

The Jamaican Individual Income Tax

**Sally Wallace
James Alm**

**Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia**

August 2004

**Jamaica Tax Reform Project
Working Paper 5**

Jamaica Tax Reform
Andrew Young School of Policy Studies
Georgia State University
Atlanta, GA

Project Directors:

Roy Bahl, Georgia State University
Sally Wallace, Georgia State University

Senior Staff:

Dillon Alleyne, University of the West Indies
James Alm, Georgia State University
Richard Bird, University of Toronto
Kelly Edmiston, Kansas City Federal Reserve Bank
Miles Light, University of Colorado
Keith Maskus, University of Colorado
Mark Rider, Georgia State University
Felix Rioja, Georgia State University
David Sjoquist, Georgia State University

Research Staff

Vid Adrison, Georgia State University
Shiyuan Chen, Georgia State University
Ki-Whan Choi, Georgia State University
Agus Poputra, Georgia State University
Edward Sennnoga, Georgia State University
Cristian Sepulveda, Georgia State University
Bayar Tumennasan, Georgia State University

Technical and Support Staff

Shereen Bhan
Cordell Clealand
Robin Steinbrenner

Acknowledgements

We would like to thank Shiyuan Chen and Tony Poputra for providing research assistance, and Cordell Clealand and Robin Steinbrenner for editorial assistance in completing this paper.

Table of Contents

List of Tables	v
List of Figures	vi
About the Authors	vii
Executive Summary	viii
Executive Summary	viii
Introduction.....	1
Why Have an Individual Income Tax?	3
Equity.....	4
Vertical equity.....	4
Horizontal equity	6
Inflation and Indexation.....	7
Simplicity, Compliance, and Administrative Costs.....	7
Revenue Adequacy and Elasticity	8
Efficiency of the Individual Income Tax	10
“Rating” The Individual Income Tax	11
Current Structure of the Individual Income Tax.....	12
Tax Base.....	19
Income.....	19
Allowances, Enumerated Deductions, and Allowable Deductions	20
Tax Rate	24
Tax incentives, exemptions, and waivers	24
Selected Tax Administration Issues and Data	25
Evaluation of Jamaica’s Income Tax	32
Revenue Adequacy, Stability, and Elasticity	32
Equity.....	40
Who is in the net?	41
Vertical Equity	47
Horizontal equity	56
Efficiency.....	60
Selected Compliance and Tax Administration Issues.....	64
International Comparisons.....	66
Jamaica’s Individual Income Tax: Summary of Issues	70
Reform Options.....	72
Endnotes.....	95
References.....	99

List of Tables

Table 1: Annual Value of Taxable Benefit, Motor Vehicles	23
Table 2: Penalty Structure of Jamaica Tax System	26
Table 3: Comparison of Penalties in Several OECD Countries	28
Table 4: : Individual Income Tax Receipts by Components (in million \$)	34
Table 5: Percent Distribution of Individual Income Tax Receipts by Components (in \$)	34
Table 6: : Individual Income Tax Receipts by Components (in million \$)	37
Table 7: Estimates of Capital Income in Jamaica, 2001	46
Table 8: Individual Income Tax Threshold	47
Table 9: Distribution of Income and Taxes, PAYE, Base Case (2003).....	51
Table 10: Distribution of Self-employed Income Taxes, Base Case (2001)	55
Table 11: Distribution of Self-employed Income Taxes, Base Case (2001)	55
Table 12: Distribution of Main Non-taxable Allowances (2003, \$millions).....	58
Table 13: Effective Tax Rates: Employees with and without Non-Taxable Emoluments (2003) 59	
Table 14: Non-taxable Productivity and Gratuity Income and Tax Expenditure, by Income Group (2003).....	60
Table 15: Reported Distribution of Dividend and Interest Income, 2001	63
Table 16: Timing of Income Tax Return Filing (IT01)	66
Table 17: Linear Regression Analysis of the Ratio of Individual (Personal) Income Tax Revenue to GDP Against Selected Independent Variables	68
Table 18: Individual Income Tax Effort	69
Table 19: “Scoring” Jamaica’s Individual Income Tax.....	71
Table 20: Reform Options (\$ millions).....	87
Table 21: Dividend Tax Option	93
Table 22: Summary of Individual Income Tax Options	94

List of Figures

Figure 1: PAYE Share of Total Tax Revenue	33
Figure 2: Elasticity and Buoyancy PAYE	39
Figure 3: Threshold/GNP Per Capita.....	49

About the Authors

Sally Wallace is Associate Professor of Economics and Associate Director of the Fiscal Research Center, Andrew Young School of Policy Studies, Georgia State University. Her research focus deals with international and domestic taxation and public finance. She has worked in variety of countries including Russia (serving as the resident Chief of Party for the AYSPS Tax Reform Project), Ukraine, China, Philippines, Dominican Republic, Mongolia, and has served as tax reform staff in the states of Nebraska, Georgia and Ohio. She previously served as a Financial Economist for the U.S. Treasury Department.

James Alm is Professor and Chair of the Department of Economics in the Andrew Young School of Policy Studies at Georgia State University. Previously, he held positions at Syracuse University and the University of Colorado at Boulder. He has worked extensively on fiscal and decentralization reforms overseas, including the Jamaica Tax Reform Project, 1983-1988; he has also worked on projects in Bangladesh, Indonesia, Grenada, Turkey, Egypt, Hungary, China, the Philippines, the Russian Federation, Uganda, Nigeria, and India. Much of his research has examined the responses of individuals and firms to taxation, in such areas as the tax treatment of the family, tax compliance, and social security. He is currently Editor of *Public Finance Review* and Associate Editor of *Economic Inquiry* and *Review of Economics of the Household*.

Executive Summary

Jamaica's individual income tax is an important revenue source for the Government. In 2003-04, the PAYE portion of the tax generated \$27 billion, about 22 percent of Government tax revenue and equivalent to about 6.5 percent of GDP. The self-employed pay less than \$2 billion in income tax, or 7 percent of PAYE. Jamaica uses the individual income tax more intensively than does the typical Caribbean or developing country. The tax effort for the personal income tax in Jamaica is more than twice that of similarly situated countries.

The individual income tax is made up of PAYE, tax on interest, tax on dividends, and tax on self-employed and "other," which includes partnership income. Though covered under the same income tax act, and subject to the same flat rate-standard deduction structure, these taxes are separately administered. Withholding payments on interest and dividends are not reported to the Government by recipient, so it is difficult to determine how much of the interest and dividend income tax should technically be attributed to the individual income tax or to the corporate income tax. In any case, the withholding tax on interest has gone from 12 percent of PAYE revenue in the mid 1990s to about 38 percent of PAYE currently. A large part of this increase is due to the increase in withholding tax on interest income. The tax revenue from other individuals has remained flat over the last several years and that from dividends has fallen in absolute terms.

The structure of the individual income tax is relatively straightforward. The tax base includes most types of in-kind and cash compensation. Dividends from publicly listed stocks and capital gains are untaxed. Some allowances are not taxed and the most important in terms of revenue include part of housing accommodation, meals, travel allowance, and laundry and uniforms. If all of these allowances were fully taxed, we estimate that they would yield about

\$1.46 billion (2003 levels), or about 5.2 percent of PAYE revenue. These allowances give rise to inequities in the system—workers who are eligible for these benefits pay a smaller portion of their compensation in income than do other workers. They also continue to leave the door open for potential tax abuses.

The distribution of burdens from the individual income tax is progressive. The top income group pays 23.6 percent of their income in income tax, while the lowest income groups pay virtually no income tax. The income tax threshold imposes this vertical equity in the system and while it is a relatively generous threshold by many standards, it is not indexed. This means that over time, individuals may see no increase in real income but face higher and higher tax burdens.

A major concern with the individual income tax is the level of tax evasion, particularly by the self-employed. We estimate that the percent of employed individuals (non-self employed) outside of the tax net is about 25 percent of the total employed population. For the self-employed, we estimate that as many as 75 percent, or more, of self-employed may be outside the tax net.

We summarize our evaluation of the income tax along the lines of the tenets of a “good” tax:

1. Revenue Adequacy:

Evaluation: The tax base is broad and affords a relatively high level of revenue. The revenue-income elasticity is 1.22, i.e., a 10 percent increase in GDP has been associated with an approximately 1.22 percent increase in revenues.

Issues: The revenue stream has been somewhat unstable due to fluctuations in PAYE employment, wage policy for civil servants, and timing of tax payments.

Reform Directions: Does Jamaica rely too heavily on the individual income tax? Should it diversify its revenue base?

2. **Equity:**

Evaluation: The burden distribution from the individual income tax, self-employed tax, and tax on interest and dividends all appear to be somewhat progressive.

Issues: The threshold for income taxation is not indexed for inflation. The exclusion of capital gains and some dividends from taxation creates horizontal inequities. The existence of certain allowances and other preferential treatments also creates horizontal inequities in the system.

Reform Directions: Raising the income tax threshold would provide significant relief for the “working poor”. Indexing the threshold would protect this exemption from inflation. Broadening the base of the income tax by eliminating special treatments would improve the horizontal equity of the tax, and make it fairer for all Jamaicans.

3. **Efficiency:**

Evaluation: The tax base for wage and salary income is fairly broad. However, there is differential tax treatment of various types of capital income. Allowances for accommodation, uniforms, laundry, and travel may induce individuals to switch wages for non-taxable compensation. There is unequal treatment of other types of income, namely gratuities.

Issues: Some allowances create incentives to switch to non-taxable compensation. There is also some incentive for higher income individuals to switch from wages to capital income compensation. There is a significant incentive to receive income in the form of gratuities.

Reform Directions: Eliminate the non-taxable component of allowances. Remove the preferential treatment for gratuity and bonus income. Eliminate the tax preference for stocks listed on the Jamaica Stock Exchange. Consider a tax on capital gains.

4. **Simplicity:**

Evaluation: The system has a relatively broad base and is levied at a flat rate.

Issues: Non-taxable allowances and the application of a global income tax system complicate the system.

Reform Directions: Reduce or eliminate allowances, exemptions, and move to a schedular system for wages, interest and dividends.

To address these concerns, we have developed 12 possible reform options, and insofar as possible have estimated their impacts. This list should be considered illustrative of the types of reforms that could be considered for the individual income tax.

Option 1: Raise the individual income tax threshold to \$147,000 and index this amount annually. This option would bring the threshold roughly into line with per capita GDP. Raising the threshold would create a benefit for all taxpayers, but would benefit the lower income taxpayers more than the upper income taxpayers. The revenue cost of making this change is about 5 percent of PAYE revenue for the first year (\$1.5 billion at 2003 levels) and the indexing increases the cost by an additional 2.1 percent per year thereafter. This option would eliminate an additional 20,500 people from the tax rolls. There is a small impact on those reporting only self-employed income of less than \$6 million for income tax on other individuals.

Option 2: Raise the individual income tax threshold to \$170,000 and index each year. This option would increase the threshold beyond the per capita GDP by an amount equal to approximately 25 percent of the average annual consumption expenditures of households. This may be thought of as a way to compensate families for a basic standard of living. The revenue cost of making this change is 10 percent of PAYE revenue for the first year (\$2.7 billion at 2003 levels) and the indexing increases the cost by an additional 2.1 percent per year thereafter. This option would eliminate approximately 36,000 taxpayers from the rolls. There is an additional revenue impact from the self-employed of a loss of \$13 million in individual income tax for self-employed.

Option 3: Raise the individual income tax threshold to \$500,000 and index each year. This option would increase the threshold beyond subsistence consumption estimates and would take over 60 percent of those currently paying income tax off of the tax rolls. All taxpayers would see a reduction in tax liability from this change. The revenue cost of this option is relatively high—approximately 50 percent of PAYE revenue (\$13.9 billion in the first year at 2003 levels). The benefits of such a change are increased equity and reduced administrative costs. The cost of the change for the self-employed is a further reduction of approximately \$110 million per year.

Option 4: Raise the threshold to \$147,000 and index each year and institute an additional income tax rate of 33 1/3 percent at \$700,000 of income (net of threshold). This option would benefit lower income individuals and increase the progressivity of the individual income tax somewhat. The higher tax rate would pay for the revenue loss of the increased threshold. The net revenue impact is a small revenue gain the first year and is would be expected to lose about 2.2 percent of PAYE revenue after the indexing. The impact on self-employed is revenue neutral.

Option 5: Eliminate the uniform and laundry allowance. This option would reduce the possibility of tax evasion through the use of the allowances. The allowances leave open a door for paying individuals a wage supplement that is non-taxable. While the list of industries for which the allowances are non-taxable is reasonable, it is still somewhat subjective. Some would claim that elimination of the non-taxable allowance would be a burden on workers who are

required to wear uniforms and therefore incur a cost of a uniform. Complete elimination of the uniform and laundry allowance would yield \$54 million (2003 levels) or 0.2 percent of the PAYE.

Option 6: Eliminate the laundry allowance. This option would reduce the possibility of avoidance/evasion through the use of the laundry allowance. This allowance is difficult to justify on grounds that it is a required business expense (the justification for the uniform allowance). Elimination of this allowance would yield \$25 (2003 levels) million or 0.1 percent of PAYE.

Option 7: Eliminate the non-taxed housing accommodation. This option would reduce the potential avoidance behavior of paying non-taxable compensation (in the form of housing accommodation) to employees. This option would tax the total amount of accommodation reported by the employer. The revenue estimate assumes that this option would not reduce total compensation, but that the value of the allowance would continue to be paid but in a taxable form—either as taxable accommodation or as wages. The revenue impact of this option is an increase in PAYE of 1.1 percent of revenue, \$202 million (2003 levels).

Option 8: Eliminate the exclusion of gratuities (up to \$250,000) for hotel workers. This option would eliminate the inequity of the current tax treatment of gratuities and would also encourage payment in wages, which may be easier for the tax administration to assess. The revenue impact of this option is an increase in PAYE revenue of \$442 million (2003 levels) or 2 percent of PAYE revenue.

Option 9: Eliminate the exclusion of all non-taxed allowances from the tax base. This option would eliminate the inequity of allowing certain benefits to go untaxed. These benefits are currently distributed higher in the income distribution and the reform option would therefore increase relative progressivity. The revenue impact of this option is to increase PAYE revenue by \$2 billion or about 7.3 percent of PAYE revenue. This may overstate the revenue gain as some non-taxed allowances may be legitimate, reimbursable expenses.

Option 10: Exempt the income tax (corporate and individual) on the receipt of dividends of non-stock exchange stocks. This option would eliminate the preferential treatment afforded stocks list on the Jamaica stock exchange and would eliminate the double taxation of these dividends. The net effect would be equal treatment of debt and equity in the income tax system (tax integration). In this case, the option would lead to a revenue loss of \$260 million for individuals, and most of the tax relief would be in the higher income end.

Option 11: Tax realized capital gains. This option would expand the tax base to incorporate the largest hole in the current tax base. This option would increase the progressivity of the entire income tax system as capital income is typically held by higher income individuals. Realized gains would be gains on real property as well as stocks and other assets. This option would significantly increase administrative costs as capital gains taxation is one of the more difficult to administer taxes. The option may also affect Jamaica's competitive position with respect to investment and reinvestment of assets in the country. We do not have detailed data on potential

capital gains realizations from land, property or other assets (including equities), but we estimate that roughly \$1 billion could be raised from a tax on realized capital gains in Jamaica.

Option 12: Move to a system of schedular taxation for wages, interest and dividends with a threshold applied for PAYE emoluments only. The option would reduce the complication of the attempt at taxing all income under one threshold. A schedular tax at a rate of 25 percent for wages, interest and dividends and taxable trusts paid to individuals would eliminate the need for tax filing for virtually all individuals. Self-employed income would be treated as business income only (a self-employed individual would not include interest and dividend income on their IT01). The total revenue estimate for this option is a gain in revenue of \$853 million in individual income tax on interest and dividends.

The Jamaican Individual Income Tax

Introduction

The individual income tax (IIT) in Jamaica is one of the workhorses of the government's revenue system. In fiscal year 2002-03, 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 is as important a tax revenue source in Jamaica—the domestic plus import GCT accounted for 27.4 percent of total tax revenue in fiscal year 2002-03.

The individual income tax in Jamaica is levied at a flat rate of 25 percent on wages and emoluments, interest, dividend, pensions, trusts, and annuities.¹ There is a standard deduction or a threshold for taxation that is applied per taxpayer, and the current level is \$120, 432, an amount equivalent to about 75 percent of the per capita gross national income of Jamaica in 2002. The tax is relatively simple--there are some allowances and preferential treatment specific to capital income and self-employed income--but the number of allowances and preferences is relatively small compared to that which existed in the pre-1986 reform period.

The individual income tax was overhauled in the 1986 reform, and the original flat rate of 33 1/3 percent was dropped to 25 percent in 1993. In the 1986 reform, a large number of tax credits and allowances were eliminated, and a new standard deduction (basic zero tax bracket) amount was established, (Bahl, 1991).

The current individual income tax is similar to a schedular tax in that it separates different types of income for administrative purposes since most tax revenue is received through withholding at source. Wage income is largely withheld at source and remitted directly to the Government by employers on a monthly basis. The tax on interest and dividends is withheld at

source, by financial institutions and companies, and paid directly to Inland Revenue. In the case of interest income, there is no information on specific recipients. Also, while dividends may be reported by a specific recipient, the Ministry of Finance and Planning (MOFP) does not maintain that information in an accessible form. Allowances are applied against a base of all income and not to separate forms of income, and all income is taxed at the same rate of 25 percent.

The self-employed are required to make estimated payments quarterly and to make a final payment by March 15 for the preceding calendar year. The system of flat tax rates and withholding at source makes filing a tax return unnecessary for a large portion of the population. Only individuals or self-employed with multiple sources of income, or those who are over-withheld, are likely to file a tax return. In fact, less than 5 percent of all employed individuals file an annual tax return.

The tax is not without problems. There is evidence of a compliance problem with the self-employed and evidence that many PAYE payments are late. Also, not all income is taxable, which may give rise to inequalities and inefficiencies in the system. The continued use of certain allowances may provide tax avoidance mechanisms. There is a wedge between the corporate and individual income tax rates that may encourage companies to move from corporation to non-corporation status. There are a number of allowances that complicate the system and may encourage tax evasion and/or avoidance activities. The threshold allowance for individuals is not indexed for inflation, which may erode the “fairness” of the income tax.

This report analyzes the individual income tax of Jamaica. We begin by asking the question, “Why have an income tax in Jamaica?” and then move in the second section to a detailed description of the current structure of the tax. The next sections of the report evaluate the current structure of the income tax and summarize the issues that arise from this analysis.

The final section is dedicated to an analysis of various policy options. A series of appendices present detailed information on income tax systems around the world, overall revenues in Jamaica, and a detailed analysis of data issues in Jamaica.

Why Have an Individual Income Tax?

One might want to begin this inquiry by asking a basic, underlying question: does Jamaica really need an individual income tax? The best way to think this through is to evaluate the income tax in terms of how well it stands up against the criteria for a “good tax”. Some basic tenets of a “good tax” are:

- They are equitable in their distribution of burden. Equity can be defined in numerous ways and is the right standard by which to evaluate equity influenced by the social norms of each country.
- They provide sufficient revenue that is raised in a predictable manner, and they provide adequate revenue growth. As we will discuss below, “sufficient” and “adequate” are difficult concepts to define.
- They interfere as little as possible with the economic behavior of individuals and firms. This tenet has been challenged in recent years, but in general is supported as a general principle of a good tax.²
- Administrative and compliance costs should be “reasonable” and should not overburden the government or the private sector. This usually argues for as much simplicity in the tax system as can be allowed.

As pointed out by Alm (1996) the equity, efficiency, and adequacy components of a good tax do not suggest a clear winner in terms of an all-around “good tax.” Tradeoffs are required, and the priority objectives of each country will determine which taxes make the most sense.

There is no one “best” tax structure. In the remainder of this section, we evaluate the individual income tax in the context of these maxims for a good tax.

We should add one more consideration, that of political feasibility. This raises a practical issue of whether a particular tax or a feature of the tax structure will be accepted by the population. A tax proposal may pass most tests of a good tax, but the proposal will come to naught if the voters will not accept it.

Equity

Equity in tax policy means both vertical and horizontal equity. Vertical equity refers to how the tax burden changes as income increases, and horizontal equity refers to how "like" individuals are treated.

Vertical equity

Tax structures can be described as regressive, proportional, or progressive, depending on how the percentage of income paid in taxes varies with the level of income. The ability to pay principle of taxation does not suggest that income taxes must be progressive but suggests that income taxes should reflect an ability to pay. One would not typically think of a regressive income tax as being honest to this principle, but progressive or proportional structures may be consistent with the principle. The amount of redistribution done through the income tax is in large part a policy decision determined by the preferences of the population. The use of central government progressive or proportional income taxes to achieve vertical equity has long been supported in the public finance literature (Musgrave, 1959).

Many instruments are used to affect the degree of progressivity in income tax structures across the world. These include: (1) personal exemptions, (2) standard and itemized deductions, (3) graduated statutory rate structures, (4) various bracket widths, (5) tax credits (6) phase-outs of credits and deductions, and (8) exemptions of various public benefits. Standard deductions

create a floor for taxation; any taxpayer with taxable income below the standard deduction (or zero bracket amount) has no tax liability. In some countries, these standard deduction amounts or thresholds may be adjusted for certain individual conditions: the elderly, family unit taxation, and disabilities, for example. In a variety of developed and developing countries, personal exemptions are used to allow families to reduce taxable income (in family unit tax systems), which may affect the vertical equity if the distribution of family size is correlated with income as it is in many countries.

The tax rate structure (tax rates and tax brackets) is often thought of as the defining characteristic of vertical equity of income tax systems. A progressive, graduated marginal statutory rate structure taxes income at higher rates as income increases. However, progressive rates alone do not guarantee progressivity in the distribution of tax burdens. The progressivity in the distribution of tax burdens is a function of the threshold amounts and other exemptions and deductions as well as the tax rate structure. Income tax systems that impose a flat tax rate (such as Jamaica, Russia, Ukraine, and Latvia) are progressive in their burden.³ Systems with progressive marginal tax rates can actually be closer to proportional taxes in their burden (like a number of U.S. states).

Ultimately, equity is defined in terms of who bears the true burden of a tax. Taxes that can be shifted will not necessarily be borne by the person who is legally responsible for making the tax payment. The classic example is a specific consumption tax. If the tax is levied on a good that has a large price elasticity of demand, consumers will reduce their consumption of the product if the seller tries to increase the total price to the consumer. As a result, the seller will be forced to lower the price somewhat and bear at least part of the burden of the tax in terms of lower net prices. The same kind of shifting may occur in the case of the income tax. It is

generally thought that the tax on wage income is not shifted to other parts of the economy, i.e., it is borne by workers. But, the tax on capital income may be shifted partially either to labor in the form of lower wages or to consumers in the form of higher prices. The resulting true distribution of tax burden will obviously be influenced by this shifting behavior. In short, the distribution of burdens from the individual income tax is a more complicated story than might be expected at first glance.

All of this said, the question of how Jamaica's income tax stacks up against equity criteria depends on the vertical equity goals of the country. Jamaica must ask how what role its income tax should play in redistributing income, and then evaluate its structure against that norm.

Horizontal equity

Horizontal equity questions how "equals" are treated by the tax system. In taxation, horizontal equity requires that "equally situated" taxpayers pay the same level of tax. The definition of "equals" is a very difficult concept. Although two individuals may have the same level of income, their family situations, consumption patterns, health problems, work-related expenses, etc. could vary significantly. However, we often fall back to comparing equals based on income. If a tax does not treat units with the same income equally, there is a sense of unfairness in the system. This notion applies to all taxes, but in the context of the individual income tax one might think of exemptions of certain types of income (most capital gains and dividends from stocks listed on the Jamaica Stock Exchange, for example) as unfair. The questions we will raise below are whether certain features of the Jamaican income tax are too great a violation of the fairness maxim.

Inflation and Indexation

If wages and salaries do not grow as quickly as the overall price level, then consumers are faced with a decrease in real income. If a country's income tax structure is not indexed for inflation, increases in nominal income may be met with an increase in tax liability resulting from a greater portion of income being taxed in brackets with higher marginal rates. This is referred to as "bracket creep." Bracket creep applies to any taxpayer facing unindexed thresholds or tax brackets. The Jamaican income tax is not indexed.

The effect of inflation on tax liabilities will be magnified as nominal incomes and inflation grow at greater rates, and as the number of tax brackets and rates increases. In the case of Jamaica, an unindexed threshold will force more and more taxpayers into the taxable net even as their real incomes do not increase (or even decline). Since Jamaica has experienced relatively high levels of inflation, bracket creep will have a significant impact on the actual progressivity of the income tax. How to deal with inflation is a serious equity issue in income tax policy.

Simplicity, Compliance, and Administrative Costs

A basic tenet of tax theory is that a tax should place as small a compliance burden on individuals as possible (Musgrave and Musgrave, 1984). An income tax can be quite simple, but in many countries, the use of an income tax to perform social policy has made the tax cumbersome and expensive to administer. Complexity is often found in terms of credits, exemptions of certain types of income, exemptions of categories of taxpayers (via tax holidays or exemptions for the elderly and disabled for example), basic deductions, and inconsistent treatment of different forms of income. The complexity of an income tax structure affects taxpayer cost and tax administration cost alike. The more complex a tax structure, the higher the probability of error on the part of the taxpayer, and the higher the cost of tax administration.

An income tax does not need to rate poorly on administrative and compliance costs. Flat rate income taxes with few deductions, exemptions, and credits and those that do not require annual filing for most taxpayers are among the “best” from the perspective of administrative and compliance costs. In practice, many individual income taxes do not follow these simplification practices, and as a result end up costing taxpayers and the tax administration significant resources.

While it is difficult to estimate the cost of administering any one tax, there is evidence that tax administration costs increase with complex tax bases (Das-Gupta, 2004). The costs of administration of the personal income tax range from 3.91 percent of revenue in the U.K. to as much as 10.8 percent in Australia, according to a recent survey by Das-Gupta (2002). As we see below, Jamaica’s individual income tax is relatively simple, which suggests it is not onerous in terms of administration and compliance costs. An estimate of the specific cost of administration of the Jamaica individual income tax was not available. As a very rough estimate, we divided the sum of expenditures for Inland Revenue, Tax Administration and Audit, Customs, Revenue Protection, Tax Administration Services, and Taxpayer Appeals for 2002-03 (actual) by the total tax collections reported as consolidated receipts in the Minister’s Budget for 2002-03 (\$102.8 billion). This calculation suggests that these components of tax administration cost 2.57 percent of tax revenue collected in FY2002-03. While not a definitive estimate of the administrative cost, this is not out of line with the costs estimated elsewhere, including those for the U.S. and U.K., and is lower than in the transition countries.

Revenue Adequacy and Elasticity

A good tax will produce an adequate flow of revenue. Adequacy usually means that the revenue collections will keep pace with the expenditure needs. Most analysts think of both

expenditures and revenues as needing to grow at least in proportion to income, hence the income elasticity of a revenue source is the basic measuring stick of revenue adequacy. But a higher elasticity is not necessarily a good thing, because this will also mean that revenues would fall more than proportionately to income during economic downturns.

There are a number of components of an individual income tax structure that make the tax more or less elastic.⁴ They include the following:

- The tax base. If the tax is applied to a base that is growing faster than overall income the tax will be elastic. If exemptions are included for fast growing components of income, or if the administration is ineffective in capturing the faster growing components of the income base, the tax will be less elastic.
- The graduation of the tax rate. The more graduated the statutory tax rates, the larger the increase in revenue as individuals move "up the tax rates" in response to income increases. The effect is amplified in the absence of indexation.
- The standard deduction amounts or zero bracket amounts and personal exemptions. The use of standard deductions and exemptions can increase the elasticity of the tax. This occurs because growth in income can push individuals over the standard deduction amount, so that the change in their tax liability increases dramatically. The effect of these exemptions and deductions on the elasticity depends on the growth in income above the threshold, relative to the overall growth in income.

Under a comprehensive, flat-rate tax structure with no "floor" or threshold, the gain in tax revenue keeps in step with the growth in income. If total personal income in the economy grows by 5 percent, and if the income tax base includes all forms of personal income, then income tax revenue will increase by 5 percent. The Jamaican income tax contains many features that affect the elasticity of the revenue yield. The question is whether these features compromise the adequacy features of the income tax or render its revenue collection pattern too unstable. However, policy decisions can be made that will directly affect *how* elastic an individual income tax is. By balancing the specific structure of an income tax, the tax can be a quite stable revenue source.

Efficiency of the Individual Income Tax

Since the individual income tax covers many types of income, the tax may affect a variety of economic decisions. How can individual income taxes affect economic behavior? Again, a very clean individual income tax that taxes all forms of income equally and has no deductions, etc., will have the smallest effect on economic behavior. In practice, the structure of individual income taxes worldwide (and in Jamaica) is not so clean. In this report, we summarize only a few cases of the potential “excess burden” of an individual income tax.

Consider first the tax base. If an individual income tax base included all forms of income (e.g., wages, capital income, fringe benefits, etc.), there would be virtually no incentive for a person to try to get more of their income in fringe benefits versus wages (“income shifting”). There would also be little incentive for businesses and partnerships taxed under the individual income tax system to switch compensation between capital versus wages. However, as soon as deductions for certain kinds of income or preferential rates of taxation for certain individuals or types of income are allowed in the system, the individual income tax becomes distortionary. From the point of view of the purist, this is bad tax policy. But in terms of political economy, these distortions may be seen as necessary ingredients of economic development policy. This is exactly the reason why many countries have differential tax treatment in the name of economic development and a “picking the winners” approach to individual (and corporate) income taxation.

In an open economy setting, not only must we pay attention to the potential for excess burden of a tax system in the home country, but tax-induced pricing and rate of return differentials may induce international movement of economic activity. There is not much evidence that labor will move because a tax rate in country A is higher than a tax rate in country

B. There is, however, considerable evidence that capital will leap borders to seek higher after-tax rates of return. Lower rates of taxation in the home country have long been thought of as a way to reduce the impact of this type of behavior.

All countries have introduced provisions into their income tax structure that effect economic behavior. The question to be raised in evaluating a tax is the degree to which these distortions cause economic harm.

“Rating” The Individual Income Tax

How does an individual income tax stack up against the tenets of a good tax i.e., equity, efficiency, administration, and revenue adequacy? We can think of it in terms of pros and cons. What would Jamaica lose if the individual income tax were to be abolished? Proponents of individual income taxes would list the following points in support of the individual income tax as a “good tax”:

- The tax is generally income elastic, i.e., its revenues grow in proportion to income thus potentially providing adequate revenue;
- The tax can exclude many of the poor and can also be progressive in its distribution of tax burdens so as to address concerns of vertical equity;
- The tax can treat individual with equal income the same (horizontal equity);
- The individual income tax can be structured to be relatively neutral in its effects on economic decisions, thus minimizing distortions in the economy;
- The tax has a good tax handle (easing administrative costs) and much of the revenue can be generated through withholding;
- To the extent that many people see the tax as fair, it is a politically acceptable form of taxation.

On the opposite side, there are some arguments that suggest that it is not a “good” tax:

- Because it is income elastic, revenues may decline too much during economic downturns;

- The tax structure may allow for “bracket creep” due to inflation—this could result in increased tax burdens when there is no change in real income;
- The tax can be and often is 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) feel that compliance with the tax is cumbersome and expensive;
- The income tax may require an expensive administration;
- The income tax might be structured so as to discourage entrepreneurship, savings and investment, and voluntary compliance

The actual pros and cons can be accentuated or diminished by the structure of the tax, which is a statement that may be made about most taxes. What is somewhat unique to the income tax is that it can be especially targeted to address equity concerns. Much of the tax can also be collected via withholding, which helps to reduce administrative costs. We turn next to a summary of Jamaica’s individual income tax, and follow with an evaluation of problems and concerns.

Current Structure of the Individual Income Tax

The individual income tax is governed by *The Income Tax Act* of Jamaica. This same law covers the corporate income tax and taxation of interest and dividends. In this report, we focus on the income taxes levied on individuals including sole proprietors and other self-employed, and 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. At that time, the tax had a basic threshold or zero rate, and the rate structure was progressive rising from 1 to 10 percent of the tax base.⁵ The modern income tax was legislated in 1954. In a major reform of the tax in 1986, the flat-rate income tax became effective and

numerous credits and allowances were replaced by a threshold, or standard deduction. Since 1986, a number of changes have occurred, summarized in Box 1.

Box 1: Changes to the Jamaican Individual Income Tax

PAYE threshold increased to:

- 10,400 on January 1, 1989
- 14,352 on January 1, 1992
- 18,408 on January 1, 1993
- 22,464 on January 1, 1994
- 35,568 on January 1, 1995
- 50,544 on January 1, 1996
- 80,628 on January 1, 1997
- 100,464 on January 1, 1999
- 120,432 on January 1, 2001

Other PAYE provision changes:

- 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)
- An increase in the maximum tax-free lump sum payable from the Superannuation Fund from \$50,000 to \$120,000 (1994)
- 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:

Annual Value of Taxable Benefit

Original Cost of Motor Vehicle (in million J\$)	A. Under 5 years old		B. Over 5 years old	
	Under 50% Private Use	Over 50% Private Use	Under 50% Private Use	Over 50% Private Use
	Up to \$300,000	40,000	48,000	30,000
\$300,000 to \$700,000	50,000	60,000	40,000	48,000
\$700,000 to \$1,000,000	75,000	80,000	60,000	65,000
\$1,000,000 to \$1,500,000	90,000	100,000	72,000	80,000
Over \$1,500,000	120,000	140,000	96,000	100,000

Tax on Dividends

- Reduction in the personal income tax on dividends for **publicly listed companies** from 25 percent to 20 percent (June 1, 2000-March 31, 2001), to 10 percent (April 1, 2001 to March 31, 2002) and to 0 percent (April 2002).

Other Individuals

- Income of service companies treated as income of person who incorporates the company effective July 1, 1995.
- Accommodation. Previously for an employee provided with accommodation by the employer the taxable benefit was either the annual value of the accommodation or 15% of the value of total emoluments, whichever was lower. Where the value of accommodation was greater than the total emoluments, it was proposed to apply the 15% provision to the average of the sum of the value of accommodation plus the total emoluments (1996).

Tax on Interest

- Implementation of 25% withholding tax on interest (1992)
- Income tax of 25% on returns from bank type saving/deposits of certain life insurance policies (1993/94).
- Tax on interest on certain financial 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).
- Reduced withholding of tax on interest to 15 percent (June 1999).
- An increase in the withholding tax on interest from 15% to 25% (May 2001).

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

Section 5 of Jamaica's *Income Tax Act* defines who should pay income tax and the base of the income tax. This section says "income tax shall be payable by every person at a rate or rates specified hereafter for each year of assessment in respect of all income, profits or gains." Jamaica's tax on individuals is based on world income, and is defined broadly to include all income accruing to residents from "trade, business, rental, profession, employment, or vocation." Nonresidents are taxed on all income derived from Jamaica.

The basic calculation of individual income tax in Jamaica is as follows:

$$\begin{aligned} & \textit{Sum of emoluments and other income} \\ & \quad \textit{Minus Allowances} \\ & \quad \textit{Minus Enumerated Deductions (PAYE, individuals)} \\ & \quad \textit{Minus Allowable Deductions} \\ & \textit{Minus Threshold (\$120,432 plus additional \$45,000 for those residents 65 and older)} \\ & \quad = \\ & \quad \textit{Taxable Income} \\ & \quad \quad X \\ & \quad \quad 0.25 \\ & \quad = \\ & \quad \textit{Individual Income Tax Liability} \end{aligned}$$

For individuals with multiple sources of income, allowances are only considered once—that is they are not per job but rather per year. “Chargeable” and “Statutory” income are referred to somewhat interchangeably, although each is specifically defined in the *Income Tax Act*, sections 5 and 6. Chargeable income is specifically defined in section 5 of the *Income Tax Act* to include the following:⁶

- Dividends, interest, discounts, annuities, pensions, and other;
- Rents, royalties, premiums and other profit from property;
- Profits or gains from employment or vocation;
- Distribution by a body corporate that is subject to tax; and
- Emoluments (net of certain allowances), which include:

Salaries, fees, wages, payment for living accommodation, entertainment, utilities, domestic or other services and benefits, all reimbursable or non-reimbursable payments (subject to other provisions under section 13), annuities, pensions, superannuation or other allowances for past services and concessionary loans.

Under section 6, the statutory income of any person for any year is defined as “the income of that person for such year.” Mendes and McLean (2003) point out that convention dictates subtle differences in the use of statutory versus chargeable income, as follows:

For PAYE:

Sum of salary and emoluments minus enumerated deductions = statutory income

Statutory income – threshold = taxable income

For Individual taxpayers (self-employed):

Income less allowable expenses plus emoluments minus enumerated deductions = statutory income

Statutory income – threshold = taxable income

For Companies:

All income minus expenses = chargeable income

Those who are liable to pay tax are distinguished in section 5 as well. The view of “who is a taxpayer” in this section is quite broad, and it calls for taxation of worldwide income.

According to the *Income Tax Act*, residents are taxed on income earned in Jamaica as well as abroad, non-residents who earn income in Jamaica are taxed, and non-residents and citizens (not currently resident) whose gain or profit from employment, trade, business, etc. is derived from Jamaica are subject to tax (section 5).

From the perspective of actual collections, administration, and revenue, the individual income tax may be thought of as a family of taxes on various forms of income and/or types of taxpayers. In this sense, the tax is a hybrid between a global tax (a tax on all income from all taxpayers and one rate structure) and a schedular tax (a tax on specific forms of income at specific rates). One way to analyze the individual income tax is to look at the separable pieces of

income tax receipts as reported by the Ministry of Finance and Planning. Receipts from the individual income tax are comprised and classified as follows:

- PAYE employees, many with only one source of income, who do not typically file tax returns. In terms of revenue, this group comprises the largest share of individual income tax revenue. The receipts from these taxpayers are reported separately by the Ministry of Finance and Planning as PAYE receipts.
- “Other income tax,” which includes self-employed and partnerships, among other categories. The self-employed may be registered for tax purposes as a company. These taxpayers file an IT01 form and should pay quarterly estimated payments. The receipts from these taxpayers are reported in a category of “other income tax,” which includes tax payments from other types of taxpayers and not simply the self-employed.⁷ Partnerships file an IT03 form, but the individuals must file separately as individuals for purposes of calculating and paying their tax liability.
- Individuals (including pensioners) who have multiple sources of income. These taxpayers file an annual form, IT05, in which they reconcile income from different sources and make final payments or seek refunds. In the budget figures, we understand that final payments from these returns show up in the “other individuals” category, which also includes the self-employed.
- Tax receipts on interest are reported as an individual revenue item and consist of taxes withheld from companies and individuals (at 25 percent rate).⁸
- Taxes on dividends are reported as a separate revenue item and consist of taxes withheld from companies at a 33 1/3 percent rate and individuals at a 25 percent rate.

Since the accounting of receipts from interest, dividends and “other income tax” by the MOFP does not distinguish between that paid by corporations, self-employed and other individuals, it is difficult to attribute a liability to non-corporations, based on the revenue figures. This is most important for the interest and dividend portion of the receipts. The problem lies in administration since the *Banking Act* keeps the tax administration from receiving information regarding actual payment of interest income, and, while dividends paid to specific entities or individuals may be disclosed, the MOFP does not classify receipts by type of recipient.

Tax Base

Income

As noted above, the tax base for the individual income tax is defined rather broadly, which helps to provide adequate revenue yields and reduces the chance of gaming the system by switching among various forms of income.⁹ The main untaxed income item is capital gains, which is untaxed more through omission in the *Income Tax Act* than through an explicit exemption.¹⁰

Jamaica's taxation of worldwide income is not unusual, although our understanding is that in practice it is difficult to administer.¹¹ A handful of countries do not tax *permanently resident* individuals, including Antigua and Barbuda, Bahamas, and Bermuda. Also, Antigua and Barbuda, Bahamas, Bermuda, British Virgin Islands, Costa Rica and Guyana do not tax gains from shares of stocks of public companies, while St. Lucia, Trinidad and Tobago exempt from income tax long-term capital gains and gains from certain securities.

Looking at Jamaica's income tax base, it appears relatively broad and not out of line with a number of countries that might be considered competitors for investment and residents. In general, broad bases are good tax policy in that they do not create incentives to move income from one form to another. However, the exclusion of most capital gains is an important issue in terms of economic efficiency and equity, as discussed below. Another issue is, after combining the broad sources of income, what bite do allowances and exemptions take out of the base?

Allowances, Enumerated Deductions, and Allowable Deductions

While the tax reform of 1986 eliminated many of the allowances of the previous system, some still exist and there is concern that certain benefits (particularly the housing accommodation) may be an avenue of significant evasion or avoidance of tax.

Allowances (not included in income) include some portion of the following (sections 5(1)(c)(i)-(viii)):

- Meal allowance paid for work outside of normal working hours
- Uniform and laundry allowance for employees required to wear a uniform
- Housing accommodation
- Lump sum payments made out of consolidated funds
- Motor vehicle expense
- Telephone service
- Credit cards
- Monies used by employees to purchase shares of Employee Stock Ownership Plans

Enumerated deductions are stated in section 13 of the *Income Tax Act* and include:

- Contributions to an approved superannuation fund
- Monies paid to an approved fund by an approved association (or by members)
- Contributions to the Civil Service pension fund
- Contributions to the Jamaica Constabulary pension scheme
- Contributions to the NIS
- Annuities

Allowable deductions are aimed at the business side of the income tax. All expenses that are “incurred wholly and exclusively in earning income” are allowed as deductions. These deductions pertain to the self-employed (IT01) and to partnerships (IT03 information returns).

The list of allowances, enumerated deductions, and allowable deductions in Jamaica is basically self-explanatory, and the list is not long by international standards. However there are some allowances that are subject to limits and special rules. Here we enumerate the allowances for meals, uniforms and laundry, housing, and motor vehicles.

For certain types of employees, employer-provided uniform and laundry allowances are exempt, up to a maximum of \$5,739 and \$3,395 per year respectively.¹² The employees eligible for the exemption include fire fighters, attorneys-at-law, judges, customs officers, police, teachers required to wear protective clothing, drivers, cleaners, port workers, etc. The Commissioner may approve additional employees for this allowance. If other types of employees are provided with a uniform or allowance, 33 1/3 percent of the value is included as taxable income.

Meal allowances also receive separate treatment. Meal allowances provided during work done outside of normal working hours are exempt from tax. Housing accommodation is one of the larger benefits in the current individual income tax system. Employers may include housing accommodation as part of an employee’s compensation package. The difficulty for tax administration is determining the value of this benefit. The Commissioner and the Minister have some discretion regarding the rules of the taxable value of accommodations (section 5(c)(iii)), but there is an overarching requirement that the annual value of the emolument shall “be deemed not to exceed fifteen per centum of the total emoluments (other than the value of the quarters or residence) paid or payable for the year of assessment.” The valuation of the housing

accommodation is complicated by the type of accommodation (for example, does it include domestic help?), whether it can be sub-leased, whether rent is paid to a third party or not, and whether the employer owns the accommodation. In general, if the reported value of the housing accommodation paid by the employer is less than the total of other emoluments, the taxable value of the allowance is limited to 15 percent of the total value of emoluments. For example, if Jane Smith earns \$500,000 per year and receives a housing allowance of \$100,000, she is taxable on $0.15 \times 100,000$ or \$15,000 and the remaining \$85,000 is tax-free.¹³ If the annual value of the accommodation is greater than other emoluments, then the taxable amount is 15 percent of the average of the annual value of accommodation plus other emoluments (including those from connected persons).

If the rent is paid directly to the employee, or to a person connected to the employee, the full value of the rent is taxable (the amount up to 15 percent of emoluments is a tax on emoluments, and the excess is considered prepayment of tax on rental income). If the accommodation is owned by the employer, the taxable value is 15 percent of other emoluments or 15 percent of the annual rental value on the open market (whichever is less). If employees are required to live in an accommodation owned by the employer, the taxable value is less than 15 percent due to the inconvenience of having to live in a particular property for purposes of work.

Motor vehicles may be provided for an employee's use for business or an employee may use his/her own vehicle for business. If an employee uses his/her own vehicle, the employer may reimburse the individual for expenses related to business use of the vehicle (a mileage allowance) as well as provide an allowance for the use of the vehicle. Such reimbursements are considered a non-taxable allowance and the value is certified by the Commissioner (application

must be made to pay the allowance tax-free). If the employer owns the vehicle, the taxable benefit is determined by the following schedule (set out in *Income Tax Act* Second Schedule):

Table 1: Annual Value of Taxable Benefit, Motor Vehicles

Original cost of Motor Vehicle (in million \$)	A. Under 5 years old		B. Over 5 years old	
	Under 50% Private Use	Over 50% Private Use	Under 50% Private Use	Over 50% Private Use
Up to \$300,000	40,000	48,000	30,000	36,000
\$300,000 to \$700,000	50,000	60,000	40,000	48,000
\$700,000 to \$1,000,000	75,000	80,000	60,000	65,000
\$1,000,000 to \$1,500,000	90,000	100,000	72,000	80,000
Over \$1,500,000	120,000	140,000	96,000	100,000

Source: Ministry of Finance and Planning

There are other allowances as well. For example, there is room in the *Income Tax Act* for the Minister to exclude some types of termination payments from tax. These exclusions are to be affirmed by a resolution of the House of Representatives, but anecdotal evidence suggests that this is not often done. Mendes and McLean (2003) provide a list of cases where these exemptions may be approved, and these include commutation of pension, terminal gratuity, severance pay, illness, redundancy, and other situations resulting in termination of employment.

Of the enumerated deductions, the contributions to an approved superannuation fund may not exceed 10 percent of a person's emoluments for those funds approved in the *Income Tax Act*, and 5 percent for those funds approved by the *Income Tax Law* (repealed) but not the *Income Tax Act*.

Tax Rate

The individual income tax rate in Jamaica is a flat rate of 25 percent. This rate applies to all taxable income and collections are mainly through withholding at source (employer or financial institution).

Tax incentives, exemptions, and waivers

The role of tax incentives (including tax holidays), special exemptions, and waivers is considered to some extent in each of the tax policy reports being prepared on behalf of the Government and the Committee. There are a number of incentive acts that pertain to the individual income tax as well as other taxes and the estimates of the value of these incentives is being developed in Rider (2004). However, the individual income tax treatment of gratuity payments deserves special attention given its potential magnitude as a tax expenditure for the individual income tax. According to the Jamaican Tax Administration information documents (available on the website: www.jrs.gov.jm),

income earned from an Approved Gratuity Scheme of a licensed Tourist accommodation has granted a relief from Income Tax subject to the limitation that the total amount for distribution under an Approved Gratuity Scheme, in any one year of assessment, must not exceed 10 percent of the billed sales. Effective July 1, 2000, the maximum non-taxable benefit to any individual should not exceed \$250,000 per annum. Employees earning taxable emoluments of \$500,000 or more will no longer benefit from relief on gratuity payments.

In effect, there is a strong incentive to pay hotel employees via gratuities that are largely non-taxable under this incentive. There is also an exclusion for a portion of bonus income for certain cases.

Selected Tax Administration Issues and Data

Most individuals and self-employed eventually register for a taxpayer registration number (TRN). This registration takes place for any number of reasons: for a job, a motor vehicle license, with the Registrar of Companies, clearance for contracting with the government, etc. However, there is a glitch in the system that prevents the TRN from being as useful for tax administration and tax analysis as it could be. Individuals who file for a TRN may subsequently “become” a self-employed business or other non-incorporated business and continue to use the same TRN. On the master file of TRN (supported within Fiscal Services), these TRNs show up as individuals (that is the number begins with a “1”).¹⁴ If the individual who begins a business does not voluntarily change their TRN status, the TRN file can’t be relied upon to provide an estimate of the population of self-employed. For PAYE individuals, their TRNs are not currently input into the Integrated Computer Tax Assessment System (ICTAS), so we cannot track PAYE payments by individuals—just by firms. This issue is discussed in more detail in the data appendix.

Final payment of taxes is due by March 15 for the preceding calendar year. Taxpayers make this final declaration using form IT01 for individuals (self-employed), IT03 (unincorporated bodies other than life assurance), IT04 (life assurance), and IT05 (employees with PAYE and other income, pensioners, etc.). Form IT07 is used for making estimated payments and IT06 is the annual employer’s return.

The individuals liable to file and pay tax shall be assessed by the Taxpayer Audit and Assessment Department (TAAD) if the taxpayer does not file a return when due. The penalties for various issues related to filing tax returns and paying income tax can be found in the *Income Tax Act* in sections 67 and 72. The scheme for penalties associated with the administration of the

individual income tax is summarized in Table 2 (from the Tax Administration website documentation). The penalty structure differentiates among the types of offences, with the largest fines being charged for transfer of business outside the island. In many cases, the penalty can be as heavy as a “term” (jail-time) of up to 12 months. In terms of international experience, this is an excessive penalty for minor offenses. The monetary penalties also are quite minor and have eroded with inflation. As a comparison, in Jamaica, according to Table 2, failure to file a tax return results in a penalty of \$5,000. In Canada, the minimum fine is \$1,000 (CAN) and the maximum is \$25,000 (CAN) or \$44,560-\$1.14 million in Jamaican dollars. A comparison of penalty structures in OECD countries is available in Table 3.

Table 2: Penalty Structure of Jamaica Tax System

Offence	Penalty
Failure to certify information re connected persons or willfully giving a false certificate	Fine of \$1,000.00 or term of twelve (12) months
Failure to pay over tax deducted at source	Fine not exceeding \$5000.00, or treble unpaid tax, or term not exceeding twelve(12) months in default of payment.
Failure (of persons) to deliver lists by persons in receipt of taxable income belonging to others	Fine not exceeding \$5000.00 or term not exceeding twelve (12) months
Failure to deliver Declaration of Income tax by 15th march, and failure to comply within 30 days after service of notice by Commissioner	Penalty of not more than \$200.00 determined by the Commissioner and further penalty of \$20.00 daily for each day default continues
Failure to file returns	Fine not exceeding \$5,000.00 or terms not exceeding twelve (12) months.
Failure to give notice of income in excess of \$120,432.00	Treble the tax which he ought to be charged plus penalty of \$40.00
Failure to file return of trades carried on by two or more persons jointly	Fine not exceeding \$5,000.00 or term not exceeding twelve (12) months.
Failure of person to comply with notice to file returns served on him by Commissioner	Fine not exceeding \$5,000.00 or term not exceeding twelve (12) months
Knowingly and willfully aids and abets, incites another person to make or deliver a false or	Fine not exceeding \$1000.00 or term not exceeding twelve (12) months.

Offence	Penalty
fraudulent account, statement or declaration of or concerning any profits.	
Refusing or neglecting to give evidence in pursuance of a notice served on him to produce books or documents	Fine not exceeding \$5000.00 or term not exceeding twelve (12) months.
A responsible Officer failing to notify Collector within fifteen (15) days after end on month of outstanding balances of income tax payable pursuant to the Regulations.	Fine not exceeding \$1000.00 or term not exceeding six(6) months and \$500.00 daily for continuing offence after conviction.
Knowingly making false statements or false representations in any return statement or declaration	Fine not exceeding \$10,000.00 and treble tax which he ought to be charged or term not exceeding five (5) years.
Person by himself, or by any person in his employ, obstructs molest or hinders an Income Tax Office in the execution of his duty	Fine not exceeding \$10,000.00 or treble tax which he ought to be charged or term not exceeding five (5) years
Failure to maintain proper books and records	\$5000 or term not exceeding 12 months
Failure to notify the Commissioner of transfer of machinery before three (3) years, which is subject of the grant of a special Capital Allowance	Fine not exceeding \$5000.00
Transfer outside of the Island of the residence of a business or a Company located in the island without the permission of the Minister of Finance	Fine not exceeding \$20,000.00 or term of imprisonment not exceeding two years, or both.
Person by himself or by any in his employ obstructs, molests or hinders an Income tax Officer in the execution of his duty	Fine not exceeding \$5000.00 or term not exceeding twelve (12) months
Failure to pay over PAYE tax deducted	Employers are liable to an increase of tax (penalty) of 50% per annum on all outstanding PAYE deductions

Source: Jamaica Tax Administration, website www.jrs.gov.jm, "Facts on Income Tax."

Table 3: Comparison of Penalties in Several OECD Countries

Penalty or Other Issue	United States	Australia	Canada	United Kingdom	Germany	France
Fail to timely file	5% per month of underpayment of tax due based on the return up to 25%, reduced by any penalty imposed for fail to timely pay.	8% of tax due per year, plus penalty interest at a statutory rate. If both fail to file and fail to pay apply, only one penalty is imposed	\$1,000 up to \$25,000 penalty for fail to file	100 pounds, or 200 pounds if late more than 6 months. If more than one year late, 100% of tax due	0.5% per month	0.75 % per month of tax due plus 10% of tax due or plus 40% if no filing after 1st reminder or plus 80% of tax due if no filing after 2nd reminder
Fail to timely pay tax	One-half of one percent per month up to 25%	8% of tax due per year, plus late payment penalty interest at a statutory rate	No Provision	5% to 10% surcharge for late payment. Also default interest may apply, which is a penalty at the same rate as interest	0.5% per month	0.75 % per month of tax due no ceiling
Distinguishes between negligent acts and acts of tax evasion (intentional acts)	Yes	Yes	Yes	Yes	Yes	Yes
Underpayment of tax due to negligence	20% of underpayment of tax due to negligence.	25% of tax shortfall. (50% of tax if underpayment is due to reckless disregard or tax avoidance scheme)	No Provision	Up to 100% of tax due	10%	10 up to 40% if bad faith
Underpayment of tax due to tax evasion	75% of underpayment of tax due to tax evasion	75% of tax due to tax evasion.	50% up to 200% of tax due to tax evasion	Up to 100% of tax due	Information not available	80% 150% if opposition to a tax audit

Penalty or Other Issue	United States	Australia	Canada	United Kingdom	Germany	France
Fail to keep books and records	No civil penalty	Only imposed on corporations, certain funds and trusts. Greater of 200% of tax payable or \$20	\$1,000 up to \$25,000	Up to 3,000 pounds	Information not available	100F per document 1000F per document after reminder
Penalty for failure to maintain accurate tax and accounting records	No Provision	No Provision	No Provision	No Provision	No provision	No provision
Sanction on tax agent	100% of tax not collected or paid, plus any other applicable penalties (No waiver for reasonable cause)	100% of tax not collected or paid	Fail to withhold, 10% of tax. Withhold but fail to pay, 100% of tax plus 10% penalty or 20% penalty for repeat failures	*	Information not available	no withholding on employment income in France
Waiver for reasonable cause	Tax authority or court may waive most penalties for reasonable cause if taxpayer acted in good faith	Tax authority can waive penalties for fail to timely file and timely pay, and for underpayments. Court can also waive if action was due to error in interpreting law	Tax authority and court can waive	Tax authority and court can waive	Tax authority and court can waive	Tax authority and court can waive
Imposition of both civil and criminal sanctions	Yes	Yes	Yes	Yes	Yes	Yes

Penalty or Other Issue	United States	Australia	Canada	United Kingdom	Germany	France
How to treat penalties	Treated like a tax for all purposes (including interest, except that date interest begins to run depends on type of penalty)	*	*	Treated like a tax	Treated as tax	Treated as tax
How penalty is imposed	Same as tax liability	Same as tax liability	Same as tax liability	Same as tax liability, except for fraud which must be established by a court	same as liability	same as liability
Collection of penalties	Collect same as a tax	Collect same as a tax	Collect same as a tax	Collect same as a tax, except for fraud which must be established by a court before collection	Collect same as a tax	Collect same as a tax
Payment of penalty before or after appeal	Treated same as tax for appeal purposes	*	*	Treated same as tax, except if penalty is for fraud, it does not have to be paid until after court appeal that establishes the fraud	Information not available	Treated as tax
Interest on underpayment	Imposed from due date of tax until paid. Impose and collect same as tax. Generally interest cannot be waived because it is not a penalty but represents the time value of money	Generally, imposed from due date of tax until paid.	Imposed from due date of tax until paid. Tax authority has discretion to waive.	Imposed from due date of tax until paid		

Penalty or Other Issue	United States	Australia	Canada	United Kingdom	Germany	France
Interest on overpayment	Yes, government pays	Yes, government pays	Yes, government pays	Yes, government pays	Information not available	Information not available

*Information not available. However, international practice is as stated for the other countries listed.
Source (USGTA, 1998)

Evaluation of Jamaica's Income Tax

This section evaluates Jamaica's individual income tax in light of the experiences of other countries and the criteria for a "good tax" as presented above.

Revenue Adequacy, Stability, and Elasticity

The individual income tax is a strong revenue producer in Jamaica. As shown in Figure 1, the individual income tax (PAYE) comprises a significant share of total tax revenue, growing from 17.8 percent in 1992 to over 21 percent in recent years.¹⁵ Table 4 provides a breakdown on the components of individual income tax revenue. The PAYE component of the individual income tax is the largest of the income tax revenue sources, with the tax on interest second most important (recall that this is not just the withholding on individuals but also on corporations, both at a rate of 25 percent), then other individuals (largely self-employed), and finally dividends (which, again, are a combination of individuals withheld at 25 percent and corporations at 33 1/3 percent). Table 5 shows the percent distribution by component of the individual income tax. The impact of slow employment growth and increased withholding on interest shows strongly in this table. The tax on interest income has risen significantly in the past four years as the higher withholding rates have kicked in.

There is no explicit test of revenue adequacy, but we can look at the individual income tax revenue relative to other revenue as above, relative to the economy and relative to total expenditures in the economy. In many countries, the individual income tax is not a large revenue source, so its adequacy is called into question. Jamaica is quite different in this respect. As a share of GDP, Jamaica's income tax is one of the larger (Table 6). The average ratio of income

tax to GDP for the countries in Table 6 is 6.3 percent while for Jamaica it was 8.25 percent in 2000 (6.1 percent if all interest and dividends are excluded).

Figure 1: PAYE Share of Total Tax Revenue

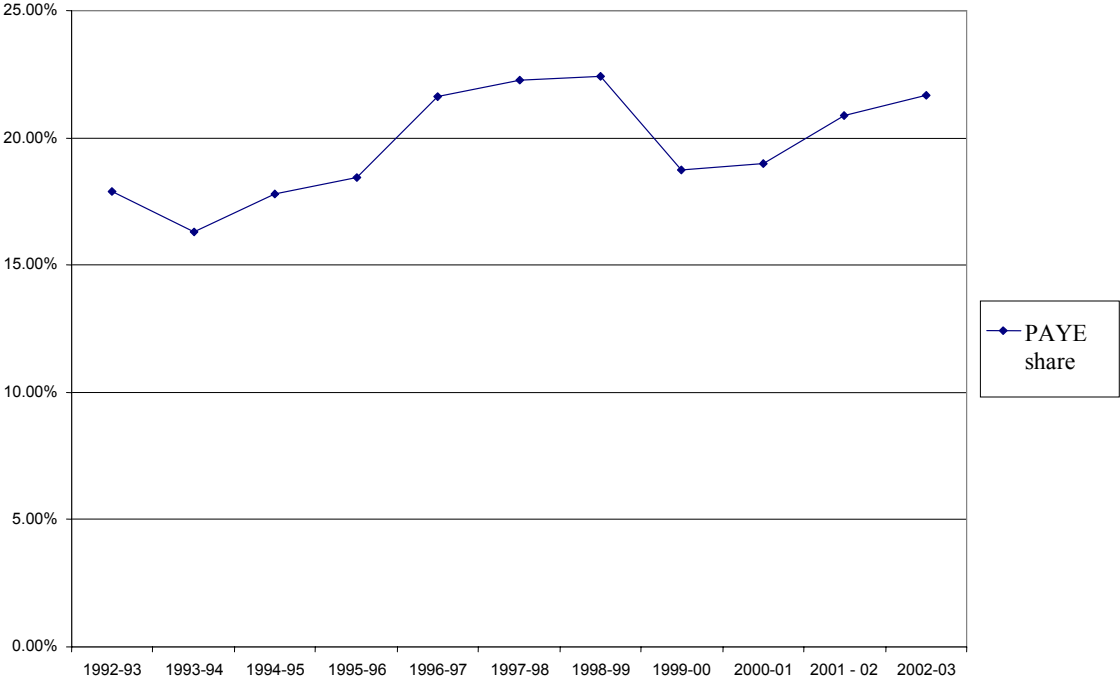


Table 4: Individual Income Tax Receipts by Components
(in million \$)

	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03
PAYE	3407.5	4715.7	6780.7	9269.1	11907.3	13174.7	15027.9	14226.0	16515.4	18907.2	22285.6
Tax on dividend	176.7	218.2	369.8	478.0	483.2	361.7	745.9	1168.1	853.6	607.9	134.8
Other Individuals	322.6	423.3	583.1	578.6	630.7	740.7	842.5	836.8	925.8	854.4	1113.7
Tax on interest	1267.6	1402.2	1883.6	1665.6	2381.9	2149.7	1924.9	6161.3	9535.1	8462.8	9121.5

Source: Ministry of Finance and Planning

Note: Tax on dividend and tax on interest include withholding on corporations.

Table 5: Percent Distribution of Individual Income Tax Receipts by Components
(in %)

	92-93 (in percent)	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03
PAYE	65.85	69.76	70.51	77.30	77.30	80.20	81.05	63.53	59.34	65.58	68.24
Tax on dividend	3.41	3.23	3.85	3.99	3.14	2.20	4.02	5.22	3.07	2.11	0.41
Other individuals	6.23	6.26	6.06	4.83	4.09	4.51	4.54	3.74	3.33	2.96	3.41
Tax on interest	24.50	20.74	19.59	13.89	15.46	13.09	10.38	27.52	34.26	29.35	27.93

Source: Ministry of Finance and Planning

Note: Tax on dividend and tax on interest include withholding on corporations

Table 6: Individual Income Tax Receipts by Components
(in million \$)

Country	Income Tax Revenue/GDP (%)
Argentina	3.09
Bulgaria	4.10
Canada	13.53
Croatia	4.75
Czech Republic	4.95
Denmark	24.05
Estonia	7.56
Georgia	1.81
Hungary	7.13
Jamaica	8.25
Kazakhstan	1.96
Kyrgyz Republic	1.56
Latvia	6.02
Lithuania	7.81
Poland	4.71
Romania	3.70
Russian Federation	2.60
Slovak Republic	3.5
Switzerland	10.94
Tajikistan	1.23
Trinidad and Tobago	6.16
Ukraine	3.81
United States	12.41
Mean	6.33

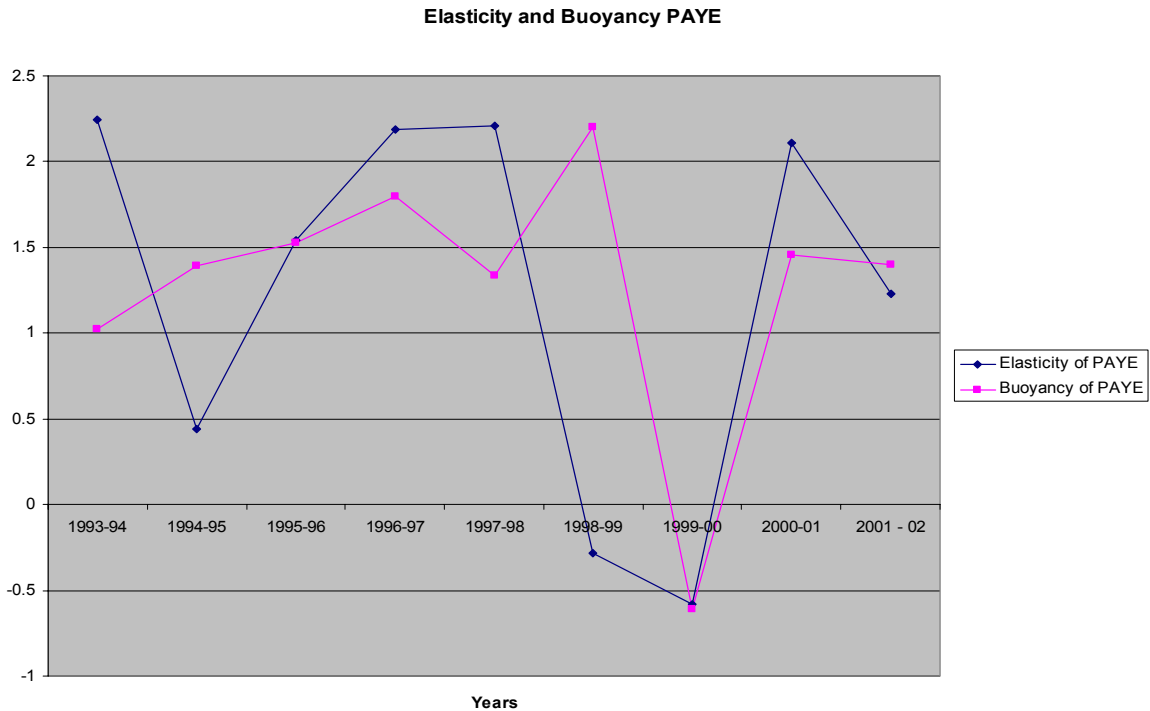
Sources: IMF Government Finance Statistics Database and Jamaica Ministry of Finance and Planning.

The way that tax receipts move with the economy can be captured by estimating the elasticity and the buoyancy of the individual income tax. The two concepts are slightly different. The buoyancy of the tax is simply a measure of the change in revenue for a change in economic activity (GDP). This measure does not tell us about changes in the underlying structure of the tax. The elasticity measure estimates the percent change in tax revenue for a percent change in GDP, controlling for the impacts of tax policy changes.

Based on data provided by the MOFP, the buoyancy of the PAYE portion of the individual income is was 1.28 over the period 1993-2002. The elasticity of the PAYE was 1.23 over the same period. Both of these measures suggest that the PAYE portion of the income tax has some natural growth and tend to provide increased revenue when the economy grows. However, the pattern of the elasticity is not at all smooth over the time period investigated. Figure 2 presents the elasticity and buoyancy estimates for the PAYE. As seen there, the responsiveness of the revenue jumps significantly between years. The pattern suggests that PAYE revenues do not respond symmetrically in economic upturns and downturns. When the economy is up (doing relatively well in terms of nominal growth), the PAYE grows faster than the economy. As the economy slows (but still grows a nominal amount), the growth in PAYE receipts turns negative. This suggests that employed persons are hit hard during times of slow growth in the economy.

As an alternative to these time series analyses of elasticity and buoyancy we utilize our emoluments microsimulation model to calculate a constant law elasticity. Using the microsimulation model, we estimate an elasticity of 1.22, which is quite large. Our analysis suggests that the stability of tax is questionable. In economic downturns, the revenue gain from the tax falters and for this reason, it cannot be relied on to produce consistent revenues.¹⁶

Figure 2: Elasticity and Buoyancy PAYE



Other countries experience similar stability issues with respect to their income taxes.

There are very good international examples of what happens when a lack of revenue adequacy hits in an economic downturn—sometimes very bad policies. In Gambia, a presumptive income tax (the “alien” tax) was imposed on foreign workers and it is reported that hundreds of workers left the country (Goulder and Phillips, 2003). Hong Kong also imposed a presumptive income tax type measure as a stop gap to fill revenues. This tax was imposed on households that employed domestic help and resulted in a wide-scale protest. Indonesia has moved in a somewhat different direction—increasing the progressivity of its income tax and expanding the number of tax brackets from three to five to make up revenue. In comparison, Jamaica has not made such questionable policy moves.

Equity

How fair is the individual income tax in Jamaica? This is by no means a question to which there is a definitive answer. As discussed earlier, we may analyze equity from the perspective of how much tax is paid by people of different means (income); or we may also analyze the horizontal equity of the tax -- the equal treatment of similarly situated individuals. In both cases we will not enter the theoretical debate about the appropriate definition of equity. We will use income as reported (explained below) as the base from which to measure the equity of the individual income tax.

A first question that must be asked is about the true incidence of the individual income tax, i.e., is it borne by the individual making the payment or is it somehow shifted. For the most part, economists find that the burden of taxes on labor are borne by wage earners in proportion to their wages.¹⁷ For this analysis, we will assume that PAYE labor bears the burden of taxes on wages. The economic incidence of individual income taxes on capital income (dividends, interest, and net profits of the self-employed in the case of the Jamaican individual income tax) is more difficult to estimate. In the empirical literature, there continues to be a wide-ranging debate regarding the incidence of such taxes. For many years, most studies of capital income taxes assumed some split of the incidence of capital income taxes on the returns to capital, labor, and consumers. This is the basic result of a general equilibrium analysis that allows some mobility of capital and less mobility of labor.

Harberger (2003) points out that, with increased globalization, capital is increasingly mobile. He does not make an explicit argument for changes in labor mobility, but asserts that in a small, open developing economy, labor will bear more than the full burden of a tax on capital. In his model, the tax on capital is levied via a corporate income tax so that some capital is

taxable and some is not. The same holds true in the Jamaican case where some capital (capital gains and dividends from publicly traded stocks on the Jamaica Stock Exchange and returns for incentive industries) are not taxed. If labor is not highly mobile (which is true for some types of labor in Jamaica), the burden of the taxes on capital could be shared by labor and the non-mobile capital. This incidence issue will be analyzed further in the forthcoming tax burden analysis (Alleyne, Alm, Bahl, and Wallace, 2004).

Who is in the net?

Before analyzing the vertical and then the horizontal equity of the individual income tax, we analyze a much more basic concept of fairness—who is *in* the tax net? We should have four types of potential individual income taxpayers: PAYE, self-employed (and partners), pensioners, and capital income recipients (dividend recipients, interest recipients, and rental income).

The PAYE group comprises the largest segment of the Jamaican population and should include all employed individuals. Hard estimates of who is and who is not in the tax net have been difficult to come by. One data source is the Emoluments Survey 2001 (PAYE) (MOFP, 2003), which contains detailed information on emoluments for a sample of employees for calendar year 2001.¹⁸ The sample was 177 firms and 20 government agencies. Data on employees are supposed to be available on the annual return file by the employers (P35 or IT06). However, the MOFP researchers found that the data were not always complete (missing employees and/or missing emoluments), or in some cases, no individual employee information was available. For this reason, the researchers visited the firms to identify missing information or to ask questions about reported emoluments and employees. The survey data were weighted to represent the PAYE employment. It is estimated that there were 355,500 “compensated jobs” in the tax net for 2001. The MOFP also estimated that of this total, 285,000 are unique PAYE

individuals in the tax net and the remaining 70,500 include individuals who worked only part of the year or represent second or third jobs, or part-time employment. The Survey of Living Conditions (2002) reports that approximately 7.2 percent of the employed population have more than one job, with over 80 percent of that group holding two jobs (less than 20 percent hold more than 2 jobs). Based on these data, we conclude that of the 70,500 non-regular jobs in the Emoluments Survey, 65,424 of those are held by a unique individual $((1-0.072)*(70,500))$. Based on this analysis, we estimate that there are approximately 350,000 employed individuals in the PAYE tax net in 2001. There has been relatively small growth in employment since 2001, so the estimate would increase only slightly to 353,827 for 2003.

According to the Planning Institute of Jamaica website (www.pioj.gov.jm/statistics/statis_lm.stm), in 2001, a total of 939,500 people were employed. MOFP estimates that half of the total employment is made up of self-employed, so this leaves a rough estimate of 470,000 employed individuals (non-self employed) who should be in the PAYE tax net.¹⁹ Using these data, we would estimate that approximately 120,000 workers (non-self employed) are outside of the tax net. This is slightly less than the estimate from 1993, when it was estimated that 130,000 employees were outside of the tax net, which represents about 30 percent of the total employed labor force in 1993. As the total employed labor force increased slightly over this period, the reduction in those outside of the tax net (from 30 to 25 percent in our estimates) is due to better compliance and/or administration, within the bounds of the estimates made of those outside the tax net.

In every country, the self-employed are a notoriously hard-to-tax and hard-to-quantify group. Previous estimates for Jamaica suggest that over 75 percent of professionals who are self-employed are not in the tax net in 1983 (Alm and Bahl, 1985). Alm and Bahl also used a “gap”

analysis to estimate the percent of total compensation that escaped taxation due to self-employed non-filing. They found that the tax system suffered a loss of about 39 percent of income tax revenues in 1983.

There are other pieces of evidence that point to large amounts of under-reporting or non-reporting by the self-employed. Anecdotal evidence based on interviews with the TAAD, Inland Revenue, and the Tax Reform Committee give rise to unofficial estimates of non-reporting for self-employed of 70 to 90 percent. If we assume that 50 percent of employed people in Jamaica are self-employed, then in 2001, approximately 470,000 individuals were self-employed, although many are probably at low levels of income.²¹ We can estimate how many self-employed are in the tax net by analyzing the tax returns for self-employed, of which there are relatively few. Self-employed businesses should file estimated payments (IT07) on a quarterly basis as well as an annual reconciliation (IT01). Our data for IT01 show that for the assessment year starting 1/1/2001, there were 7,204 IT01 returns posted, less than 2 percent of the estimated total number of self-employed. However, data from TAAD on *late filings* shows that for 2001, a total of 25,625 returns were filed, which is about 5.5 percent of the estimated 470,000 self-employed.²² The same data show relatively little change in the number of returns filed for 2002 and 2003, although we did hear from TAAD of increased efforts at identifying and getting the self-employed into the tax net via presumptive methods.²³

Dividend, interest, and rental income recipients are among the most difficult to quantify because interest payments are not reported by recipient, and, while dividends may be reported by recipient, they are not available that way from MOFP nor Fiscal Services. As a result, the total interest and dividend revenue (reported as withheld) is a combination of all individuals (resident and in some cases non-resident), and companies. However, given the withholding mechanism, it

is likely that a significant portion of the interest and dividend tax is being paid—we just cannot tell by whom. Taxes on rental income are not reported separately as a revenue figure—those receipts are included in “other income.” However on the IT01, rental income is reported as it also is reported on the IT02 (corporate return). Unfortunately, we do not have a number to tie these tax-reported interest, dividend and rental amounts to, so we have no way to estimate the amount of those forms of capital income that are unreported (these are not broken out in the National Income Accounts (NIA)). As a rough approximation, we calculate the annual dividend, interest, and rental income reported in the *Survey of Living Conditions* (SLC) for a control total of interest, dividends and rental income of resident individuals. We sum the total amounts reported as “annual receipts” of each of these items in the SLC, and then weight them to represent the total number of households in Jamaica (748,000). The SLC is not structured to make estimates of such specific income items, and in conversations with STATIN officials, they urge caution in the interpretation of income figures. However, this is one of the only sources currently available from which to make such estimates.

We compare interest, dividends and rents reported in the SLC with those reported on the individual income tax returns (IT01 and IT05). This analysis is summarized in Table 7. We find that interest and dividends reported on the tax forms exceed the estimated interest and dividend receipts from the SLC (line 3 versus line 4 in Table 7). The rental income is very understated in the individual income tax returns, relative to the SLC, which is expected. Because rental income is quite easy to hide from tax authorities and there is no formal withholding on rental income, we should expect much of it to go untaxed. If we add in the interest, dividends and rent reported by corporations (line 5 of Table 7), we find that interest and dividend income far exceeds that reported in the SLC. This is expected since these capital incomes accrue to individuals as well as

corporations (which are not captured in the SLC). Rental income reported by individuals in the SLC is similar to the total of that reported by the sum of IT01 (individuals) and IT02 (corporations). We are skeptical that this means that much of the rental income is in the tax net. Total withheld interest and dividend receipts grossed up by an average tax rate of 30 percent yields interest and dividend *bases* that are much larger than what we find in the IT01-02 or SLC sources.

Given this analysis, the first question of fairness can be summarized as follows. In Jamaica, a large number of employed people are outside of the tax net; we estimate that as many as 25 percent of individuals employed by someone are not in the tax net. This figure appears to be down somewhat from estimates of the mid-1990s. Of the self-employed, the estimate of non-filing ranges from 70 to 90 percent. Capital income, interest, dividends and rental income in this analysis are very difficult to estimate and we are awaiting more detailed national accounts data to estimate what portion in the tax net.

Jamaica is not alone in this assessment of those outside the tax net. Johnson et. al. (1999) found that 68 percent of wages were “hidden” in a subset of transition economies. In Columbia, Alm and Lopez-Castano (2004) find that only 1/3 of all workers are employed in firms paying payroll and income taxes. Alm, Martinez and Schneider (2004) also report that developing countries as a group lose roughly 25 percent of their total potential revenues due to tax evasion of the hard to tax sectors in their economies.

Table 7: Estimates of Capital Income in Jamaica, 2001

Source	Interest	Dividends	Rental income	Description
IT01	\$70,729,510		\$136,417,842	Individual tax filers, self-employed
IT05	\$205,439,923	\$27,085,997	N.A.	Individual tax filers, pensioners, PAYE, etc. (reconciliations, multiple jobs)
Total Reported on "Individual" Tax Returns	\$303,255,430 ^a		\$136,417,842	
Survey of Living Conditions (2002)	\$176,132,984	\$82,159,973	\$576,467,173	Survey data asks households "during the past 12 months, has any member of your household received income in cash or in kind from the following sources" interest, dividends, and rental income reported separately.
IT02	\$1,651,741,271 ^b		\$539,509,885	Corporations
Total Imputed from Reported Tax Receipts	\$23,193,710,000	\$2,492,330,000	N.A.	Assumes an average tax rate of 30 percent to gross up the reported receipts. Rental income is included in a different receipt figure and can't be separated out. Includes withholding on payments to non-residents.

a) This includes interest, dividends, and other investments.

b) This includes interest, dividends, and other investments

Notes: N.A not available as a separate item.

Vertical Equity

The vertical equity of the Jamaican income tax is affected by both the threshold and the use of various allowances.²⁴ The PAYE threshold may be analyzed from the perspective of equity. Recall that there is a basic threshold, available to all workers and an additional threshold for pension recipients and the elderly (these are more correctly called exemptions but they act as a threshold).²⁵ The threshold is not indexed for inflation, which means that individuals may automatically be brought into the taxable net even if only their nominal income increases. These individuals may have no increase in their purchasing power, but yet become subject to a higher effective rate of income taxation as nominal income grows. Another way of thinking about this is that the real value of the threshold falls each year. If one assumes that the threshold was somehow chosen to mark the line between those who had an ability to pay income tax and those who did not, then this real value erosion might be thought of as compromising the vertical equity of the individual income tax. Since the new threshold was established in 2001, inflation has been 21.4 percent (to 2003).

The pattern of the threshold in real and nominal terms is found in Table 8. As seen there, the real threshold has not kept pace with inflation, and, as a result, taxpayers receive 53 percent of the real value of the threshold compared with 1996.

Table 8: Individual Income Tax Threshold

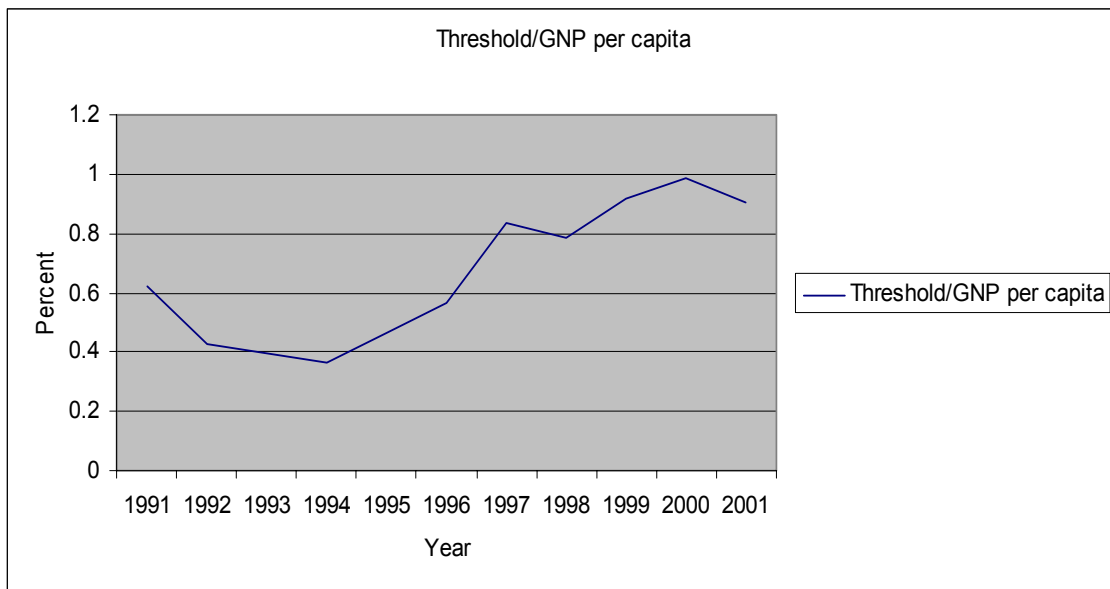
Year	Nominal threshold	Real Threshold (1996 Base year)
1996	50,544	50,544
1997	80,628	73,033
1998	80,628	67,326
1999	100,464	79,133
2000	100,464	70,844
2001	120,432	78,234

2002	120,432	72,433
2003	120,432	66,237
2004	120,432	64,000

Source: Bank of Jamaica and MOFP. Estimate for 2004.

The threshold of the income tax is structured to provide some basic amount of relief for taxpayers—to ensure minimum level of take-home-pay. A simple measure of this is the ratio of the threshold to per capita income. That ratio is represented in Figure 3 below. As seen there, the threshold has afforded relief of an increasing share of the per capita level of income in Jamaica over time, but inflation is again eroding this relief. This is somewhat more generous in terms of per capita income than is found in other countries, but it is difficult to say whether this is “too high” since this conclusion depends on policy decisions regarding the overall equity of the system.

Figure 3: Threshold/GNP Per Capita



Another measure of the equity of the threshold is how much of the average household income the threshold exempts from tax. If per capita GDP is \$145,526 in 2002 and if there are approximately 745,000 households in Jamaica, then an estimate of GDP per household is \$510,644. For an average household with one average income earner, the income tax threshold would cover 23 percent of the average household income. Another way to look at this is to

consider average household expenditures. According to the SLC, in 2001 the per capita expenditure on all goods was 82,248. For a household of average size (3.7 people per household), the income tax threshold would cover about 38 percent of average annual household expenses.²⁶

BOX 2: Representative Taxpayer Analysis: How quickly is an individual in the tax net?

Many countries exempt a portion of income from taxation, similar to Jamaica. The relative amount varies widely. We made estimates of the level of income at which a single individual enters the tax net in a sample of countries. This representative taxpayer in each country faces different thresholds for taxation as shown in the table below. In the British Virgin Islands and Guyana, for example, individuals get into the tax net at relatively low levels of income. Within this limited sample, individuals in Jamaica get into the tax net at relatively high levels of income. Note this is just the individual income tax and does not include the payroll taxes.

Country	Threshold (local currency, 2003)	Threshold relative to per capita income (in percent) ^a
Antigua and Barbuda	0	0
Barbados	15,000	94
British Virgin Islands	3,000 US	18.75
Costa Rica	1,316,000	39.5
Dominican Republic	138,420	109.0
Guyana	216,000	30.0
U.S.	7,800	21.0
Jamaica	120,432	82.7

Source: Authors' calculations based on Price Waterhouse Coopers (2003).

a) All per capita GDP figures are for 2002

The distribution of the tax burden is an important indication of the perceived fairness of the tax system. As noted above, the individual income tax, while imposed at a flat rate, has progressivity built in due to the threshold amounts. We have developed two microsimulation models to analyze the distribution of income tax burden and to analyze possible reform options.

These are the PAYE and self-employed models. The PAYE model is developed from emoluments data made available to us by the MOFP.²⁷ We updated the sample to 2003 levels by adjusting the income items for growth in the average wages by sector (as reported in the employer’s survey included with the micro data). We adjusted for the growth in employees by adjusting the weights of the sample for the growth (or decline) in the number of employees by industry, as reported by STATIN. We developed a tax calculator that mirrors the current individual income tax treatment for PAYE. The calculator is programmed in SAS and is used to analyze the base case (“current law”) and to change rates, treatment of allowances, and threshold levels (“proposed law.”) The program contains a tabulation routine to produce a consistent set of tables including changes in tax liability by income group. 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 included both the in-kind and cash amounts reported for these components of income.

The PAYE model was used to analyze the baseline distribution of PAYE in Jamaica for 2003. The results of this analysis are found in Table 9.

Table 9: Distribution of Income and Taxes, PAYE, Base Case (2003)

Income class (\$, annual, total emoluments)	Number of employees	Gross emoluments (in million \$)	PAYE liability	Percent of PAYE income tax liability by income class (in million \$)	PAYE/Total emoluments (Effective Tax Rate on emoluments %)
< \$50,000	29,435	895	0	0	0
50,000-100,000	62,135	4,957	0	0	0
100,000-120,432	13,447	1,471	0	0	0
120,432-150,000	17,178	2,365	46	0.16	1.9
150,000-250,000	55,514	11,066	822	2.97	7.4
250,000-500,000	74,308	26,750	3,559	13.47	13.3
500,000-1,000,000	64,342	45,141	7,906	28.44	17.5
1 – 5 million	36,607	66,282	14,141	50.04	21.3
Greater than 5 million	857	5,892	1,379	4.91	23.4
TOTAL	353,827	164,820	27,853	100	17.0

Source: PAYE Microsimulation Model

We use a comprehensive definition of income to create the income groups in column one. This definition includes all income items from the emoluments data: wages, salaries, commissions, bonuses, gratuities, allowances, all in terms of the cash and in-kind values. The information in the table shows that the PAYE portion of the individual income tax system is progressive, with effective tax rates (reported in the last column) ranging from 0 percent for the lowest income groups to 23.6 percent for the highest income group. The progressivity comes from the existence of the threshold, but as we will see in the next section, the progressivity is somewhat compromised by various allowances.

The self-employed simulation model is developed using the micro-data from the IT01 form, “Return of Income and Tax Payable Individuals (Self-employed). As noted earlier, for 2001 we have a total of 7,204 returns and for 2002, we have 3,919. Many of the self-employed file late and while some have made estimated payments, arrears and penalties and interest have accrued over time. As payments come into Inland Revenue, they are posted on the accounts of the self-employed taxpayer. The budget receipt figure for “other individuals” is therefore really a picture of the cash-flow from the self-employed (and limited other entities including taxes on rental income and partnership flows) and includes current and past year tax liability, interest, and penalties. To date, we have not been able to separate those components from the total receipts in that category. For this reason, the microsimulation model for self-employed is useful to analyze changes in tax liability from various reform options, but is not as useful for producing an estimate of actual revenue in the baseline or reform option cases. The model is very useful for producing an analysis of the distribution of the tax burden among self-employed individuals who file tax returns.²⁸

To analyze the basic equity of the self-employed component of the individual income tax, we use the self-employed microsimulation model. This model was developed using the IT01 forms that were provided by Fiscal Services. The IT01 data file contains IT01 forms filed over the last ten years. We choose returns with a date of 2001, of which there are 7,204 returns. This is *not* the universe of IT01 returns that were due in 2001. According to data from MOFP, for 2001 a total of 25,625 returns were filed, but 86 percent of those returns were filed late. Our best information to date suggests that the 7,204 returns in our data file are returns filed for 2001 sometime in 2001. For this reason, the tax liabilities and payments would be attributed to the budget in calendar year 2001, based on the actual month of filing. These are not the only returns filed for 2001, but other “2001” returns show up in subsequent years, and it is our understanding that associated payments are posted on a cash-flow basis to the year in which the actual payment/return shows up in Inland Revenue.

Due to this filing pattern, we cannot arrive at a base of 2001 liability for the self-employed using the 2001 IT01 returns. In addition, the revenue figures for “other income tax” other” include receipts from pensioners, PAYE employees with other sources of income, and we have not been able to determine what portion of those receipts are for self-employed.

The self-employed microsimulation model is most useful for analyzing the distribution of tax liability. Based on this, we find that of those filing tax returns, the reported tax liability on IT01 is \$268 million while receipts reported for all individual income “other individuals” in the revenue figures for calendar year 2001 is \$900 million. This latter figure includes arrears, penalty and interest. We know, based on payment timing information that not all of the \$268 million arrives in 2001 or even in 2002. Table 10 presents the distribution of income by type reported for calendar year 2001. The definition of income groups in this case is tricky—gross

receipts only includes the business activity of some of those who file the IT01. Some individuals have little or zero gross receipts as reported in line 7 of the form, but have significant rental income (line 16 of IT01).

Table 11 presents the distribution of self-employed tax for filers in 2001 by an income group that includes net profit, net rental income, income from sources outside the Island, and other income (lines 13, 16, 31 and 32 on the IT01 tax form). These items may be thought of as a more inclusive representation of the tax base. We do not include interest and dividend income. From Table 11 we see that the bottom group reports a high tax liability relative to this income definition. Most of this is due to payments these filers by “other employers” (line 28 on the IT01 form). In a number of cases, these individuals report no PAYE withheld at source and as such, there is an outstanding tax liability due on the IT01 form. When payment is made on these liabilities, it is not apparent as to whether they are recorded as PAYE payments or payments of “other individuals” i.e. self-employed. When we drop these returns from the analysis, we find that total net tax payable for the first group in Table 11 falls to \$16 million. For the remainder of the distribution, the tax is somewhat progressive (See Column 4).

Table 10: Distribution of Self-employed Income Taxes, Base Case (2001)

Gross receipts (\$, annual)	Returns	Gross Receipts (in million \$)	Net Profits (in million \$)	Net Profit plus net rental, plus other (in million \$)
Less than zero	1,714	-5,503	-9,153	102,496
0-25,000	38	606	255	817
25-50,000	85	3,490	1,524	2,076
50-75,000	139	8,942	3,969	4,204
75-100,000	160	14,055	7,191	7,658
100-200,000	857	128,210	70,562	73,917
200-500,000	1,804	604,930	188,674	196,047
500-750,000	647	394,768	76,385	80,209
750-1,500,000	741	758,885	118,831	130,359
Greater than 1,500,000	1,019	11,037,468	551,638	602,957
TOTAL	7,204	12,945,853	1,009,877	1,200,741

Source: Self-employed Microsimulation Model
 "Other" in column five includes income from sources outside the island and other income as reported on lines 31 and 32 of the IT01.

Table 11: Distribution of Self-employed Income Taxes, Base Case (2001)

Net Profit plus net rental plus other (\$, annual)	Returns	Net Profit Plus Net Rental, Plus and Other (in million \$)	Net Tax Payable (in thousands of \$)	Effective Tax Rate on Net Profit, Net Rent, Other (in percent)
Less than zero	1,946	-141,683	81,988	> 100
0-25,000	364	4,569	87	1.9
25-50,000	384	14,550	595	4.1
50-75,000	420	26,483	78	0.3
75-100,000	447	39,281	715	1.8
100-200,000	2,441	334,350	10,207	3.1
200-500,000	722	216,763	26,842	12.4
500-750,000	163	97,931	17,115	17.5
750-1,500,000	202	210,880	42,325	20.0
Greater than 1,500,000	115	397,617	88,238	22.2
TOTAL	7,204	1,200,741	268,190	22.3

Source: Self-employed Microsimulation Model
 "Other" in column five includes income from sources outside the island and other income as reported on lines 31 and 32 of the IT01.

Horizontal equity

How are like individuals treated in the system? There are a number of features of the income tax law that lead to a differential treatment of similarly situated individuals. First, there is differential treatment of those receiving pension income. In Jamaica, a 55 year old who is still working but who also receives a pension will see a reduction in the tax liability due to exemptions of pension income. Consider two individuals, each receiving \$250,000 per year. If in the first case the person receives only wage income, that person is liable for income tax of \$30,829. If in the second case, the person receives \$45,000 in pension income and \$205,000 in wage income, that person is liable for income tax of \$19,860. This inequity is often supported as a way to help the elderly. However, a question arises: why should two people each receiving the same amount of income pay such different levels of tax? This treatment of the elderly is found in over 75 percent of countries with an individual income tax. In fact, a growing trend is to exempt more and more of pension income and/or to provide additional deductions for the elderly.

A similar analysis holds for two individuals with different levels of capital income. If one person receives income from non-taxable capital gains and another from wages, the tax burden is dramatically skewed toward the wage earner. In addition, payroll taxes are imposed on the wage earner. A more subtle point is the difference between those who earn dividends from publicly listed companies and those who earn other dividends. As dividends from the former are non-taxable, two very “like” individuals will end up facing very different tax liabilities.

The provision of allowances also may give rise to some horizontal inequities. For example, if someone is employed by a firm that pays a housing allowance, some portion of that allowance may go untaxed. The same is true for the uniform and laundry allowance. Thus, two

individuals with similar total compensation may pay different amounts in tax. However, these untaxed amounts are relatively small, so the actual impact of the inequity is not large. The magnitude of the horizontal inequities can be seen by comparing the tax benefit of certain allowances. As noted above, laundry and uniform allowances are non-taxable to a total of \$9,134 per year for individuals employed in certain industries. Some may argue that since each job requires maintenance of clothing, at a minimum, the laundry allowance in certain industries is inequitable. In the case of housing allowances, if an individual is indifferent between a housing accommodation and wages (perhaps someone with a large family), then they may face a lower relative tax liability if they are offered and choose relatively more housing relative to wages. The tax treatment of motor vehicles biases among like households or individuals if the level of motor vehicle and travel allowance is greater than actual expense (which is supported by anecdotal evidence).

In Table 12 we show the distribution of these tax benefits by type of allowance, by emolument income group for the major non-taxed allowances (based on data from the 2001 Emoluments Survey: projected to 2003 levels). There is a clear difference in the use of allowances by income group. Also, within an income group, the tax benefits are significant. The total value of these estimated allowances for 2003 is \$8.6 billion. If we apply the microsimulation model we estimate the revenue forgone (tax expenditure) is equal to \$2 billion in 2003, or 7.3 percent of our baseline PAYE revenue for 2003. However, if the non-taxable status of allowances was disallowed, it is unlikely that they would all continue to be paid, so that revenues may not rise by 7.3 percent of PAYE. However, we cannot be sure that all non-taxable allowances paid are actually reported in the emolument survey. So removing the non-taxable status *may* yield *more* taxable emoluments (wages). The bulk of the non-taxed allowances go to

the middle and upper income groups. This is not surprising: those with income under \$120,432 do not receive additional tax benefits if they receive non-taxable income. Non-taxed travel and accommodations are the largest single sources of tax expenditure in this analysis. The “other” category includes items that are not separately identified.

Table 12: Distribution of Main Non-taxable Allowances, 2003

(in millions \$)

Income class (\$, annual, total emoluments)	All non-taxable allowances	Non-Taxable uniform/laundry	Non-Taxable accommodation	Non-Taxable total travel	Non-taxable meals	Non-taxable, other
< \$50,000	45.8	34.8	0.3	0.01	0.04	10.5
50,000-100,000	61.6	16.8	13.2	1.9	28.9	0.6
100,000-120,432	14.5	12.3	1.4	0.08	0	0.07
120,432-150,000	35.4	14.2	16.2	2.5	1.1	1.4
150,000-250,000	701.5	94.9	123.0	30.1	9.2	442.8
250,000-500,000	1,440.6	71.4	83.4	320.7	71.4	892.8
500,000-1,000,000	3,414.7	29.3	483.9	1,231.0	538.3	107.2
1 – 5 million	2,884.0	17.3	106.9	2,082.1	136.1	493.9
Greater than 5 million	84.8	0.5	0	59.3	0	22.0
TOTAL	8,684	292	828	3,727	785	2,937

Source: PAYE Microsimulation Model

Note: Includes in-kind and cash allowances.

If we compare the effective tax rate for employees who receive no non-taxable emoluments with those who receive at least some non-taxable emoluments, we notice a difference in the effective tax rate by income class (as well as a change in the vertical equity of the system). The difference in the effective tax rates is captured in Table 13. These tax rates are calculated on an individual basis and are then used to compute averages of the tax burden of the observations in each income category.

Table 13 shows that the effective tax rate for individuals employed and receiving non-taxable emoluments is lower than for those who do not receive non-taxable emoluments, by income group as well as over the entire distribution. We do not know if the individuals have any control over the division of their compensation between taxable and non-taxable emoluments,

but the result is a lower tax burden for those who do receive more in allowances. For example, an individual with an income of \$250,000 would on average, face an effective rate of 14 percent if they had no allowances. If they do receive allowance, the effective rate, on average, is 11 percent. As discussed in the final section, not all of these non-taxable emoluments represent “bad” tax policy, but there are some that may not be in line with the tenets of a good tax system.

Table 13: Effective Tax Rates: Employees with and without Non-Taxable Emoluments (2003)

Income class (\$, annual, total emoluments)	Effective Tax Rate: Observations without non-taxable Emoluments	Effective Tax Rate: Observations with Non-Taxable Emoluments
< \$50,000	0	0
50,000-100,000	0	0
100,000-120,432	0	0
120,432-150,000	2.0	1.0
150,000-250,000	8.0	5.0
250,000-500,000	14.0	11.0
500,000-1,000,000	18.0	16.0
1 – 5 million	22.0	19.0
Greater than 5 million	24.0	23.0
Total	17.5	16.3

Source: PAYE Microsimulation Model

Finally, the special treatment via incentive schemes, particularly in the tourism sector in terms of the tax treatment of gratuities, creates an inequity among workers by industry. Gratuities up to \$250,000 are not taxable if taxable emoluments are less than \$500,000. The impact and incentives of this allowance are obvious—tourism workers have incentives to skew their income toward gratuities, and individuals working in similar skill level jobs are encouraged to move to the tourism sector. Using the PAYE microsimulation model, we can analyze the magnitude of this preference. In our base model, all of the non-taxed productivity/gratuity income is attributed to tourism enterprises. Table 14 reports this analysis. The second column reports the amount claimed to be non-taxable gratuities (Emoluments Survey). The third column

is our estimate of the amount of tax that would be paid if these gratuities were made taxable. We find that most of the non-taxable amounts are concentrated in the \$250,000-500,000 income group, and in fact they are grouped right at the threshold of \$250,000. This is evidence that as much of the non-taxable income as legally possible is given to the workers in this industry. If the income exclusion were disallowed and it was assumed that the workers would receive the same level of income but in a taxable form, we would see an increase in PAYE tax revenue equivalent to about 1.7 percent of PAYE revenue.

Table 14: Non-taxable Productivity and Gratuity Income and Tax Expenditure, by Income Group (2003)

Income class (\$, annual, total emoluments)	Non-taxable Productivity/Gratuity Scheme income (000's)	Tax Expenditure (000's)
< \$50,000	702	0
50,000-100,000	12,867	0
100,000-120,432	8,459	0
120,432-150,000	17,537	719
150,000-250,000	118,332	21,785
250,000-500,000	1,049,267	248,855
500,000-1,000,000	625,340	156,335
1 – 5 million	57,351	14,337
Greater than 5 million	0	0
Total	1,889,853	442,032

Source: PAYE Microsimulation Model

Efficiency

The efficiency of the income tax in Jamaica is significantly compromised by five features of the income tax structure: the differential taxation of capital income, the difference in the corporate and individual income tax rates, the availability of allowances, incentives for certain industries, and the proliferation of non-compliance. The last issue is largely a tax administration issue, but it effectively creates a system where income may be taxed at a zero rate (for successful evaders) or at the statutory rate for those who comply. Individuals who face the combined

individual income and payroll tax rates of 31.5 to 43.0 percent, depending on the incidence of the employee's share of the payroll taxes, may be inclined to move to the shadow economy.

Evidence presented above on the number of individuals and the amount of income outside the tax net suggests that a significant amount of this activity occurs. This type of movement between sectors gives rise to additional costs to society. In addition, since some sectors are more likely to be successful in the shadow economy, individuals moving between the shadow and above ground economy may seek jobs that are not of the highest and best use of their skills — causing another cost to the economy as a whole.

The effective differential taxation of capital income in Jamaica is caused by the following factors:

- Double taxation of dividends of non-Jamaican stock exchange shares which makes certain companies favor debt issuance over equity and influences other financial decisions (such as encouraging retained earnings within the firm);
- Exclusion of individual income tax on dividends from stocks listed on the Jamaica stock exchange which increases the relative rate of return on the preferred stocks and affects investment decisions
- The general exclusion of the taxation of capital gains²⁹ which means that some individuals may change how they invest available capital (home or abroad, in various types of risky assets) and which makes capital income more attractive relative to labor income. Some individuals would attempt to swap wages for capital assets, such as stock options or real property, where available.

The typical analysis of the efficiency cost of taxation of capital gains income analyzes the “tax gains/do not tax gains” scenarios. The literature on this subject is very large, and the results are quite mixed. A recent paper by Desai and Gentry (2003) summarizes the debate, and concludes that capital gains tax rates and regimes have a large impact on the behavior of firms. Other analyses suggest that changing the taxation of capital gains results in significant short-run behavior, but that over the long-run, capital gains taxation that is “not excessive” has little

impact on equity offering and realizations (summarized in Gravelle, 1994). This will be discussed further in the options section.

We have virtually no information on the distribution of dividend income or potential capital gains in Jamaica. From the IT01 file, we can classify “dividends, interest, annuities, and discounts” by an expanded income definition as discussed earlier. However, we cannot distinguish among these types of income items nor can we get a good fix on total income from that file. From the IT05 file (return of income and tax payable, individuals, paye, pensioner, etc.), we can look at the distribution of dividends and interest and annuities separately. The file is small, it contains 7,952 returns, and the form is only filed by individuals to reconcile tax payments (over and underpayments). The distribution of dividends and interest payments is found in Table 15. As seen there, this reported capital income is distributed toward the upper end of the income distribution, which is not unusual or unexpected. Dividends are more concentrated in the highest two income groups, and interest income is spread among the top four groups. We should expect that the preferential treatment of capital gains would also distribute a benefit to these higher income individuals as well. Overall, the existence of this preference probably makes the individual income tax less progressive.

The availability of allowances may also present efficiency costs to the economy. As discussed earlier, the largest allowances are for housing, travel, meals, uniform/laundry, and “other.” With respect to efficiency, we ask whether the existence of these allowances affects the behavior of firms or individuals, which would be so if allowances were taxed less than wage income. We have already shown this to be true. However, in the case of most of the allowances, the room for individuals to choose non-taxed allowances versus wages is small if the tax administration is effective in monitoring the allowances.

Table 15: Reported Distribution of Dividend and Interest Income, 2001

Income class (\$, annual, total emoluments)	Percent of Total Dividend Income Reported	Percent of Total Interest Income Reported
< \$50,000	0.7	6.67
50,000-100,000	1.66	5.87
100,000-120,432	0.38	2.47
120,432-150,000	2.13	2.97
150,000-250,000	9.95	10.32
250,000-500,000	14.01	15.43
500,000-1,000,000	11.17	18.88
1 – 5 million	37.68	22.87
Greater than 5 million	22.32	14.53
Total	100	100

Source: IT05 Tax File

Meals are only non-taxed if they are given during non-regular hours and the uniform and laundry allowance is subject to a relatively low threshold. More of an issue arises in the case of housing and travel/motor vehicle upkeep. In the case of housing, since the taxable amount is generally 15 percent of other emoluments, there is room for non-taxable housing allowances that could replace taxable compensation. According to our previous analysis, this is not likely to be a large amount, but it is none-the-less an issue.

The travel allowance that is received for business use of a car also encourages a swap between wage (or other taxable compensation) and non-taxable travel allowance. If an employee uses their own vehicle and produces a voucher indicating mileage, they are also due an allowance of \$153,840 per year. If the employee is legitimately using their car for business, this is a normal business expense. If however they can economize on the use of their car, this becomes untaxed compensation. According to our emoluments data, the value of this benefit is more significant than for any other reported allowance.

As noted in Rider (2004), the relative tax cost of doing business as a corporate versus self-employed is a function of the corporate income tax rate, the individual income tax rate, and

the payroll taxes. As shown in his paper, for income over \$500,000 per year, the effective marginal tax rate on wages from within a corporation is 25.46 percent. The statutory marginal tax rate facing a self-employed individual is 35 percent. This is an incentive to incorporate, all other costs aside, which may not be a bad thing from the perspective of tax administration.

The impact of the incentive schemes will be discussed in detail in Rider (2004) but is worth mentioning here. The gratuity exemption should be creating an incentive for workers of a particular skill level to work in the tourism sector. As noted above, this represents a significant tax expenditure in the current system.

The efficiency “story” of the Jamaica individual income tax is not very complicated. The broad base and relatively simple structure of the tax creates relatively few incentives for individuals to avoid paying tax, but there are some important exceptions including housing accommodation, gratuities scheme, travel and motor vehicle, as well as smaller allowances which support a regime for tax avoidance.

Selected Compliance and Tax Administration Issues

The mandate of this study is tax policy and not tax administration. However, in analyzing the data of the individual income tax system, we should point out some of the issues that we see as possible tax administration problems. As noted earlier, there is an issue with the applicability of the TRN as a mechanism to track the self-employed. All individuals and self-employed are supposed to register for a taxpayer registration number. However, individuals may register as a person, but if they “become” a business, the TRN is not necessarily updated to reflect such a change. Also, individuals or businesses may register for multiple TRNs, some of which never become working businesses.

Fiscal Services provided us with a wealth of income tax return and filing data. Another issue as we understand it is that as returns are filed (IT01, IT05), errors on the returns are internally flagged, but the errors are not systematically followed up with the taxpayer. This is one of the issues that has led to significant arrears in the individual income tax. Also, very few income tax filers file annual returns on time (March 15). The late filings lead to interest and penalty assessments that become difficult to track and difficult to collect. The data in Table 16 provide an overview of the situation of late filing. These data are for self-employed (IT01). As seen there, over the years, more than 70 percent of returns are filed late. When individuals do file, they often file years late. In 2001-02, the timeliness increased, and there is evidence that that trend is continuing. As noted in the corporate income tax report (Rider, 2004), a similar trend is found for the corporate income tax.

We believe that these data show, from an administrative perspective, that timely filing is not considered a priority objective with respect to the individual income tax in Jamaica. It would appear that neither taxpayers nor the tax administration has taken this as a priority goal. While there is some evidence that this trend is changing, the lack of TRN identification for self-employed, the lack of automatic notices and follow up for errors on returns, and the acceptance of late filings reduce the ability of the tax administration to “make themselves known” to the taxpayer. There has been some concern expressed regarding onerous penalties and interest that have gathered on tax arrears. To date, we have not seen many pleas for special waivers of the penalty and interest on individual income tax returns. Whether this means that individuals do not know they can do this or they do not feel burdened by the penalties and interest or simply do not think they can pay or be successful with an appeal, we simply do not know.

Table 16: Timing of Income Tax Return Filing (IT01)

			On Time Filings	Late Filings	Total Filings
Individual Income Tax	1996-01	Sum of Tax Assessment	8260052.2	300201877.5	308461929.7
		Sum of # of Returns	873	12114	12987
	1997-01	Sum of Tax Assessment	24592083.87	555454135	580046218.9
		Sum of # of Returns	1312	16917	18229
	1998-01	Sum of Tax Assessment	25883383.72	579403620.4	605287004.1
		Sum of # of Returns	1492	17463	18955
	1999-01	Sum of Tax Assessment	37762491.16	627228309.6	664990800.8
		Sum of # of Returns	1432	18640	20072
	2000-01	Sum of Tax Assessment	26929514.72	492652271.9	519581786.6
		Sum of # of Returns	1394	19781	21175
	2001-01	Sum of Tax Assessment	76476147.43	472263773.3	548739920.7
		Sum of # of Returns	3537	22088	25625
	2002-01	Sum of Tax Assessment	138213155.3	617864561.2	756077716.5
		Sum of # of Returns	7565	17153	24718
	2003-01	Sum of Tax Assessment	290102689.4	238930377.9	529033067.4
		Sum of # of Returns	7927	4164	12091
Individual Income Tax Sum of Tax Assessment			628219517.8	3883998927	4512218445
Individual Income Tax Sum of # of Returns			25532	128320	153852

Source: MOFP, TAAD and Fiscal Services

International Comparisons

As noted above, Jamaica gets more revenue from its individual income tax than many other countries. The structure of the individual income tax in Jamaica is somewhat different from that of other countries. The most unique feature is the flat rate of taxation. Relatively few

countries around the world have a flat tax, but there is evidence that there is a trend in this direction.

A typical measure of international comparison is an estimate of tax capacity—or the ability to raise revenue from a particular source. By comparing actual income tax revenue to estimated potential income tax revenue, we can calculate indexes of tax effort for the countries in our sample, using data from the 1990s.³⁰

The first step in calculating income tax effort is to identify variables that measure the capacity of a country to raise income tax revenue. Per capita GDP is an overall measure of capacity, and we expect that countries with higher per capita GDP will raise more income tax revenue. Population size is used as an independent variable to adjust for the size of a country, with the expectation that large countries are more prone to tax personal income. The openness of a country (measured as imports plus exports divided by GDP) could be expected to identify countries with more sophisticated administrations and therefore an ability to support an individual income tax. We run an OLS regression of income tax as a percent of GDP on a sample of 35 countries in which all variables are entered in log form.

The results of this estimation are presented in Table 17, based on averages of the income tax to GDP ratio for countries for the period 1990-2000. The signs of the coefficients are as hypothesized, and all three independent variables are statistically significant. We use these regression results to estimate an expected or predicted level of individual income tax for Jamaica. For the 1990-2000 period, we predict that a country of Jamaica's income, population, and openness would raise 3.33 percent of its GDP in individual income tax revenue. In fact, Jamaica raises 8.25 percent—well above the predicted amount. Jamaica's tax effort index for the individual income tax (the actual individual income tax revenue divided by the estimated

revenue reported in Table 18) is 2.48—among the largest in our sample. Since we do not find evidence that the threshold in Jamaica is low, this high index is more likely due to the broad tax base in Jamaica, and to the 25 percent tax rate.

If interest income is excluded from the income tax receipts figure, Jamaica’s ratio falls to 6.1 percent of GDP, which is still a relatively large figure. There is constant debate regarding the denominator—is the GDP figure really capturing the full economic activity of the island or is it understated? We discussed this with officials from STATIN, and they believe that their measure captures as much GDP as possible, including using an expenditure model that would uncover economic activity that is in the “shadow” sector. They also point out that they follow methodologies that are similar to those used by many other countries, with a conclusion being that if Jamaica’s GDP is understated, so is the GDP of many other countries.

This analysis shows that Jamaica has a relatively strong take from the individual income tax. While there are some issues with the tax as summarized below, international comparisons suggest that there is not much room for increasing the effective tax rate for the individual income tax.

Table 17: Linear Regression Analysis of the Ratio of Individual (Personal) Income Tax Revenue to GDP Against Selected Independent Variables

	1990-2000
Intercept	-7.65 (2.65)
Per Capita GDP (in US\$)	0.490 (6.65)
Openness ^a	0.723 (2.33)
Population Size	0.121 (1.21)
Adjusted R ²	0.60
N	35

a) The ratio of imports plus exports to GDP.

Table 18: Individual Income Tax Effort

Country	Actual	Predicted	Effort
Guatemala	0.20	1.70	0.12
Botswana	1.61	3.52	0.46
Luxembourg	10.89	19.88	0.55
Tajikistan	1.20	1.89	0.64
Kazakhstan	1.99	2.98	0.67
France	6.01	8.97	0.67
Russian Federation	2.54	3.78	0.67
Portugal	4.68	6.26	0.75
Czech Republic	4.72	6.08	0.78
Austria	8.82	11.14	0.79
Moldova	2.10	2.59	0.81
Belgium	13.71	16.48	0.83
Switzerland	10.52	12.38	0.85
Slovak Republic	4.30	5.04	0.85
Germany	9.47	10.94	0.87
Argentina	2.37	2.39	0.99
Norway	10.92	10.28	1.06
Georgia	1.76	1.55	1.13
Croatia	5.81	4.99	1.16
Azerbaijan	1.84	1.56	1.17
Spain	7.66	6.41	1.20
Ukraine	3.43	2.80	1.22
Kyrgyz Republic	1.90	1.36	1.39
Canada	14.15	9.60	1.47
Estonia	7.92	5.31	1.49
Hungary	6.86	4.52	1.52
United States	10.26	6.66	1.54
Latvia	5.54	3.53	1.57
Iceland	10.28	6.40	1.61
Bulgaria	4.71	2.92	1.61
Lithuania	6.81	3.45	1.97
Romania	4.77	2.17	2.20
Jamaica	8.25	3.33	2.48
Denmark	25.62	10.16	2.52
Poland	8.08	3.14	2.57
MEAN	6.62	5.89	1.21

Source: Calculations based on the IMF, Government Finance Statistics and Jamaica Ministry of Finance and Planning

Jamaica's Individual Income Tax: Summary of Issues

We can summarize the tax policy “score” and areas of concern of Jamaica’s individual income tax using the following table in which we have expanded our original “good tax” criteria. The tax is relatively simple due to the flat rate and withholding at source. There are some complications brought into the system by the allowances, the tax treatment of capital income, and the application of a global system of taxation, which requires individuals with multiple sources of income to file tax returns to apply the appropriate level of threshold exemption or to report withholding on interest, dividends or wages. The exclusion of gratuities is also a complication to the system that opens the door for avoidance activity. Table 19 summarizes these issues.

Table 19: “Scoring” Jamaica’s Individual Income Tax

Criteria	Evaluation	Issues	Options
Revenue Adequacy	The tax is an important revenue source, with some instability related to underlying employment for PAYE. Interest withholding is a more stable source.	The tax base is broad and affords a relatively high level of revenue from the individual income tax. The taxation of capital income reduces overall revenues but may help to stabilize the stream of revenue from the income tax.	A balance among revenue sources is important and the level of revenue from the income tax should be considered when evaluating other taxes. The predictability of the tax could be enhanced by an indexed threshold.
Equity	The individual income tax, self-employed tax, and tax on interest and dividends all appear to be somewhat progressive in structure.	The threshold for income taxation is not indexed for inflation. The exclusion of capital gains and some dividends from taxation creates vertical and horizontal inequities. The existence of certain allowances also creates inequities in the system.	Indexing the income tax threshold would increase the equity of the income tax. Equalizing treatment among types of capital would also increase the equity of the system.
Efficiency	There is differential treatment of various types of capital. Allowances for accommodation, uniforms, laundry, and travel may induce individuals to switch wages for non-taxable compensation. There is unequal treatment of other types of income, namely gratuities.	Some allowances, namely housing, create incentives to switch to non-taxable compensation. There is also some incentive for higher income individuals to switch from wages to capital income compensation. Some individuals may choose to move to the tourism sector to avoid income tax.	Eliminate the non-taxable component of accommodations. Eliminate the preference for stocks listed on the Jamaica stock exchange. Integrate the treatment of allowances (do not allow deductions for the employer). Institute a tax on capital gains.
Simplicity	The system has a relatively expansive base and flat tax rate.	Allowances and the application of global income complicate the system	Reduce or eliminate allowances, exemptions, and move to a schedular system for wages, interest and dividends.
Administration	The system is plagued by evasion for self-employed, arrears, and late filings.	Taxpayers who should file tax returns do not. Some duplication of efforts for complying. Data system supportive of tax administration, but not yet used to full extent. TRN file not clean. The application of global income (PAYE, self-employed, interest, dividends, and pension income) complicates the system.	More use of presumptive methods. Effort to make TRN file more useful, use of tax files on a regular basis to profile taxpayers and follow up on mistakes and late filings. Schedular system.

There are some other specific issues regarding the individual income tax that do not readily fit within the usual criteria for evaluating a tax system. The treatment of withholding on interest and dividends for non-residents has been discussed as an issue in Jamaica. Various treaties between Jamaica and other countries allow interest and dividend tax withholding at rates lower than the 25 (or 33 1/3) rates at which Jamaicans are withheld. This could be an area for increased revenue generation, but treaty negotiations are complex.

The penalty structure for income tax offenses does not encourage compliance with the system. The structure, coupled with large arrears, make it difficult for the tax administration to collect taxes that are due the Government. One way to deal with this issue is an adjustment of interest and penalties on outstanding payments. This would not be a full-scale amnesty, but a grandfathering in of a new penalty and interest structure.

Reform Options

A number of reform options could be examined for the individual income tax. This section presents an analysis of 12 options, but others could be analyzed. Moreover, some of these could be combined and give quite different results. The options presented here were chosen to address some of the bigger issues as we understand them, but are just a starting point to discuss reform.

One of the biggest issues, tax evasion by the self-employed, will not be captured in most of these options. This is essentially an issue of tax administration, which is beyond the scope of this work. The current work of TAAD on the imposition of what is effectively an imputed income tax is a positive step toward closing the hole on the hard to tax, self-employed sector in Jamaica. Additional resources for tax administration might make that effort pay off in a more

timely fashion. In the last analysis, it is the willingness to enforce the tax that matters most, and this is a story that has long been told in Jamaica. But our mandate is not tax administration, hence we do not make recommendations specific to the imputed tax or to tax administration issues in general. However, we do make suggestions about simplifying the tax structure, which should encourage increased compliance by making tax structure more reasonable and fair, and by making enforcement easier.

In the following sections, we evaluate each option in terms of revenue cost or gain to the government, the implications for future revenue growth, the effects on the tax burden of individuals at different income levels, and the economic efficiency effects. Where appropriate, we address the issue of the administrative and compliance cost of making this change.

Option 1: Raise the individual income tax threshold to \$147,000 and index this amount annually. This option would bring the threshold roughly into line with per capita GDP. Raising the threshold would create a benefit for all taxpayers, but would benefit the lower income taxpayers more than the upper income taxpayers. The revenue cost of making this change is about 5.5 percent of PAYE revenue for the first year (\$1.5 billion at 2003 levels) and the indexing increases the cost by an additional 2.1 percent of revenues per year thereafter. This option would completely eliminate an additional 20,500 people from the tax rolls, and it would make the structure of the income tax more progressive. This may be seen by comparing the tax liability as a percent of emoluments of the current system and under Option #1 in Table 20. These impacts are described in Table 20. For those reporting only self-employed income, there is a small impact of less than \$20 million.

This reform is a way to address the fairness of the income tax by establishing and maintaining a standard deduction that more properly reflects the cost of a subsistence level of

income. However, because of an increased threshold benefits all taxpayers, there are no losers in this reform. All 248,810 taxpayers above the threshold would see a reduced liability. In that sense, it might pass a political feasibility test. The administrative and compliance costs should be nil, as the index (the consumer price index) is objectively measured and readily available. The instructions would need to be changed each year.

The major drawback is the revenue cost. In a revenue neutral reform, this amount will need to be made up from either a revenue enhancing reform of the income tax or of some other tax.

Option 2: Raise the individual income tax threshold to \$170,000 and index this amount annually. This option would increase the threshold beyond the per capita GDP by an amount equal to approximately 25 percent of the average annual consumption expenditures of households. This may be thought of as a way to compensate families for a basic standard of living. The revenue cost of making this change is 10 percent of PAYE revenue for the first year (\$2.7 billion at 2003 levels) and the indexing increases the cost by an additional 2.1 percent per year thereafter. This option would eliminate approximately 36,000 taxpayers from the rolls. There is an additional, small revenue impact from the self-employed of a loss of \$ 40 million in individual income tax for self-employed.

The difference between this reform and option 1 is clearly described in Table 20. The resulting distribution of income tax burdens is a bit more progressive, and the revenue loss is greater. The administrative and compliance issues are not a major issue. Essentially, the difference between this and option 1 is that more benefits are passed to lower income Jamaicans, but the revenue productivity of the income tax is hit harder.

Option 3: Raise the threshold to \$500,000 and index this amount annually. This option would benefit all Jamaican individual income tax payers, but would provide total income tax relief to a large number of lower income taxpayers. This option would be a way to reduce administrative cost, give a relatively big relief to lower income taxpayers, and reduce the tax burden on labor. Since it exempts such a large portion of emoluments, it reduces the support for a number of allowances and the current gratuities scheme, to a large extent. The revenue cost of this option is large as it reduces income tax revenues by \$13.9 billion, 50 percent of PAYE, and the indexing further increases the cost after the first year by an additional 2.3 percent. The self-employed component of this reform is also more costly and would reduce self-employed tax revenue by 40 percent—an estimated \$110 million.

The main benefit of this change is an increase in equity and a reduction in the number of individuals on the tax rolls. While all taxpayers see a reduction in tax liability, an estimated 147,000 taxpayers will be taken off the tax rolls (slightly more than 60 percent of taxpayers with current law liability greater than zero), reducing tax administration costs.

Option 4: Raise the threshold to \$147,000 and index this amount annually, and institute an additional income tax rate of 33 1/3 percent at \$700,000 of income (net of threshold). This option would benefit lower income individuals, raise the effective tax rate on the higher income, and increase the progressivity of the individual income tax. The higher tax rate on top bracket incomes would pay for the revenue loss of the increased threshold. The net revenue impact is a small revenue gain the first year and an expected loss of about 1.5 percent of PAYE revenue per year after the indexing (approximately revenue neutral for years 1 and 2 combined). The impact on self-employed is revenue neutral.

The main benefit to be had from this reform is that it enhances the progressivity of the income tax and it is nearly revenue neutral. But there are important drawbacks. It breaks a longstanding tradition of holding to a flat rate tax, hence eliminating bracket creep. It also raises the problem of levying a higher marginal tax rate on those in top brackets, who are most prone to save, invest and initiate entrepreneurial activity. It raises the reward for successful avoidance or evasion of the income tax. Finally, it opens the door for future decisions about graduation in the rate structure, and graduated rates have been an unsuccessful experiment in Jamaica's tax history. As to political feasibility, this package of reforms would have 213,054 winners (reduced taxes) and 35,756 losers (increased taxes).

Option 5: Eliminate the uniform and laundry allowance. This option would reduce the possibility of tax evasion through the use of the allowances, and would make the income tax more horizontally equitable. These allowances leave open a door for paying individuals a wage supplement that is non-taxable. While the list of industries for which the allowances are non-taxable is more or less reasonable, it is still a subjective list.

Some would claim that elimination of the non-taxable allowance would be a burden on workers who are required to wear uniforms and therefore must incur a cost of a uniform. Clearly this would be a cost of disallowing the uniform perquisite. However, we also see significant gains. A door for abuse would be closed, taxpayers with similar incomes would be treated more fairly. Moreover, if employers require uniforms, let this be included in taxable wages (which are deductible at the company level).

The revenue implications are not great. Complete elimination of the uniform and laundry allowance would yield \$54 million (2003 levels) or 0.2 percent of the PAYE. Most of the revenue hit would come in the \$150,000 to \$500,000 range. The increased burden on those in

the lower income brackets would be offset or eliminated if the standard deduction were increased. By our count, this reform would increase taxes for about 10,500 workers. In terms of administrative costs and compliance costs, the effects should be positive. There would be one less allowance to monitor.

Option 6: Eliminate the laundry allowance. This option would reduce the possibility of avoidance/evasion through the use of the laundry allowance. At present, this allowance is difficult to justify on grounds that it is a required business expense (the justification for the uniform allowance). Elimination of this allowance would yield \$25 (2003 levels) million or an amount equivalent to 0.1 percent of PAYE. The better course, we think, is to let the company pay the employee a taxable wage (deductible by the company) and capitalize the uniform “allowance” into this amount as it chooses.

Option 7: Eliminate the non-taxed housing accommodation. This option would reduce the potential avoidance behavior of paying non-taxable compensation (in the form of a housing accommodation) to employees. The proposal here is to tax the total amount of accommodation reported by the employer. The revenue estimate assumes that this option would not reduce total compensation, but that the value of the housing accommodation would continue to be paid but in a taxable form (either as taxable accommodation or as taxable wages). The net result may be that the previous housing accommodation would be capitalized into the taxable wage.

The revenue impact of this option is an increase in PAYE of 1.1 percent of revenue, \$202 million (2003 levels). The primary “losers” in this reform would be those on the \$500,000 to \$1 million income class. Overall, the impact would be to increase the progressivity of the income tax. About 10,500 taxpayers would be affected.

Option 8: Eliminate the exclusion of gratuities (up to \$250,000) for hotel workers. This option would eliminate the inequity of the current tax treatment of gratuities in favor of payment in taxable wages. This has a number of advantages. It will be easier for the tax administration to assess. The revenue impact of this option is an increase in PAYE revenue of \$442 million (2003 levels) or an amount equivalent to 2 percent of PAYE revenue. Another advantage is that it would eliminate a horizontal inequity. Why should workers receiving gratuity compensation be treated differently than workers receiving a regularly labeled “wage”? Finally, this would close off an avenue for abuse.

There are also disadvantages. Tax preferences are always hard to remove, and there would be about 10,584 losers from this reform. Moreover, the primary target would be the tourism sector which is effective in protecting a favored treatment. This means that political feasibility will be an important issue. There also will be arguments that this tax preference is a way to keep Jamaica’s tourist sector more competitive. There might be an argument that this option would be regressive in that it would harm lower income workers more than others. The data presented in table 19, however, suggest that the tax preference for gratuity income is spread across several income classes, including some individuals at the highest income levels.

Option 9: Eliminate all non-taxed allowances. This option would eliminate the inequity of allowing some benefits to go untaxed. This preferential treatment currently benefits higher as well as middle income levels, and so this reform option would increase the progressivity of the income tax. The revenue impact of this option is to increase PAYE revenue by \$2.0 billion or about 7.3 percent of PAYE revenue. This estimate may be overstated as some non-taxable allowances are legitimate reimbursable expenses. At the same time however, some non-taxable allowances may not be reported in the emoluments survey. It has the added advantage of

eliminating one more area where monitoring would be required, hence it reduces the administrative cost of the income tax system. Moreover, it closes down one more avenue of possible abuse.

Option 10: Exempt the income tax on receipts of dividend income by corporations and individuals from stocks not listed on the Jamaica stock exchange. This option would eliminate the preferential treatment afforded stocks listed on the Jamaica Stock Exchange and would eliminate the double taxation of these dividends. The net effect would be equal treatment of debt and equity in the income tax system (tax integration).

It is no easy matter to estimate the impact of this reform. We do not have information on the distribution of dividends between individuals and corporations. We make the arbitrary assumption that half of the current tax on dividends is paid directly by individuals and we compute the distributional effects based on the distribution of dividends reported in the IT05 (Table 21). For this option, we use all income reported on the IT05 to create income groups. In this case, the option would lead to a revenue loss of \$260 million for individuals, and most of the tax relief would go to higher income individuals.

Option 11: Tax realized capital gains. This option would eliminate the major loophole in the current tax base. This reform option would lead to an increase in the progressivity of the entire income tax system as capital income is typically held by higher income individuals. Realized gains would be gains on real property as well as on securities and other assets. While taxing accrued gains would be more in line with the theory of a Haig-Simons definition of income, the difficulties of taxing accrued gains is well documented (see Auerbach and Hassett, 1999 for a summary of this discussion).

A typical tax on capital gains would tax realized gains on land and/or property and equities, although other assets could also be included in such a tax. In the report on Stamp Duty and Property Transfer Tax (2004), Bahl notes that a realized capital gains tax liability on land could be calculated as follows (Bahl also provides details regarding the establishment of values):

1. Land value at time of sale
2. minus land value at purchase, net of costs of improvements, adjusted for inflation over the period.
3. minus allowable exemption status
4. equals: taxable realized capital gain
5. times tax rate
6. equals tax due

A similar method could be used to determine the basis for a tax on property including improvements and equities. A relatively broad-based capital gains tax would tax land, improvements, and equities. In each case, the basis of the asset would have to be calculated (and information monitored).

A capital gains tax in Jamaica would need to consider structural issues including exemptions and the tax rate and scheme including whether full loss offset would be allowed. If full loss offset were allowed, then any capital losses made during realization of assets would be deducted from income or would result in a refund or carryforward of loss under a global or schedular system of taxation. This structural detail would increase the government's share in the risk of investment and may lead to more investment by individuals and corporations as they would see a reduced risk to themselves. Many countries utilize a separate tax rate for capital gains (including differential tax rates based on the holding period of the asset) and there is a mix

of experience with loss offsets. Many countries also offer an exemption of capital gains on primary residences.

There are important pros and cons to be considered with respect to a capital gains tax. Proponents of a tax on capital gains would point out that taxing capital gains in Jamaica would increase the equity of the system, reduce the avoidance potential of switching between taxed income (wages) and non-taxed gains, widen the tax base (a general goal of taxation), and create an increase in the perception of fairness of the tax system. Those arguing against a tax on capital gains would point out that such a tax would entail relatively high administrative costs to value properties and other assets, assess inflation adjustments, monitor sales and sales prices, and collect an additional tax, increased cost of capital, which could affect investment and avoidance/evasion behavior, and the instability of capital gains during expansion and contraction of the economy.

While all of these claims (pros and cons) have merit, many are very difficult to quantify. South Africa is one of the most recent countries to debate the introduction of a capital gains tax and in doing so, provided a useful comparison of what is done in other countries (South African National Treasury, 2001). In their survey of over 100 countries, they find that the overwhelming majority tax capital gains to some extent. The rates and specific bases vary widely. Among the Caribbean countries, however, there is more limited taxation of capital gains. According to the survey, the Bahamas, Barbados, British Virgin Islands, and Trinidad and Tobago impose no capital gains tax. Guyana has a tax but does not tax gains on listed stocks and the system in St. Lucia is unclear.

The economic effects of capital gains taxes are also difficult to quantify. Much literature has been devoted to studying the effect of capital gains taxation on revenue, realizations, savings,

and investment but much of it remains inconclusive. Zodrow (1995) presents a review of studies of capital gains taxation on equity, efficiency, and realizations. Zodrow concludes that much of the empirical work is very sensitive to econometric specifications and other components of the tax regime. Our reading of the literature (also summarized in Gravelle, 1994 and Burman, 1999) is that capital gains taxes that are not excessive have little long-term effect on realizations and investment in the long run in large countries such as the U.S. There are so few documented experiences of introductions of capital gains taxes in small open economies such as Jamaica that we have virtually no actual empirical analysis to appeal to in this case. Light (2004) presents an estimate of the impact of capital gains taxation in Jamaica using the computable general equilibrium model developed for this Project.

To develop a revenue estimate of a tax on capital gains in Jamaica, we would ideally have information on the value (level) of assets, average realizations (turn over of assets by sale of asset), origination price, and the value of improvements—all adjusted for inflation. We simply do not have this information. Bahl (2004) presents an estimate for a capital gains tax on realized land and concludes that at a 50% tax rate, approximately \$145 million per year could be raised. If we conservatively assumed that improvements gained at the same rate as the assumed gain in land value used by Bahl, and that each realized land gain had an associated realized improvement (structure) gain, we estimate that a real property (land and structures) capital gains tax could yield \$290 million at a 50% rate or \$145 million at a 25% rate.

In most countries, the capital gains tax on equities is the larger share of capital gains revenues. Again, we have no hard data on which to develop an estimate but we appeal to some countries experiences to give us an “order of magnitude” estimate. In the U.S., capital gains realizations have varied significantly over the past 40 years. A rough average of capital gains

realizations to GDP is 2.3 percent.³¹ If we applied these very aggregate statistics to Jamaica, if Jamaica had similar experience to the U.S., then Jamaica could raise \$2 billion in capital gains tax at a 25% tax rate on capital gains if all realized gains were taxable ($0.0021 * GDP * .25$). These types of comparisons are very difficult to make, however, since the capital gains regimes in most countries are very complicated and give rise to differences in capital gains realization behavior.

Estimating the revenue effect of taxing capital gains specific to Jamaica is difficult because we do not have a natural estimate of the amount of accrued and realized gains in Jamaica. Nor do we have information on who holds those assets. We use data from the annual reports of the Jamaica Stock Exchange (JSE) to estimate retained earnings and turnover rates. The annual report of the JSE provides the following information for its listed stocks: year end market value of capital, number of listed companies, volume traded, value traded, year end market index, number of transactions and number of brokers. Using these data, we can estimate the annual addition to the real value of stocks listed on the Exchange in year t as:

$$(Year\ end\ market\ gains_t - (Year\ end\ market\ gains_{t-1} - Value\ traded_{t-1}))/CPI_t$$

This gives us an estimate of the increase in real capital gain between two years for the listed stocks. We also use the JSE data to calculate the average annual turnover in stock, and, if we assume that all stocks turnover similarly, this provides us with an estimate of annual realizations. Over the last 34 years, this average is 5.4 percent, and it is 6.13, 5.85, and 2.86 over the last 20, 10, and 5 years respectively.³² We assume that the average annual realization is 5.85 percent as the last 10 years may be a more “normal” period than the last 5 years due to the collapse of many stocks worldwide.

Using these data, we estimate (using a 10 year average) that a tax on realized capital gains of JSE equities could raise approximately \$500 million per year at current turnover rates

and valuation growth.³³ As noted earlier, changes in capital gains taxation can have important short-run impacts such as delaying realizations and influencing market growth. Also, these estimates do not consider capital gains taxes on other assets.

To summarize, we estimate that a capital gains tax on land and property and on stocks of publicly listed companies could raise \$650 million. Based on the experiences of the U.S., inclusion of gains of other assets could increase this estimate to \$1 billion. However, these estimates are very tenuous due to the unavailability of data.

Option 12: Move to a system of schedular taxation for wages, interest and dividends with a threshold applied only for PAYE emoluments. This option would reduce the complication of the attempt at taxing all income under one threshold. A schedular tax at a rate of 25 percent for wages, interest and dividends and taxable trusts paid to individuals would eliminate the need for tax filing for virtually all individuals. A threshold would be applied to only wage income. All other income would be taxed at first dollar. Alternatives could be developed that would allow thresholds unique to interest or dividends. Self-employed income would be treated as business income only (a self-employed individual would not include interest and dividend income on their IT01).

While we have no detailed data on this type of distribution, we used the information in IT05 to estimate the revenue impacts of this option. We used the IT05 data to identify the distribution of interest and dividends among three types of taxpayers: (a) those with total income below the current threshold, (b) those with wages above the current threshold, and (c) those for whom total income is above the threshold, but total income minus interest and dividends is below the threshold. The first group would see an increase in tax on all interest and dividends under this proposal, because they are currently exempt by virtue of being below the threshold

under current law. This is 35 percent of tax filers in the IT05 and this group reports 3 percent of dividend income and 15 percent of interest income. The second group would not see any tax increase under the schedular tax option as their interest and dividend income does not currently receive the benefit of the threshold. This group constitutes 59 percent of the sample and holds 90 percent of dividends and 85 percent of interest income in the file. The last group will see an increase in tax on interest and dividends as some of the current threshold goes toward excluding some portion of interest and dividend income. This group is 6 percent of the sample and holds 7 percent of dividends and less than 1 percent of interest income.

We assume that half of the reported withholding on interest and half the reported withholding on dividends is attributed to individuals (versus corporations). Our baseline estimate is that there are \$1.04 billion dividend distributions taxed at the individual level (\$260 million receipts divided by 0.25) and \$21 billion interest distributed taxed at the individual level (\$5,250 million receipts divided by 0.25). Most of those will not face additional tax under this option, based on the analysis just presented. However, 3 percent of dividends and 15 percent of interest will see the full effect of the change since these were under the threshold in current law. This amounts to \$7.8 million additional revenue for dividends from this group and \$787 million in additional taxes on interest withholding. From the last group, we estimate that all of their interest income would become taxed as it was all below the combined threshold and 45 percent of their dividend income would become taxed. This would yield a \$50 million increase in interest income tax withheld and \$8 million increase in dividend withholding. The total revenue estimate for this option is a gain in revenue of \$853 million in individual income tax on interest and dividends. The obvious shortcoming of this option as stated is that it increases the tax burden on lower income individuals, especially those with income *only* from interest and

dividends. This would be mitigated by a separate threshold for interest and another for dividends.

This section has presented a series of options that address the issues of horizontal equity, vertical equity, and efficiency in the individual income tax system. A summary of the revenue cost associated with the options is found in Table 21. There are additional options that could be analyzed, (for example, eliminating other specific allowances such as travel and motor vehicles) but we believe these are illustrative of the reforms that may address the significant issues of the individual income tax in Jamaica.

Table 20: Reform Options (\$ millions)

Income class (\$, annual, total emoluments)	Total Emoluments	Current Law-Tax Liability		Option #1: Increase Threshold to \$147,000 and index			
		Amount	As a Percent of Emoluments	Amount	As a Percent of Emoluments	Winners	Losers
< \$50,000	895.6	0	0	0	0	-	0
50,000-100,000	4,957.3	0	0	0	0	-	0
100,000-120,432	1,471.2	0	0	0	0	-	0
120,432-150,000	2,364.7	46.0	1.95	0	0	17,178	0
150,000-250,000	11,066.8	821.9	7.43	499.1	4.5	55,515	0
250,000-500,000	26,750.1	3,559.1	13.30	3087.8	11.5	74,308	0
500,000- 1,000,000	45,140.6	7,906.1	17.51	7478.7	16.6	64,343	0
1 – 5 million	66,281.6	14,140.7	21.33	13,897.0	21.0	36,608	0
Greater than 5 million	5,892.4	1,378.7	23.40	1,373.0	23.3	858	0
TOTAL	164,820	27,852.5	17.0	26,336.7	16.0	248,810	0

Source: PAYE microsimulation model

Income class
(\$, annual, total
emoluments)

Option #2: Increase Threshold to \$170,000 and index

	Amount	As a Percent of Emoluments	Winners	Losers
< \$50,000	0	0	-	0
50,000-100,000	0	0	-	0
100,000-120,432	0	0	-	0
120,432-150,000	0	0	17,178	0
150,000-250,000	269	2.4	55,515	0
250,000-500,000	2,694.4	10.1	74,308	0
500,000- 1,000,000	7,108.8	15.7	64,343	0
1 – 5 million	13,687.1	20.1	36,608	0
Greater than 5 million	1,368.2	23.2	858	0
TOTAL	25,127.6	15.2	248,810	

Income class (\$, annual, total emoluments)	Option #3: Increase Threshold to \$500,000 and index			
	Amount	As a Percent of Emoluments	Winners	Losers
< \$50,000	0	0	-	-
50,000-100,000	0	0	-	-
100,000-120,432	0	0	-	-
120,432-150,000	0	0	17,178	-
150,000-250,000	0	0	55,515	-
250,000-500,000	0	0	74,308	-
500,000- 1,000,000	2,026	4.5	63,499	-
1 – 5 million	10,667	16.1	36,608	-
Greater than 5 million	1,297	22.0	858	-
TOTAL	14,000	8.50	248,810	-

Income class (\$, annual, total emoluments)	Option #4: Increase Threshold to \$147,000 and index, create 33 1/3 percent rate over \$700,000				Option #5: Eliminate Laundry and Uniform Allowance			
	As a Percent of		Winners	Losers	As a Percent of		Winners	Losers
	Amount	Emoluments			Amount	Emoluments		
< \$50,000	0	0	-	-	0	0	-	-
50,000-100,000	0	0	-	-	0	0	-	-
100,000-120,432	0	0	-	-	0	0	-	-
120,432-150,000	0	0	17,178	-	49.0	2.1	-	185
150,000-250,000	499.2	4.5	55,515	-	843.4	7.6	-	1,210
250,000-500,000	3,087.9	11.5	74,308	-	3,576.8	13.4	-	6,255
500,000- 1,000,000	6,761.9	14.9	63,499	844	7,913.4	17.5	-	2,934
1 – 5 million	16,303.2	24.6	2,554	34,054	14,145.0	21.3	-	356
Greater than 5 million	1,779.1	30.2	-	858	1,378.8	23.4	-	-
TOTAL	28,431.0	17.3	213,054	35,756	27,906.4	16.9	-	10,940

Income class (\$, annual, total emoluments)	Option #6: Eliminate Laundry Allowance				Option #7: Eliminate Non-taxable accommodation			
	Amount	As a Percent of Emoluments	Winners	Losers	Amount	As a Percent of Emolument	Winners	Losers
< \$50,000	0	0	-	-	0	0	-	-
50,000-100,000	0	0	-	-	0	0	-	-
100,000-120,432	0	0	-	-	0	0	-	-
120,432-150,000	46.9	2.0	-	185	49.2	2.1	-	834
150,000-250,000	833.3	7.5	-	1,001	848.3	7.7	-	2,467
250,000-500,000	3,567.5	13.3	-	6,150	3,579.8	13.4	-	1,219
500,000-1,000,000	7,909.5	17.5	-	2,814	8,027.1	17.8	-	6,035
1 – 5 million	14,142.8	21.3	-	356	14,167.5	21.3	-	582
Greater than 5 million	1,378.7	23.5	-	-	1,378.7	23.4	-	-
TOTAL	27,878.5	16.9		10,506	28,150.7	17.06		11,137

Source: PAYE microsimulation model, IT01 file, IT05 file

Income class (\$, annual, total emoluments)	Option #8 Eliminate exclusion of gratuities				Option #9: Eliminate exclusion of non-taxable allowances			
	Amount	As a Percent of Emoluments	Winners	Losers	Amount	As a Percent of Emoluments	Winners	Losers
< \$50,000	0	0	-	-	0	0	-	-
50,000-100,000	0	0	-	-	0	0	-	-
100,000-120,432	0	0	-	-	0	0	-	-
120,432-150,000	46.7	2.0	-	-	52.9	2.2	-	3,541
150,000-250,000	843.7	7.6	-	185	972.5	8.8	-	19,563
250,000-500,000	3,807.9	14.2	-	1,210	3,907.7	14.6	-	25,167
500,000- 1,000,000	8,062.4	17.9	-	6,255	8,760.0	19.4	-	31,058
1 – 5 million	14,155.1	21.3	-	2,934	14,861.0	22.4	-	15,970
Greater than 5 million	1,378.7	23.4	-	-	1,399.0	23.8	-	368
TOTAL	28,294.5	17.2		10,584	29,953.7	18.2		95,668

Source: PAYE microsimulation model, IT01 file, IT05 file

Table 21: Dividend Tax Option

Income class (\$, annual, income reported on IT05)	Reported Income (in millions \$)	Current Law-Imputed Dividend Tax Liability, Individuals		Option #10: Eliminate taxation of dividends	
	Amount	Amount	As a Percent of Reported Income	Amount	As a Percent of Emoluments
< \$50,000	26.3	0	0	0	0
50,000-100,000	52.5	0	0	0	0
100,000-120,432	33.1	0	0	0	0
120,432-150,000	72.0	5.7	7.0	0	0
150,000-250,000	255.5	26.6	10.4	0	0
250,000-500,000	633.9	37.5	5.9	0	0
500,000- 1,000,000	693.6	29.9	4.3	0	0
1 – 5 million	969.5	100.7	10.4	0	0
Greater than 5 million	535.3	59.7	11.1	0	0
TOTAL	3,271.6	260	8.0	0	0

Source: PAYE microsimulation model, IT01 file, IT05 file

Table 22: Summary of Individual Income Tax Options

Option #	Revenue Impact (2003 levels, billions)
1: Increase threshold to \$147,000 and index	-\$1.9 ; 6 % of PAYE
2: Increase threshold to \$170,000 and index	-\$2.7 ; 10 % of PAYE
3: Increase threshold to \$500,000 and index	-\$13.9; 50% of PAYE
4. Increase threshold to \$147,000 and add a 30% rate	-\$0.01
5. Eliminate non-taxable uniform and laundry allowance	+\$0.054; 0.2% of PAYE
6: Eliminate non-taxable laundry allowance	+\$0.025; 0.1% of PAYE
7. Eliminate non-taxable accommodation allowance	+\$0.202 ; 1.1% of PAYE
8. Eliminate gratuities exemption	+0.44; 2% of PAYE
9. Eliminate non-taxable allowances	+2.0 billion; 7.3% of PAYE
10. Eliminate the taxation of non-Jamaica Stock Exchange dividends	-\$0.26 ; 1.1% of PAYE
11. Tax capital gains	+ 1.0 billion; 3.7 percent of PAYE
12. Institute schedular taxation	+\$0.853 (interest and dividend withholding)

Endnotes

1. The tax rate for corporations is 33 1/3 percent.
2. Gugl and Zodrow (2004) summarize the debate on international tax competition, incentives and behavior.
3. Some feel that the movement toward flat rate income tax rates is the wave of the future. Russia's change in 2001 has prompted other former soviet countries that had not already moved to a flat rate tax to make that change. China has been considering such a move for the last few years.
4. An elastic tax is one whose revenues grow more than proportionately income growth, and the tax revenue of an inelastic tax grows proportionately slower than income
5. Mendes and McLean (2003).
6. Statutory income is defined as "the aggregate amount of income of any person from all sources remaining after allowing the appropriate deductions and exemptions under the Income Tax Act" (Income Tax Act, Section 2. Under Section 2, chargeable income is defined as "the aggregate amount of income of any person from all sources remaining after allowing the appropriate deductions and exemptions under this Act."
7. It is our understanding that this category of "other income tax" includes final payments of individuals with multiple sources of income (including pensioners and partners).
8. Corporations are liable for a tax rate of 33 1/3 and must reconcile the difference between the withheld amount and the total liability on annual returns.
9. The Haig-Simons definition of income is often held up as the "ideal" of an income tax base. This definition of income includes wages, salaries, profits, bonuses, interest, dividends, gratuities, rental income, transfer payments, gifts, in-kind gifts and compensation, and the change in value of real assets. It is largely the last issue—the change in value of real assets—that is left out of most income tax bases due to the difficulty in administering a tax on the increased value of unrealized gains.
10. Other exemptions include material allowances paid to teachers, disability payments to veterans, gratuities in certain industries, a \$45,000 exemption for those 65 or older, \$45,000 of pension income, scholarships, interest on certain investments (2002 Amendment to the *Income Tax Act*).

11. Countries that do not tax worldwide income include Dominican Republic, Guyana (a hybrid definition), Panama (territorial based)
12. The allowance for uniforms is exempt (up to \$5,739) if the uniform is not provided by the employer (section 5(1)(c)(i)(b).
13. The reported value of the accommodation may not be taken as the base for this calculation if the Commissioner deems that the value is not accurate. The Commissioner may determine a different value of accommodation. This same value is allowed as a deduction by the employer.
14. This is different from incorporated bodies, which are supposed to register with the Registrar of Companies after they receive their TRN.
15. The dip in the late 1990s is due to an increase in other tax revenues (interest withholding) and a decline in employment.
16. The average buoyancy and elasticity estimates for the tax on dividends, tax on other individuals, and tax on interest are (respectively): 2.1 and 1.29; 0.78 and 1.06; and 3.32 and 2.63. These estimates also change significantly between years.
17. If there is ease of migration, then the individual income tax on labor may not be fully borne by labor. This has been shown for state income taxes in the U.S. (Wallace, 2001) and in the EU (Giannoccolo, 2003). In developing countries, labor migration is usually attributed to relative unemployment levels and not to differences in taxes on labor (see Fergany, 2001).
18. For the current report, we age the emoluments data to 2003 as explained later. We have also contracted PriceWaterhouseCoopers to do a smaller survey of private companies so that we can update the distribution of in-kind versus cash emoluments. These data are expected to be available in July 2004.
19. This 50 percent self-employed estimate is not a “hard” estimate but rather is based on past information and experience of TAAD and Tax Policy officials.
20. We use the base data from the 2001 Emoluments Survey and add back the 70,500 jobs (65,424 individuals) so that we arrive at a larger total emoluments base. We add back the 65,424 “individuals” by creating observations as follows. We use the distribution of part time workers for the bottom three deciles reported by the SLC to create weights for these additional observations. To those 65,424 observations, we attribute the mean values of all items that are reported for the 285,000 individuals included in the 2001 Emoluments survey data base. We then apply our weights for the 65,424 individuals to arrive at a total weighted data file of 350,306.

21. According to the Survey of Living Conditions (2002), 43.75 percent of individuals consider themselves self-employed.
22. TAAD also provided a summary of total amounts (tax liability, interest, penalty, and charges) outstanding year to date, April 2004. At that time \$5 billion was outstanding on behalf of the individual income tax, self-employed.
23. We took one additional step to quantify the magnitude of the non-tax net self-employed. We merged the TRN file (which includes all businesses—corporations and non-corporations but does not include many taxpayers who are self-employed but do not register as a business) that we received from Fiscal Services with the GCT file that we received from Fiscal Services. This gave us a list of “GCT active TRNs.” We merged this file to another TRN file that contains just corporations, and the non-matching TRNs is an estimate of the number of GCT active businesses that are not corporations. We assume this is another measure of the self-employed businesses. That analysis suggests that there are about 32,000 non-corporate businesses that are active in the GCT base. This analysis provided little additional information on the total self-employed population other than to confirm an additional “lower bound” of self-employed.
24. In this analysis, we rely on our update of the 2001 Emoluments Survey. As noted above, the Jamaican Household Expenditure Survey 2004 is not scheduled to begin until June 2004 and the only former one available is for 1984. The 2000 Census data are scheduled to be made available to us in June for this expanded analysis.
25. For those under the age of 55, the pension exemption (\$45,000) applies to pension income. For those 55 and older, the pension exemption can apply to any income. For those 65 and older, there is an additional exemption of \$45,000.
26. Island-wide, food is 43.5 percent of total expenditures, so the income tax threshold would be equivalent to about 90 percent of the average food expenditure of the average household.
27. These micro-level data taken from actual tax returns and face-to-face interviews with firms. Those data are based on 2001, and contain information on individual emoluments by type, taxes withheld, and occupation information. The corresponding employer file contains information on the number of employees, industry, wage bill, and tax withholding. A detailed description of the sampling methodology can be found in Emoluments (PAYE) Survey 2001 (MOFP, 2002).
28. Using data from the MOFP on the timeliness of filing, we have confirmed that our population of self-employed tax returns in 2001 is representative of the total population of self-employed that eventually report, in terms of tax liability.

29. The property transfer tax does impose a tax burden on the realization of some capital gains.
30. The sample is limited because data for the income tax or data for the independent variables used are not available for all countries.
31. In the U.K., the capital gains tax (applied at a progressive rate) brings in approximately 2.1 percent of income tax revenues on average over the past 25 years. If the situation were similar to the U.K., Jamaica might raise \$600 million.
32. This excludes 1995, which is an unexplained outlier year in terms of value and volume traded.
33. This series for the entire period is very unstable. For example, the reported value of traded stocks in 2003 is \$24 billion, for which we estimate a real gains of \$11 billion. At a tax rate of 25% this yields \$2.9 billion. However, for 1993, the value traded is \$8.3 billion, for which we estimate a real loss of \$1 billion and a net revenue loss (if capital losses are allowed) of \$340 million.

References

- ACCF Center for Policy Research (1998). "An International Comparison of Capital Gains Tax Rates," ACCF Center for Policy Research Special Report.
- Alleyne, D. (1999). *Taxation and Equity in Jamaica 1985-1992*. Kingston, Jamaica: Canoe Press University of the West Indies and The Consortium Graduate School of Social Sciences.
- Alleyne Dillon, James Alm, Roy Bahl, and Sally Wallace (2004), "Tax Burden in Jamaica," Jamaica Tax Reform Working Paper # 9, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.
- Alm, J. (1996). "What is an Optimal Tax System," *National Tax Journal*, Vol. 49, No. 1, 117-133.
- Alm, J. & Bahl, R. (1985). "Evaluation of the Structure of the Jamaican Individual Income Tax." Jamaican Tax Structure Examination Project, Metropolitan Studies Program, Maxwell School, Syracuse University Working Paper No. 15. Syracuse, New York and Kingston, Jamaica: Board of Revenue, Government of Jamaica.
- Alm, J. & Lopez-Castano, H. (2004). "Payroll Taxes in Columbia," forthcoming in Richard Bird, James Poterba, and Joel Slemrod, ed., *Reforming the Columbia Tax System*. MIT Press.
- Alm, J., Martinez, J. & Schneider, F. (2004). "Sizing the Problem of the Hard to Tax," in Alm, James, Jorge Martinez and Sally Wallace, ed., *Taxing the Hard-to-Tax Lessons from Theory and Practice*. Elsevier, forthcoming.
- Alm, J. & Wallace, S. (2004, May). "Can Developing Countries Impose a Personal Income Tax?" presented at The Challenges of Tax Reform in a Global Economy Conference. Andrew Young School of Policy Studies, Georgia State University, Stone Mountain, Georgia..
- Auerbach, Alan and Kevin Hassett, (1999), "Uncertainty and the Design of Long-Run Fiscal Policy," National Bureau of Economic Research, Working Paper 7036, Cambridge, Mass: NBER.
- Bahl, R. W. ed. (1991). *The Jamaican Tax Reform*. Cambridge: Lincoln Institute Press.
- Bahl, R. (2004), "Property Transfer Tax and Stamp Duty," Jamaica Tax Reform Working Paper # 2, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.

- Burman, L. (1999). "The Labyrinth of Capital Gains Tax Policy: A guide for the Perplexed," Washington, D.C.: Brookings Institute Press.\
- Cnossen, Sijbren and Richard M. Bird (eds.) (1990). *The Personal Income Tax: Phoenix from the Ashes?* The Netherlands: North-Holland.
- Das-Gupta, A. (2002). "Compliance Cost of the Personal Income Tax in India, 2000-01." Working Paper.
- Das-Gupta, A. (2004, May). "Implications of Tax Administration for Tax Design: A Tentative Assessment," presented at The Challenges of Tax Reform in a Global Economy Conference. Andrew Young School of Policy Studies, Georgia State University, Stone Mountain, Georgia.
- Desai, M. & Gentry, W. (2003). "The Character and Determinants of Corporate Capital Gains," National Bureau of Economic Research, Working Paper, No. 10153.
- De Wilde, G. (2000, May). "The New Dutch Income Tax Act 2001: International Tax Implications," *Bulletin for International Fiscal Documentation*: 227-233.
- Evans, C. (2000, July). "The Operating Costs of Taxing Capital Gains: A Conspectus." *Bulletin of International Fiscal Documentation*:357-365.
- Fergany, N. (2001, February). "Aspects of Labor Migration and Unemployment in the Arab Region," Working Paper, World Bank, (www.worldbank.org/mdf/mdf4/ppaers/fergany.pdf).
- Giannoccolo, P. (2003). "Migration, Fiscal competition, and Brain Drain," Working Paper 462, Scienze Economiche.
- Goulder, Robert and Cathy Phillips (2003, January), "Worldwide Tax Overview," *Tax Notes International*.
- Gravelle, Jane (1994), "The Economic Effects of Taxing Capital Gains," Cambridge, Mass., MIT Press.
- Gugl, E. & Zodrow, G. (2004, May). "International Tax Competition and Tax Incentives in Developing Countries," presented at The Challenges of Tax Reform in a Global Economy Conference, Andrew Young School of Policy Studies. Georgia State University, Stone Mountain, Georgia.
- Harberger, A. C. (1995). "The ABCs of Corporation Tax Incidence: Insights into the Open –Economy Case," in *Policy and Economic Growth*, American Council for Capital Formation, Center for Policy Research. Washington, D.C.
- Harberger, A.C. (2003). "Reflections on Distributional Considerations and the Public

- Finances,” The World Bank, unpublished paper.
- International Monetary Fund (2003), “Government Finance Statistics,” Washington, DC, IMF.
- Jamaica Tax Administration and Assessment (2004), “Facts on Income Tax,” (www.jrs.gov.jml/taad).
- Johnson, S., Kaufmann, D., McMillan, J. & Christopher Woodruff (1999, June 22), “Why Do Firms Hide? Bribes and Unofficial Activity after Communism,” World Bank Working Paper.
- Lambert, P. (1995). “On the Measurement of Horizontal Inequity,” IMF Working Paper No. 95/135.
- Light, M. (2004), “,” Jamaica Tax Reform Working Paper # 8, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.
- Mavraganis, G. S. (2000, June). “The New Tax Regime for the Sale of Shares in Greece,” *Bulletin for International Fiscal Documentation*. 270-274.
- Mendes, M. & McLean, R. A. (2003). *Essentials of Jamaican Taxation*, CFM Publications: Kingston, Jamaica.
- Ministry of Finance and Planning (2002). *Emoluments Survey 2001*. Kingston: Jamaica.
- Ministry of Finance and Planning (2004), “Total Revenue,” excel spreadsheet.
- Mintz, J. (2004, May). Presented at The Challenges of Tax Reform in a Global Economy Conference, Andrew Young School of Policy Studies, Georgia State University, Stone Mountain, Georgia:
- Musgrave, R. (1959). *The Theory of Public Finance*. New York: McGraw-Hill.
- Musgrave, R. & Musgrave, P. B. (1984). *Public Finance in Theory and Practice*. New York: McGraw-Hill.
- PriceWaterhouseCoopers (2003). *Individual Taxes: Worldwide Summaries 2002-03*. John Wiley and Sons.
- Rider, M. (2004). “Corporate Income Tax in Jamaica,” Jamaica Tax Reform Working Paper #3. Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.
- Shome, P. (1999). “Taxation in Latin America: Structural Trends and Impact of Administration.” IMF Working Paper WP/99/19. Washington, D. C.

- South Africa National Treasury (2001). "Capital Gains Tax in South Africa: Briefing by the National Treasury's Tax Policy Chief Directorate to the Portfolio and Select Committees on Finance," South Africa National Treasury, Johannesburg.
- Statistical Institute of Jamaica, STATIN (2001), "Survey of Living Conditions, 2001," Kingston, Jamaica.
- Statistical Institute of Jamaica, STATIN (2002). "Survey of Living Conditions, 2002." Kingston, Jamaica.
- Tanzi, V. & Zee. H. H. (2000). "Tax Policy for Emerging Markets." IMF Working Paper, WP/00/35. Washington, D.C.
- USGTA (1998). "Comparison of Penalties in Several OECD Countries." Andrew Young School of Policy Studies, International Studies Program, Georgia State University, Atlanta, GA.
- Van der Heeden, K. (1994). "The Pay-As-You-Earn Tax on Wages – Options for Developing Countries in Transition." IMF Working Paper No. 94/105.
- Wallace, S. (2002). "The Effect of State Income Tax Structure on Interstate Migration," Fiscal Research Center Working Paper #79, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.
- Zagaris, Bruce (2003). "Tax Compliance Initiative in Antigua and Barbuda Illustrates New Approach to an Old Problem." *Tax Notes International*, February 3, 2003, p. 521.