell substantially for the top income classes. The IIT therefore changed

from an apparently progressive tax to one that was highly regressive, largely because the tax base erosion occurred much more frequently in higher income classes. Hidden in these estimates was substantial variation within income classes in the proportion of income that was fully taxed. For individuals in the PAYE sector, the bulk of their income was fully taxed; individual with equal comprehensive income who were self-employed were much better able to reduce their tax liabilities through nonfiling and underreporting.

In short, tax base erosion reduced tax revenues and introduced substantial horizontal and vertical inequities into the tax system. In combination with the presumed distorting effects of high marginal tax rates on individual behavior, there was a strong case for major reform of the IIT.

Table 3. Actual and Potential Tax Base, 1983 (J\$ amounts in thousands of Jamaican dollars)

	Fully Taxed Income of Self-employed and PAYE Taxpayers^a	Overtime Income of PAYE Taxpayers	Undeclared Income of Nonfiling Self-employed Individuals	Underreported Income of Self-employed Taxpayers	Allowances of PAYE Taxpayers	Total: Comprehensive Income	Statutory Income/ Comprehensive Income	Taxes Paid/ Statutory Income	Taxes Paid/ Comprehensive Income
Under J\$2000	J\$28,023.0	J\$0	J\$2585.3	J\$0	J\$1340.8	J\$31,949.1	0.877	0.074	0.065
2001-4000	136,653.1	0	45,508.2	0	6922.9	189,084.2	0.723	0.064	0.046
4001-6000	293,202.4	0	70,744.2	1775.3	17,100.9	382,821.9	0.766	0.095	0.073
6001-8000	337,386.1	1650.6	79,868.3	10,538.3	25,099.6	454,543.3	0.742	0.122	0.091
8001-10,000	323,852.0	9042.5	44,065.4	10,338.0	30,116.4	417,413.9	0.776	0.152	0.122
10,001-12,000	297,063.4	10,869.8	82,593.8	18,790.6	32,181.9	441,499.8	0.673	0.189	0.132
12,001-14,000	193,234.4	14,114.3	48,940.6	13,463.5	27,452.2	297,204.8	0.650	0.227	0.158
14,001-16,000	110,572.0	8929.2	22,697.4	7580.4	19,486.4	169,675.1	0.652	0.267	0.188
16,001-18,000	79,753.5	9890.2	26,270.4	5405.2	18,051.4	139,370.3	0.572	0.290	0.187
18,001-20,000	77,889.1	6122.7	20572.8	3926.6	17,370.1	125,881.2	0.619	0.318	0.219
20,001-25,000	92,581.3	11,422.2	24,007.6	7149.7	26,525.6	161,686.8	0.573	0.346	0.223
25,001-30,000	42,522.1	3631.1	21,530.8	4715.4	9266.2	81,665.4	0.521	0.405	0.229
30,001-50,000	35,713.9	9596.4	29,436.4	10,942.6	8056.3	93,745.3	0.381	0.409	0.196
Over 50,000	35,900.9	11,430.8	64,941.8	17,696.0	7210.0	137,179.5	0.262	0.437	0.160
Total	2,084,347.4	96,699.8	583,763.2	112,321.6	246,590.2	3,123,720.6	0.668	0.191	0.134

^a Fully taxed income equals statutory income of self-employed and PAYE taxpayers less overtime income of PAYE taxpayers.

Source: Alm, Bahl, and Murray (1991).

The 1986 Reform

Based in part on these analyses of the individual income tax, the Government of Jamaica introduced in January 1986 a major reform of the income tax. The 1986 reform had several components:

- all tax credits were eliminated, replaced by a standard deduction of J\$8580
- with some exceptions, allowances were made fully taxable under the IIT
- the preferential treatment of overtime income was eliminated
- interest income (above a threshold level) was made taxable
- a flat rate tax rate of 33 1/3 percent replaced the previous progressive rate structure.

(There were also major reforms of the company income tax and of the system of indirect taxation. See Bahl (1991) for further discussion.)

The impact of these reforms was examined five years later by Bahl et al. (1992). They based their analyses on 1988 wage and allowance information generated from an unbalanced stratified sample of firms, followed by a random selection of employees from each firm and then adjusted to represent the population of employees. For microsimulation analyses of subsequent years, these data were then “aged” to reflect changes in income and in the number of taxpayers over time.

Among other things, Bahl et al. (1992) calculated the average tax rate (or PAYE taxes paid divided by PAYE income) by income class. They found that lower income classes paid zero taxes (due to the threshold), and also that the average tax rate rose steadily above J\$10,000 to roughly 25 percent; that is, the statutory tax burden now looked very progressive, in contrast to the pre-reform IIT. However, Bahl et al. (1992) also discovered that, even in the short time frame since the 1986 IIT reform, allowances had crept back into the system, especially allowances for housing, laundry, meals, and uniforms (Table 4). Of perhaps more interest, many (though not all) of these allowances did not have PAYE taxes withheld on them. For example, 96 percent of those individuals receiving the laundry allowance were not taxed on it; in contrast, 97 percent of those receiving the entertainment allowance were taxed on the allowance. Bahl et al. (1992) also found that the average value of allowances generally increased with income, so that higher income individuals benefited more than lower income individuals in their receipt of allowances.

This result suggested that the re-emergence of allowances in the IIT was beginning to compromise the presumed progressivity of the tax, similar to the effects of allowances in the pre-reform income tax.

Table 4. Allowances in the Jamaica IIT, 1988

Type of Allowance	Number of Individuals Receiving Allowance	Average Size of Allowance by Those Receiving Allowance (J\$)	Total Amount of Allowance (thousands of J\$)
Car	7,465	J\$4697	J\$35,062.3
Club	71	13,778	984.85
Credit Card	412	6,363	2,621.8
Education	115	2,987	344.4
Entertainment	134	3,969	530.5
Holiday	425	1,245	529.0
Housing	41,039	6,794	278,826.2
Laundry	74,149	1,517	112,512.9
Meals	35,514	2,641	93,808.3
Travel	13,993	4,619	64,626.6
Uniforms	74,036	1,359	100,613.2
Utility	5,319	2,417	12,851.4

Source: Bahl et al. (1992).

Further Changes Since 1986

A number of additional changes in the individual income tax have occurred over time, as summarized Box 1.

Box 1. Some Recent Changes to the Jamaica Individual Income Tax

<p><u>PAYE Threshold Increases:</u></p> <ul style="list-style-type: none"> • Raised to J\$10,400 on January 1, 1989 • Raised to J\$14,352 on January 1, 1992 • Raised to J\$18,408 on January 1, 1993 • Raised to J\$22,464 on January 1, 1994 • Raised to J\$35,568 on January 1, 1995 • Raised to J\$50,544 on January 1 1996 • Raised to J\$80,628 on January 1 1997 • Raised to J\$100,464 on January 1, 1999 • Raised to J\$120,432 on January 1, 2001 <p><u>Other PAYE Provision Changes:</u></p> <ul style="list-style-type: none"> • Tax on benefits of concessionary loans, beginning January 1, 1992 • Income tax rate reduced from 33 1/3 to 25% beginning January 1, 1993 • An increase in pensioners allowance from \$15,000 to \$45,000, 1994/1995 • An increase in the maximum tax-free lump sum payable from the Superannuation Fund

from \$50,000 to \$120,000, 1994/1995

- Increase in the value of the taxable benefit where a motor vehicle is provided for the use of an employee as of May 1, 1996 Reduction in the personal income tax on dividends for publicly listed companies from 25 percent to 20 percent (January 5, 2001), 20 percent to 10 percent (2001/2002), and 10 percent to 0 (April 2002).

Other Changes in Individual Taxation:

- Income of service companies treated as income of person who incorporates the company effective July 1, 1995.
- Accommodation for principal member (January 1, 1996). Previously an employee provided with accommodation by the employer the taxable benefit was either the annual value of the accommodation or 15 percent of the value of total emoluments whichever is lower. It was observed that where an employee usually a principal member had other income (e.g., dividends, interest, or income from other companies), it was possible for such a person to receive no emoluments or low emoluments from the company providing the accommodation. In such circumstances, there was a small amount of taxable benefit or no benefit at all. Where the value of accommodation was greater than the total emoluments, it was proposed to apply the 15 percent provision to the average of the sum of the value of accommodation plus the total emoluments.

Changes in Taxation of Interest:

- Implementation of 25 percent withholding tax on interest (1992)
- Income tax of 25 percent on returns from bank type saving/deposits of certain life insurance policies (1993/1994).
- Tax on Interest on certain financial instruments (TB, CD, and similar instruments) to be deducted at source (April 28, 1994).
- Withholding of tax from interest payments at source by stockbrokers, dealers, and other persons registered under the Securities Act, adding them to the list of prescribed persons (April 8, 1998).
- Only 15 percent of tax on interest required to be withheld at source. Additional taxes to be filed are 10 percent for the individual and 18.3 percent for corporations (1999/2000).
- An increase in the withholding tax on interest from 15 percent to 25 percent (2000/2001).

Source: Ministry of Finance and Planning, Taxation Division and Taxpayer Assessment and Audit Department.

The Current Jamaica Individual Income Tax

At present, the IIT in Jamaica is levied at a flat rate of 25 percent on wages and emoluments, interest, dividend, pensions, trusts, and annuities; the original flat rate of 33 1/3 percent imposed in 1986 was dropped to 25 percent in 1993.⁶ There is a standard deduction (or threshold) for taxation that is applied for each taxpayer, and the current level is J\$120, 432, which is about 75 percent of the per capita gross national income of Jamaica in 2002. The tax is relatively simple. There are some allowances and

⁶ The tax rate for companies is 33 1/3 percent.

some treatments specific to capital income and self-employed income, but the number of allowances and the extent of specialized treatment are relatively small compared to the pre-1986 reform. Table 5 gives the revenues from the IIT over the last decade. Note that total collections are dominated by PAYE taxes and by interest taxes, both of which stem from source withholding.

Table 5. Individual Income Tax Receipts by Component and by Fiscal Year
(J\$ amounts in millions of Jamaican dollars)

	Fiscal Year										
	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001- 2002	2002-2003
Individual Income Taxes:											
PAYE Taxes	J\$3,407.5	J\$4,715.7	J\$6,780.7	J\$9,269.1	J\$11,907.3	J\$13,174.7	J\$15,027.9	J\$14,226.0	J\$16,515.4	J\$18,907.2	J\$22,285.6
Tax on Dividends	176.7	218.2	369.8	478.0	483.2	361.7	745.9	1,168.1	853.6	607.9	134.8
Tax on Other Individuals	322.6	423.3	583.1	578.6	630.7	740.7	842.5	836.8	925.8	854.4	1,113.7
Tax on Interest	1,267.6	1,402.2	1,883.6	1,665.6	2,381.9	2,149.7	1,924.9	6,161.3	9,535.1	8,462.8	9,121.5
Total: IIT	5,174.4	6,759.4	9,617.2	11,991.3	15,403.1	16,426.8	18,541.2	22,392.2	27,829.9	28,832.3	32,655.6
Income and Profits Taxes	7,885	10,896	15,377	18,889	21,564	23,297	25,843	29,390	35,457	35,516	40,567
Total Tax Revenues	19,050	28,948	38,072	50,263	55,109	59,224	66,970	75,962	87,074	90,568	102,859
Total Revenues	23,557	33,614	44,596	58,576	63,003	66,426	74,102	90,828	107,692	109,721	118,458

Source: Ministry of Finance and Planning.

The taxable basis of Jamaica's income tax includes emoluments, defined by law to include:

- wages, salaries, and fees
- provisions or payments for living accommodation, entertainment, utilities, domestic, or other services
- all other benefits, perquisites, and facilities
- all sums paid to a person by an employer for reimbursable and non-reimbursable expenses
- all annuities, pensions, superannuations, or other allowances payable for past service
- any payment of money or other consideration made to the holder or past holder of any office or employment related to the termination of that office or employment (other than due to death).

Final tax payments are due by March 15 for the preceding calendar year. Taxpayers make this final declaration using form IT01 for individuals (for self-employed taxpayers), IT03 (for unincorporated bodies other than life assurance), IT04 (for life assurance), and IT05 (for employees with PAYE and other

income, pensioners, and the like). Form IT07 is used for making quarterly estimated payments, and form IT06 is used to make final reconciliations of PAYE liabilities of the corporation.

While the Income Tax Law covers all income subject to tax, in practice the tax is more of a schedular tax than a global tax since most tax revenue is received through withholding at source on the different types of income. There are a number of distinct pieces: the PAYE component, the withholding tax on interest, the withholding tax on dividends, the tax on the self-employed, and the tax on other types of income. Wage income is largely withheld at source and remitted directly to the Government by employers. Income taxes on interest and on dividends are withheld at source by financial institutions and companies. The self-employed are required to make final estimated payments quarterly, and also to make a final payment by March 15. The system of flat tax rates and source withholding makes filing a tax return unnecessary for a large portion of the population. Only individuals with multiple sources of income or those who are over-withheld are likely to file a tax return. In fact, there are very few returns filed each year. In addition, it should be noted that allowances are applied against a base of all income and not to separate forms of income.

However, even though the basic structure of the tax is straightforward, the administration of what are effectively separate income taxes tends to complicate the income tax system. The tax is not without other problems as well, as has become evident in a new tax reform effort initiated by the GOJ and for which we are working with the GOJ. The remainder of this section discusses some of the issues and problems that our recent work on this reform effort has uncovered.

Nonfiling and Underreporting. There is much anecdotal evidence of a compliance problem with the self-employed. Indeed, investigative efforts within the Income Tax Department seem if anything to have declined from the already low levels of the 1980s, so that it seems unlikely that either filing or reporting would have improved over time. Recall that failure to tax nonfiling of self-employed individuals and underreporting of self-employed taxpayers resulted in an estimated revenue loss of J\$213 million in 1983, relative to total individual income tax collections of \$417 million in that year; that is,

nonfiling and underreporting led to a loss of roughly one-half of actual income tax collections.⁷ If one extrapolates the 1983 estimates of revenue loss to 2002-2003 IIT collections, then nonfiling and underreporting generate a revenue loss of one-half of total IIT collections of J\$32,655.6, an amount equal to roughly J\$16 billion. Even if one removes the withholding tax on interest (or J\$9,121.5 million) from the base estimates on the grounds that it is difficult to evade income taxes on interest, the revenue loss still exceeds J\$11 billion. The failure to reduce tax evasion also generates inequalities and inefficiencies in the income tax system.

Allowances and Other Methods of Tax Avoidance. Not all income is legally taxable. In particular, the growth of nontaxable incomes appears to have increased in recent years. There are a number of allowances that have made their way back into the system since the 1986 reform, and these complicate the system and encourage tax evasion and/or avoidance activities. There is a wedge between the corporate and individual income tax rates that may encourage companies to move from corporate to non-corporate status.

Nonindexation. The threshold allowance for individuals is not indexed for inflation, which makes its impact on the equity of the system somewhat arbitrary.

Data Issues. There are also many data issues that make the analysis of the IIT a challenge. To successfully evaluate tax policy and carry out administration, the payment, recording, and auditing systems need to collect and produce accurate data regarding such things as the number of taxpayers, tax liabilities, payments, arrears, interest and penalties, and the like. The starting point of such an information system is often a “Taxpayer Registration Number” (TRN). The TRN number database is developed by taxpayers registering for “something” (e.g., GCT registration, housing benefits, motor vehicle registration, social insurance benefits, incorporation) in the tax system, and includes individuals as well as legal entities such as corporations and sole proprietors. The TRN for individuals begins with a “1” while that for entities begins with a “0.” Individuals and representatives of companies are supposed to register at an office of Inland Revenue, and must do so prior to receiving the relevant housing or social

⁷ This estimate ignores any revenue losses in 1983 from tax credits, overtime, and allowances.

insurance benefits, filing a GCT form or income tax return, and so on. Fiscal Services receives the TRN data from Inland Revenue.

However, while new TRNs are often added to the database, it is our understanding that the file is not regularly purged, so that many inactive taxpayers remain on the database; that is, the TRN database does not represent a population of taxpayers but rather a population of taxpayers who were in the system at some point. Obviously, those individuals and companies working outside the tax system often have no TRN. Also, companies may register multiple times if they have multiple branches or subsidiaries. Individuals may register dummy companies in expectation of eventually owning a business. We have even been told that students, as an exercise, may register dummy companies. None of these entries is regularly cleaned off the roles.

The TRN data include a status variable (“Active or Closed”), which is understood to mean whether or not the entity is still operating. However, this variable is not updated unless an entity makes that happen, which we understand is very rare. The data also contain information on the nature of business and the organization type; the former includes a detailed list of industries, and the latter include eight categories (e.g., limited company, partnership, non-profit organization, trust, government, statutory body, other, and sole-proprietor).

For purposes of our work on the ongoing tax reform project, we have been given access to two TRN files. The first contains 180,536 records on all business TRNs, corporations, sole proprietorship, and so on. In the best of circumstances, this file should include only active businesses. Unfortunately, as noted above, this file does not represent the population of businesses because some are not active (and yet not listed as closed), some are dummy companies, and some businesses still fail to register. We have also received a second TRN file that contains TRNs for companies that were registered for GCT purposes only (49,311 observations). Again, a significant number of inactive companies are included, but we cannot determine definitively which are and which are not active.

We have also received a number of micro data files that contain detailed tax information for the individual income tax. Unfortunately, relatively few individuals and even fewer sole proprietorships file

tax returns. Additionally, the data cover multiple years, and it is not obvious when the returns are actually filed. Table 6 summarizes some of the information from these files. In total, the information contained in these returns is a fraction of what is reported in the budget even if all years are included. We have also tried matching the TRN files with these Income Tax files, knowing that we did not have the population in the TRN file but had an upper bound. We found some matches, but many returns from the TRN files had no match in the Income Tax files for any year in the file.

Overall Incidence of the Current Income Tax System. Even so, we have been able to use one database, the Emoluments Survey (2001), to estimate the burden of taxation under the current IIT for the year 2001. Table 7 reports these results. Income classes are defined as broadly as possible, and so include all reported wages and salaries, commission, bonus, gratuities and productivity incentives, and all allowances. We include both the in-kind and cash amounts reported for these components of income. We also include two measures of tax liabilities. The first is the actual reported withholding from the Emoluments Survey (2001). The second is calculated using a microsimulation model, which calculates taxable income as the sum of reported cash and in-kind emoluments and then applies the appropriate standard deduction and retiree allowances. We compare the estimated liability to the actual reported withholding.⁸ As shown there by the estimated liability burden and the reported liability burden, the average tax rates rise with income, indicating a modestly progressive individual income tax.

However, there is little question that even this progressivity is being compromised by the re-emergence of largely untaxed allowances. Further, the GOJ has made few efforts to bring nonfilers into the tax net, and its audit investigations of those who file tax returns has declined even from the low levels of the 1980s. In short, despite the significant reform achievements of the GOJ in the last two decades, many of the problems with the IIT that prompted the 1986 reform and that are driving the current reform efforts remain unresolved.

⁸ Unfortunately, we do not have data to determine whether the actual amount withheld is close to true liability

Table 6. Results from the Income Tax Files (J\$ dollar amounts in Jamaican dollars)

File	Number of Returns	Dates Covered in File	Wages	Housing Allowances	Interest, Dividends, Annuities	Dividends	Interest	(Net) Tax Payable
IT-01: Self-employed (2001-2002)	21,608	1/1999– 1/2003	3,097,625,586	31,702,226	242,639,333			704,180,996
IT-05: Individuals (PAYE, Pensioners) (2001-2002)	27,811	1/1992– /2003	8,645,880,910	52,942,836		81,077,688	608,513,630	80,410,670

File	Number of Returns	Dates Covered in File	Withholding	Total Employees	(Net) Tax Payable
IT-06: Employer's Declaration PAYE (2001-2002)	9,738	1/1990– 1/2003		195,727	2,600,154,802

Source: Computations by authors.

Table 7. Distribution of Income and Taxes, 2001 Emoluments Survey

Income Class (J\$, annual)	Number of Employees	Gross Emoluments (J\$ millions)	Estimated Tax Liability	Reported Tax Withheld	Estimated Liability Burden (percent)	Reported Liability Burden (percent)
< \$50,000	9,562	J\$321	J\$0.20	J\$0.45	0%	0.14%
50,000-100,000	24,306	1,852	13.0	44.6	0.7	2.4
100,000-120,432	16,257	1,777	0	24.8	0	1.4
120,432-150,000	19,717	2,661	31.9	56.0	1.2	2.1
150,000-250,000	58,827	11,594	798.0	849.0	6.9	7.3
250,000-500,000	76,077	26,897	3,532.0	3,585.0	13.1	13.3
500,000-1,000,000	53,624	36,700	6,174.0	6,190.0	16.8	16.9
1 million – 5 million	26,092	43,839	9,153.0	9,111.0	20.9	20.8
Greater than 5 million	419	2,936	665.0	665.0	22.6	22.6
Total	284,885	128,577	20,375.0	20,526.9	15.8	16.0

Source: Calculated by authors from Emoluments Survey (2001).

5. Conclusions

What is the form of the IIT that emerges from this perspective? It is risky to make general statements. Indeed, it is certain that tax rules would vary, perhaps significantly, across different countries. Still, we argue that an “optimal” individual income tax in most developing countries would look something like the following:

The individual income tax should be imposed at constant marginal tax rates on broadly defined, and schedularly defined, tax bases with minimal use of special tax incentives and with similar tax rates imposed on the different schedular bases.

Why? Constant marginal tax rates reduce compliance costs by reducing the incentive to engage in tax shifting schemes; for related reasons, they reduce administrative costs. Broadly defined tax bases allow lower marginal tax rates to generate a given level of revenue, and so reduce the distorting effects of taxes on behavior, including behavior related to noncompliance. Importantly, we argue that income taxes in most developing countries can only be effectively collected by source withholding, thereby lowering compliance and administrative costs and encouraging broad-based coverage. This is most effectively administered by a schedular system of income taxation.

Recent trends and developments also help reinforce this perspective. As emphasized by Tanzi (2000), Alm, Holman, and Neumann (2003), and others, fiscal systems face a wide range of new developments, most of which are related to a broad notion of “globalization” and most of which reduce the ability of tax systems to generate tax revenues. These “fiscal termites” include such factors as:

- the growth of E-commerce, and the corresponding decline in paper trails that allow transactions to be followed
- the substitution of “real” money by electronic money, which also makes it difficult to follow transactions, especially those involved in international transactions
- the growth of transfer pricing within multinational companies, which can lead to grossly understated prices on transactions and which can also make it difficult to trace transactions
- the increasing use of offshore financial centers and of new financial instruments
- the difficulty (and/or the unwillingness) to tax highly mobile financial capital and highly mobile skilled individuals.

These kinds of developments make it increasingly difficult for all countries to tax income on a global basis. They pose a special challenge for countries without a sophisticated tax administration. In the face of these challenges, it seems likely that countries – especially developing countries – will need to find new technologies that can be applied to the ways in which taxes are collected. It also seems likely that countries may be forced, however reluctantly, to a schedular income tax system.⁹ As one example, the Government of Jamaica has moved somewhat along this path in the last several decades.

Of course, a schedular tax system leaves self-employed taxpayers largely out of the tax net. However, taxing the self-employed is a major problem for any income tax, regardless of whether the tax is a global or a schedular income tax (Gale and Holtzblatt 1997). Put differently, the special problem of taxing self-employed taxpayers will be present in any individual income tax, and it makes little sense to retain a global income tax solely because of the hope – the vain hope – that a global system will make it easier to tax the self-employed.

In short, for many countries a schedular individual income tax is an imperfect method for taxing individuals. However, other approaches are, we believe, plagued by even more severe problems. As a result, a schedular system may well be the best avenue by which individual incomes can be taxed, now and perhaps sometime into the future.

⁹ In fact, there are now calls for even countries like the U.S. to consider a no-return tax system. See Turnier and Little (2004).

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