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BENCHMARKING TAX SYSTEMS†

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SUMMARY

International institutions, such as the World Bank, the International Monetary Fund and the U.S. Agency for International Development, have been assessing tax system performance and capabilities for decades without having a solid international comparator basis for undertaking these assessments. This article provides a series of indicators and benchmarks that can help to put such assessments into an international perspective, set specific targets for performance, reform and modernisation, and monitor progress over time. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS — tax policy; tax administration; tax system benchmarking; public finance

INTRODUCTION

Until recently, there has been only limited effort to develop comprehensive tools for assessing tax systems, despite the fact that national governments and international organisations or foreign assistance agencies, such as the World Bank, the International Monetary Fund of the U.S. Agency for International Development, have been assessing tax systems in developing and emerging market countries for decades.

A recent pamphlet produced by Michael Lane of an international consulting firm, Sandler Travis Trade Advisory Service in Washington, DC, provides a checklist for customs operations but offers no international comparator information. Barbone *et al.* (undated) provide a 'Framework for Diagnosis of Tax System Weaknesses', which is a matrix of policy formulation, accountability and service delivery by performance, capacity and institutions. This framework provides a good guide for what analysts should look for when comparing tax systems across countries, but provides no comparator data nor, in most instances, even verifiable indicators. Gill (2000) presents a very useful framework for assessing revenue administration, with a focus on process and environment but with very few international comparators. More recently, the World Bank has developed a website devoted to evaluating tax policy and administration, but this site does not include any international comparators, and it provides little basis for establishing specific, quantitative goals and targets, although it does discuss many of the institutional and resource matters that are discussed in this article.[1] Moreover, despite the website's title, it offers very little substance for evaluating tax system performance.

Bird and Banta (1999) present a number of indicators of fiscal sustainability covering the basic economy, tax policy, specifically, VAT, tax administration, public expenditure management, decentralisation and pensions. This set of indicators is very comprehensive, but is not meant specifically to assess tax systems, though clearly it can be used that way. In addition, the article includes data for 26 countries of East and Central Europe and the Former Soviet Union. In a second article, Bird (1999), in the same volume, presents a number of comments and criticisms that were raised during a conference regarding the indicators system. Some of these are repeated in the final section of this article. Building on the shoulders of giants, several of the Bird and Banta observations are included in this article.

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[1]See the World Bank's 'Tax Policy and Administration' website at: http://www1.worldbank.org/publicsector/tax/themes.html.

Das Gupta (2002) strives 'towards a framework for tax system performance' to assess tax and tax administration reform in India using indicators of performance, capacity, institutions and exogenous constraints. He creates a number of specific indicators, which he then applies to the pre-reform period and the post-reform period to assess the quality of the reform. The framework for Das Gupta's assessment then is to determine if improvement in India has taken place. This allows judgments of improvement and status for seven broad rating indicators, ranging from 'external constraints' to 'policy research capacity' and 'administrative capacity'. For these seven indicators Das Gupta judges that they have shown some improvement, no change or some deterioration. Das Gupta also judges that these indicators show the status of the Indian tax system to range from 'poor' to 'inadequate' to 'adequate'.

The EU has been developing its 'Draft Fiscal Blueprints' that provide guidelines for would-be member-nation tax administrations in many areas of administration and even provide a listing of performance indicators. The blueprints are fairly comprehensive, but lack any discussion of comparative 'quantitative goals and targets'.

It is interesting to note that the Organization for Economic Cooperation and Development and the Asian Development Bank (Allen and Tommasi, 2001) have both been seen fit to produce checklists, questionnaires and surveys for assessing public expenditure management systems, yet have not produced similar tools for tax system assessment.

This article goes beyond these attempts and presents benchmarking as a tool for assessing both tax system performance and the inputs and systems of any tax administration. It is a means of comparing a set of specific indicators that capture the essence of most of the tax systems to either international best or perhaps most relevant practices. The system also helps to facilitate establishing goals and specific targets for tax system improvement and modernisation. Specific benchmarks can be tracked over time and can show how reform or modernisation efforts are being implemented and also how they contribute to performance.

Benchmarking can be used not only to compare a country's tax system with a regional or international set of norms or comparators, but it can also be used to compare the condition and performance of the tax system over a period of time, either discrete snapshots in time or evolution of the benchmark or indicators over a number of years. The methodology can be generalised to all national-level tax systems throughout the world.

The next sections provide a discussion on the development of the methodology and the benchmarks, discussion on many of the benchmarks, and finally, a discussion on how the benchmarking methodology can be improved.

DEVELOPMENT OF THE METHODOLOGY

This benchmarking methodology has been developing over a few years through application in a number of countries. First, some of the international comparators were applied in El Salvador, by Julio Piza (1994). Later Gallagher (1995) extended the application to assess the Guatemalan tax system. Gallagher (1997) applied the methodology in Nicaragua, then later in parts in Tanzania. In 2001, a comprehensive system was applied and further developed in Guatemala by Mann *et al.* (2001), covering all tax operations, as well as customs, in 2001. The 2001 Guatemalan case represents for the first time the entire methodology, which has been applied in a fully systematic way. Most recently, in December 2003, Gallagher applied the methodology to the Egyptian tax system and made a presentation of the preliminary results at the USAID Mission to that country.

Piza (1994) prepared an assessment of tax administration in El Salvador. Piza included a number of international comparators in his report, including: tax ratio (tax revenue as percent of GDP), number of tax administrators per 1,000 of national population and comparative tax administration costs.

One indicator that was subsequently developed is called the VAT-Gross Compliance Ratio, which compares actual VAT collections to potential VAT collections if there were no evasion, tardiness in payment, or exemptions and exonerations. Other indicators were developed with time. Some had been developed elsewhere, such as indicators of tax evasion and efficiency in collections. Tanzi (1991) clearly delineated a number of criteria of good tax systems, relating to the simplicity of the tax system, which Gallagher (1997) subsequently converted into specific, quantitative indicators; these were subsequently developed and applied in Nicaragua.

Gallagher (1995) undertook an assessment of tax and customs performance. In this assessment Gallagher compared a number of other indicators, such as maximum and minimum income tax rates and collections in

Table 1. Administrative costs of taxation at national level (mid-1990s)

Country	Administrative costs per $100 in tax collections
Nicaragua	3.86
Guatemala (1995)	3.16
Guatemala (2001)*	2.25
Peru*	3.00
Tanzania*	3.00
El Salvador	2.19
United Kingdom	1.47
Canada	1.18
Spain	0.90
Colombia	0.87
USA	0.83

Sources: Piza (1994) (original from The State Tax Administration Agency of Spain), Gallagher (1995). 2001 data for Guatemala are from the Superintendencia de la Administracion Tributaria, see Mann *et al.* (2001).
*These tax administrations are Semi-Autonomous Revenue Authorities and their budgets are a fixed, 3%, of the revenues collected.

percentages of GDP to the other Central American countries. Gallagher also compared import duty collections and other result indicators in Guatemala to those in neighbouring countries.

The set of indicators was expanded and applied partially in an article on the Nicaraguan tax system. Many of the results of the Gallagher (1997) study were incorporated into the tax and trade reform legislation, developed and enacted in the same year. However, the 1997 reforms were almost exclusively focussed on policy, especially simplification, and little attention was paid to administration.

In Tanzania the methodology was only partially applied. It showed the need for further modernisation of the tax system in terms of improving the application of the stop or late filers systems, automated notices and linking customs and internal revenues information systems. In addition, one specific indicator—the Gross Compliance Rate for VAT, discussed later in this article—was used to project the likely revenues that would be generated in the first year of the operation of the VAT. This projection, based on the GCR, was used as the revenue projection in the national budget for 1997/98. As it turns out, this projection was very accurate, i.e. within one percent of actual collection.

The first full-blown application of the benchmarking methodology was conducted in Guatemala in 2001, at the request of the Minister of Finance, and funded by the U.S. Agency for International Development.[2] This study showed the considerable progress that had been achieved in tax system performance and the institutional development of the tax administration, and laid out the major areas for continuing support and progress.

Most recently (in December 2003) Gallagher undertook a review of U.S. Government assistance to the Government of Egypt in tax policy and administration and applied an abbreviated version of the benchmarking system. The results of the abbreviated application of the benchmarking methodology were presented in a seminar held at the U.S. Agency for International Development Mission to Egypt. Several participants in the seminar expressed the opinion that the methodology would have been useful to establish a set of specific targets for the U.S. assistance programme to monitor progress and performance.

As mentioned, no single source of comparator data exists for all of the useful indicators of tax system performance. For some indicators, see Tables 1 through 4, data are available in international sources, such as the IMF's *Government Finance Statistics* Yearbooks. Other data must be extracted from other sources, such as Article IV Consultations of the IMF, country sources and from the Spanish Tax Institute.

For the Guatemala project a team of highly skilled and widely experienced specialists was assembled to develop a useful set of comparator indicators. These are in the Annex to this article.

[2]Mann *et al.* (2001).

APPLICATIONS

There are a number of ways that the benchmarking methodology can be used. The most direct application is in the assessment of a particular tax system, where performance, systems, resources and organisation of the tax system and its administration can be compared to that in other courntries. This application is useful in demonstrating to authorities the relative degree, i.e. compared to other countries, that the tax system can be seen as performing, and indicate some of the targets for improving the allocation of resources, strengthening the organisation and improving the use of information technology and improved management that could be made to bring about improved compliance with revenue laws. In this sense, the methodology, more or less, represents the application of 'best practices' in tax system assessment, design and reform.

A second application of the methodology is to compare the performance, systems, organisation and resources of a tax system at one time versus an earlier period. This can be useful in tracking the improvements, deterioration or stasis of the tax system over time, or even to compare the tax system under different regimes. For instance, in Guatemala, the first benchmarking study was conducted in 2001 and a second benchmarking was conducted in 2004. The second benchmarking study was able to document secular decline in tax system performance, management, resource quality, budget evolution and systems improvement over the period.

Policymakers and others might be concerned with particular aspects of how the tax system is performing. For instance, the performance indicators, such as personal and corporate income tax and VAT productivity measures can easily be compared to other countries and over time. Tracking these performance indicators may not help, in and of themselves, to pinpoint the areas for strengthening that may be required, but they certainly provide a useful overall picture of how the system is performing.

Another use of the benchmarking methodology is to set specific targets and goals for reform or modernisation programmes. For instance, discussions in Egypt of the benchmarking system and a comparison of Egypt's tax administration with some of the other countries included in this benchmark dataset has led to steps to more closely link USAID's technical assistance project to performance of the indirect tax system.

Perhaps the most problematic use of the benchmarks would be to accept these as absolute guidance for how tax systems perform and how well they are administered and then to undertake cross-country statistical analyses that demonstrate direct causal links that would then be trumpeted as a clear technical production function. This is not to say that these data could not provide some useful lessons in this regard, but rather it is to point out that tax system performance, administration and compliance issues are affected by many factors beyond those captured in this set of benchmarks. Factors such as the rule of law, general level of economic development, overall legal and institutional framework of a country, the size of the agricultural sector and many other factors, as well, would have to be incorporated in any such statistical analysis.

THE BENCHMARKS

Tax system performance indicators come from a variety of sources. Some are created in the process of developing the benchmarking system itself, whereas others are the result of other people's work or standard methodologies. It is also important to keep in mind that appreciating or assessing tax system performance requires knowledge of the other factors found in this system.

The benchmarks are discussed in the following sections.

Tax structure and performance

Number of taxes that comprise the top 75% of receipts

This benchmark provides some of the degree of dispersion or, on the contrary, concentration of the tax system. A tax system that relies on very few sources of revenue runs the risks of higher volatility in revenue receipts from year to year and also faces greater challenges in forecasting revenue performance. The risks of relying on too few tax sources has been most obviously demonstrated in countries that rely on a single commodity for most of their revenues. A case in point is Nigeria, which relies on the petroleum sector for 80% of public revenues that fluctuate

wildly from year to year. Relying on too many taxes represents an administrative burden and creates taxpayer compliance concerns. In short, if the number is too low, there is too much risk for the fiscal system. If it is too high, there is too much dispersion, management difficulty and annoyance to taxpayers.

Broad tax base with limited exemptions

Obviously, the international standard is that the tax base should be as broad as possible. This means that tax systems should incorporate all sectors of their economy and have as few exemptions as possible. We found that in Central America, in general, and Guatemala, specifically, the tax base is narrow and that there are many exemptions. In a later work, 'tax expenditures', i.e. exemptions, exonerations, deductions and other special privileges, in Guatemala were equal in value, in terms of foregone revenues, to the entire total of tax receipts.

Percentage of total taxpayers that provide 75% of tax receipts

In general, throughout the world, because of disparities in company size, exemptions and exonerations, and poor administration and inability to reach certain sectors, such as agriculture and informal city merchants, only a limited percentage of the taxpaying companies pay the majority of a country's taxes, be they corporate income tax, sales or VAT, or excises and customs duties. The more limited this number of major contributors, the more vulnerable the tax system is to economic change. More important, however, is that the more limited this number is, the less deeply inserted into the fabric of society is the tax system.

Limited number of tax rates

Consistent with Tanzi's recommendation that tax systems need not be overcomplicated, it is important that the structure of tax rates for any given tax not be complicated. Too many tax rates make the system confusing, encourage tax avoidance schemes, may provide perverse incentives to economic activity and make tax administration complicated. The international best practice is to have a very limited number of company and personal income tax rates, as well as to have single or near single sales or VAT rates. The income tax need not necessarily be 'flat' but a relatively simple table of income tax rates does not detract from the ability to impose a somewhat progressive income tax system. The import duty schedule would be best if it were uncomplicated. Indeed, all international trade texts demonstrate that if the import tariff is to be used for revenue generation, then it should focus on limiting the damage it does to a country's international competitiveness and limit protectionism by having as minimal a divergence between input commodities, capital goods imports and the duty rates on final goods.

In Central America and Guatemala, the tax systems are not overly complicated by complex rate structures. The reforms of the income tax and the sales taxes in Egypt over the recent decade have greatly simplified tax structures, but there remains much to be done.

VAT rate

The international benchmark is for a single rate VAT at about 16%. The benchmark for Central America is 13%, and the actual nominal rate in Guatemala is 12%.

No particular rate should be considered 'correct'. More important, however, is whether there is a single rate. For instance, the best practice is for all goods and services to be taxed at the same rate, except for exports, which should be zero-rated.[3] Certain items may be exempted from VAT, but these should be relatively few. All of the Central American countries have only one general VAT rate. In Egypt, the General Sales Tax—a 'near VAT'—has a variety of rates, ranging from 5% to 20% of value.

Indirect as percentage of total taxes

There is no right or correct ratio of indirect to total tax revenues, however, richer countries tend to collect a greater proportion of their tax revenues from direct taxes, while poorer countries collect a greater share from indirect taxes. In the U.S., which has no VAT or sales tax at the federal level, direct taxes on companies and individuals generate

[3]Zero-rating means that an exporter is refunded all the VAT that he has paid on all his purchased inputs, but VAT is not applied to the exported products. This differs from exempted products, where the final seller of the exempted product is not required to collect the VAT on the final sale, but is not refunded back the VAT that had been paid on all prior stages of production.

the overwhelming proportion of tax revenues at the federal level, while the property tax (real estate and personal property) is the largest local revenue generators for many localities. On the other hand, in Europe, the VAT generates a relatively large share of central government revenues.

VAT collections as percent of total tax collections

Given the importance of the VAT in most tax systems around the world, this indicator is obvious. The international norm is for the VAT, where it exists, to generate about 35% of all tax revenues. In Central America, the average VAT share comes to 45%, and in Guatemala it was 44%, as of 2001.

Tax ratio

This indicator predates any efforts at establishing the benchmarking system. It is the ratio of actual tax collections to Gross Domestic Product (GDP). Generally, the higher the per capita income in a country, the higher is the expected tax ratio.

Indeed, the tax ratio for high income countries is about 40%, according to Government Finance Statistics of the International Monetary Fund. For middle income countries it is around 25% of GDP and about 18% in low income countries. In Latin America, the tax ratio tends to be low, given income levels, especially compared to Africa, where it tends to be high given the low incomes of these countries. In oil producing countries, the tax ratio is lower than in countries with similar income levels; this is due to the high reliance on royalties and other revenues related to oil exploitation. For instance, 80% of Federal Government revenues in Nigeria is derived directly from the oil sector. In Egypt, about half of government revenues come from oil royalties and receipts from the Suez Canal.

Administrative cost of taxation

This is a rather gross indicator of efficiency and it covers up a number of differences in tax administration, economic structure and overall societal modernity. Yet, it also goes directly to the heart of the matter. How much does it cost, in administrative terms, for a government to impose taxation on its people? Internationally, the administrative costs vary widely with the richest countries generally having the lowest costs with respect to how much they collect, whereas the poorest countries have the highest costs. However, there is a considerable variance among countries of similar development levels. That said, the numbers are very interesting and lead to other questions that need to be answered in any tax system assessment.

Table 1 presents a cross section of countries with their administrative costs per $100 in collections.

Gross Compliance Ratio

One measure for assessing the degree to which the VAT is applied is the Gross Compliance Ratio (GCR). The GCR is merely the actual VAT collection in ratio, or as percentage, to the total, potential VAT collection. Total conceivable VAT collection is that collection, which would be achievable in the absence of evasion or exemptions. This indicator is fairly easy to calculate in countries where only one VAT rate applies. Our team calculated the international benchmark value of 69% GCR for advanced countries: indeed, the highest GCRs for Latin America were 64% for both Costa Rica and Chile.

VAT Productivity

A very commonly used indicator of how well a VAT is applied in a country is the VAT Productivity rate. This is merely the ratio of VAT collections to GDP divided by the nominal VAT rate. This is easier to calculate than the GCR, since there is no need to collect data on aggregate private consumption in an economy. On the other hand, however, private consumption information is usually readily available from official sources. In addition, the GCR is a superior measure because it does adjust to this very important difference in structure of national economies.

Table 2 presents GCRs and VAT Productivity Rates calculated for a set of countries, mostly based on data from the mid-1990s.

Guatemala's GCR of 49% in 2001 shows a marked improvement from 1994, when it had only reached about 28%.

Table 2. VAT Gross compliance ratio (GCR)

Country	Private consumption % GDP	VAT collection % GDP	Potential collections % GDP	Nominal VAT rate	GCR	Productivity
Nicaragua	80–90	5.4	13	15	42	0.36
Brazil	81	6.5	13.8	17	47	0.38
Madagascar	81	3.2	12.2	15	26	0.21
Guatemala (93)	85	2.7	6.0	7	45	0.39
Guatemala (94)	81	1.6	5.7	7	28	0.23
Guatemala (2000)	—	—	—	12	49	—
Costa Rica	58	3.7	5.8	10	64	0.37
Ecuador	63	1.3	3.8	6	34	0.22
Honduras	72	1.5	3.6	5	42	0.30
Haiti	98	1.1	9.8	10	11	0.11
Dominican Republic	74	0.9	4.4	6	20	0.15
Panama	56	1.9	2.8	5	68	0.38
Bolivia	73	0.3	3.7	5	8	0.06
El Salvador (94)	81	4.5	8.1	10	45	0.45
El Salvador (95)	81	5.0	8.1	10	63	0.50
Chile	70	9	12.6	18	68	0.50

Source: Data are taken from various issues of *Government Finance Statistics Yearbook*. International Monetary Fund and from *International Financial Statistics*, International Monetary Fund.

In El Salvador, the GCR rose significantly from 45% in 1994 to 63% in 1995. This increase resulted from strenuous tax efforts, including the incarceration of tax evaders and shutting down of businesses for non-compliance. On the other hand, the deterioration in Guatemala from 1993 to 1994 resulted from a demoralised tax administration, lax enforcement, climbing corruption and weak leadership. See Gallagher (1995) for further discussion on the improvements in 2001 result from a thoroughly reformed tax administration, with a professionalised staff, and the proper personnel incentives and systems in place.

The GCR is only related to private consumption rather than total consumption. This neglects government consumption, which is usually, nominally subject to the VAT. The rationale for this is that government consumption in most developing countries is for the most part expenditure on wages and salaries of government employees, which are not subject to the tax.

There is a clear relationship between the GCR and the VAT Productivity measure as can be easily seen from Figure 1.

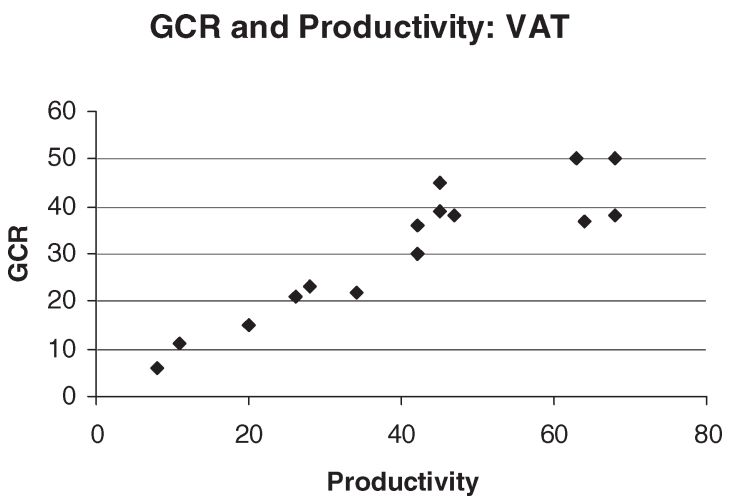

Figure 1. GCR and Productivity: VAT

VAT Efficiency Rate

The GCR differs from the more commonly used VAT Efficiency Rate. The GCR relates the VAT rate to private sector consumption in the economy, whereas the Efficiency Rate relates the VAT rate to VAT collections in the entire economy. Since VAT is usually on consumption, it seems a better fit to relate VAT collections to consumption rather than the entire economy. For instance, VAT is generally zero-rated on exports and creditable against investments.

VAT Evasion Rate

Evasion is similar to the calculation of the GCR, but it makes an attempt to net out the taxable base of those goods and services that are legally exempted. Hence, the Evasion Rate calculation is superior, in concept, to the GCR since it is an attempt to measure only evasion, whereas the GCR bundles evasion with exemptions.

Enterprise income tax productivity

The productivity of the enterprise income tax is calculated in a way that is quite similar to the calculation of VAT productivity, that is, the ratio of the revenue yield to GDP is divided by the top enterprise income tax rate. Although most countries apply only a single enterprise income tax, when there are multiple rates, the upper rate should be used as this is the rate most commonly applied. (Stotsky and WoldeMariam, 2002).

Personal income tax productivity measure

The personal income tax is an important aspect of most tax systems throughout the world, but in most developing countries it is usually a very minor revenue source. This stems from a variety of factors, including: low compliance, high degree of exemptions and exonerations, and usually large, unreachable sectors of the economy, such as the urban informal sector and small-holder agriculture.

The nature of the personal income tax is different from place to place. The treatment of capital gains, corporate dividend income and the levels and types of tax deductions and credits that are available differ from region to region and country to country.

Despite these difficulties, the personal income tax productivity measure is an attempt to compare the revenue productivity of the personal income tax across a number of countries. The following table presents the most basic structural aspects of the personal income tax in a number of countries in Latin America. The factors include: the zero-income tax bracket, which is the level of income that is not subject to the income tax; the top income tax bracket, which is the level of annual income where the top marginal tax rate takes effect; and the maximum and minimum marginal income tax rates. These income brackets are expressed in multiples of per capita GDP.

The Personal Income Tax Productivity Measure is similar to the Enterprise Tax Productivity Measure. It is calculated by dividing the personal income tax revenue as percent of GDP by the top marginal tax rate, expressed in integers, and multiplied by the top income tax bracket value.

Table 3. Enterprise income tax productivity

	Maximum enterprise income tax rate	Revenues as % of GDP	Productivity	Productivity (about 2001)
Argentina	35	1.2	0.034	0.043
Bolivia	25	1.1	0.044	0.059
Brazil	15	1.5	0.100	0.060
Colombia	35	3.9	0.111	0.114
Costa Rica	30	0.5	0.017	
Dominican Republic	25	1.0	0.040	0.044
El Salvador	25	1.9	0.076	0.078
Guatemala	31	1.1	0.035	0.037
Panama	30	2.0	0.067	0.049
Peru	30	2.2	0.073	0.061
Uruguay	30	2.0	0.067	0.076

Sources: Data extracted from Stotsky and WoldeMariam (2002).
Most base data are from late 1990s, latest productivity data are from up to 2001.

Table 4. Personal income tax productivity

	Zero-bracket	Top-bracket	Marginal tax rates		Revenue as % of GDP	Productivity
	multiple of pc GDP		lowest	highest		
	A	*B*	*C*	*D*	*E*	*F*
Argentina	1.4	16.5	35	35	0.6	0.28
Bolivia	0	0	13	13	1.9	0.15
Brazil	1.5	3.1	15	27.5	0.3	0.03
Colombia	4.1	16.6	35	35	0.2	0.09
Costa Rica	0.8	3.7	10	25	1.7	0.25
Dominican Republic	2.3	5.8	15	25	1.5	0.35
El Salvador	1.2	11	10	30	1.3	0.48
Guatemala	5	22.5	15	31	0.2	0.15
Nicaragua	7.7	61.2	10	25	0.3	0.73
Panama	0.9	57.8	2	30	0.3	0.58
Peru	2.9	22.3	15	20	1.2	1.34

Sources: Central American Tax Reform: Trends and Possibilities, Janet Stotsky and A. WoldeMariam, FMI, 2002, as well as other IMF and Ministry publications.

This table is telling in a number of ways. According to this measure, the Peruvian personal income tax system is the most productive of all the represented countries. The yield of 1.2% of GDP is the second highest among the sample countries. The Bolivian tax has the highest revenue yield at 1.9% of GDP and the lowest maximum rate, which is also its highest rate that is applied to all earned income.

A similar comparative table can be constructed for countries in other regions.

Organisation

Functional organisation

Modernised tax administrations have found that organisation around functions rather than, according to taxes or types of taxes, leads to greater integration of operations, better management of staff and improved compliance and enforcement. For instance, it is generally considered suboptimal to have the tax administration organised into the VAT, Income and Excise Departments, and better to have them organised into Audit, Services, Archiving and Enforcement Departments.

Table 5 provides a list of countries with or without functional organization of their tax administration.

Autonomy

A trend among tax administrations in developing countries is the establishment of the tax department into a semi-autonomous revenue authority (SARA). SARAs generally are able to provide better pay and other incentives to their staff while also imposing greater accountability for performance. They generally are outside of the normal institutional setup of government and may have their own budgetary authorities, perhaps linked to performance. The jury is still out, though many practitioners have been recommending SARAs as one step towards institutional reform.

Table 6 lists countries that have established SARAs.

Customs and tax integration

A number of countries, such as Guatemala and Ecuador, have integrated their tax and customs departments into a single agency. Peru is in the process of integrating domestic tax administration with customs.[4] This has a number of

[4]Canada had integrated customs and domestic tax administration during the 1990s, but has just recently separated these functions into two separate agencies. This makes sense for Canada, since customs is more a border security issue than it is a revenue agency.

Table 5. Functional organisation of tax administration

Country	Functional organisation
Bosnia (Federation)	Yes
Bosnia (Republica Srpska)	Yes
El Salvador	Yes
Guatemala	Yes
Hungary*	Yes
Kazakhstan	Yes
Kyrgyzstan*	Yes
Latvia*	Yes
Lithuania*	Yes
Moldova*	Yes
Nicaragua	Yes
Belarus*	No
Bulgaria*	No
Croatia*	No
Czech Republic*	No
Egypt	No
Estonia*	No
Georgia*	No
Macedonia*	No
Romania*	No
Turkmenistan*	No

*These observations are from Bird and Banta (1999).

Table 6. Countries that have established semi-autonomous revenue authorities

Country	Date of establishment
Argentina	1988
Bolivia	1987, defunct in 1988, reestablished in 2000/01
Bulgaria	—
Colombia	1991
Ecuador	1997–99
Ethiopia	—
Ghana	1996
Guatemala	1998/99
Guyana	2000
Jamaica	1981
Kenya	1995
Lesotho	2001–03
Malawi	1995–2000
Malaysia	1994
Mexico	1997
Peru—national	1988–91
Peru—municipality of Lima	1996/97
Rwanda	1998
Sierra Leone	2002
Singapore	1992
South Africa	1996/97
Tanzania	1995/96
Uganda	1991
Venezuela	1993
Zambia	1993/94
Zimbabwe	2000

Data from ongoing research being conducted by Arthur Mann, DAI/Fiscal Reform Project. www.fiscalreform.net

advantages; primary among them are the better flow of information and the ease of conducting more integrated and integral audits.

In developing countries the VAT, which is a tax on domestic consumption, is collected as much in customs as it is in the domestic tax administration system. Indeed, in many countries half of all gross VAT collections occur in customs. The integration of domestic tax agencies and the customs operations makes more and more sense as countries move towards ever greater reliance on VAT as a revenue source.

Fiscal projections unit

An important function in the Ministry of Finance and in the Tax Administration organisation is the regularised revenue and receipts projections function. This is a core function of the fiscal management system. Receipts should be projected by tax and by region, department or organisation, as may be appropriate.

Governments should project annual revenues in order to adequately manage their overall system of public finance, as well as to manage the macroeconomy. Receipts projections on a monthly or quarterly basis are required for setting revenue targets and tracking progress in meeting these targets.

Tax fraud unit

Tax administrations should have an office specifically set up to prosecute cases of tax fraud. This requires special skills beyond those of the rest of the tax administration staff, including knowledge of the tax fraud legislation, knowledge of the courts and appeals systems, and law enforcement expertise and ability to liaise with other governmental offices, such as the Internal Ministry.

Large taxpayer unit

There is some difference of opinion about whether tax administrations should separate out the largest taxpayers from the rest of the taxpayer public. The argument being that this then allows the tax administrators to ignore or not dedicate enough resources and effort to the non-large taxpayers. Nonetheless, most advisors, the IMF and our Team all feel that it is a good practice to provide special attention, especially with regard to audit and enforcement to the largest taxpayers.

Silvani and Baer (1997) find:

> In most countries which have established Large Taxpayer Units the compliance of this taxpayer group has improved. In Uruguay, Bolivia and Sri Lanka, for example, where the large taxpayers represent a high percentage of total tax collection, the percentage of stopfilers among the approximately 1,000 largest taxpayers dropped from 1987 to 1991. At the same time, in many countries payments from this group increased significantly (about 20 percent in real terms) after they began to be monitored by a LTU.

Table 7 shows countries with and without large taxpayer units.

The international benchmark is that there should be a large taxpayer unit. Guatemala, Nicaragua, El Salvador, Tanzania and most recently, Egypt, have all established special units that cater to the needs and undertake audit of their largest taxpayers.

Legal framework

Tax administration code

The ideal tax code is a single, comprehensive piece of legislation that defines all the legal rights, requirements and recourses for taxpayers and the tax administration, alike. The tax code defines all terms that are to be used in the tax system, and establishes overall procedures, such as filing and retention of information, organisational setup of the tax administration, establishment and roles of various organisations, such as the appeals tribunal. The tax code in many countries either exists as a large variety of laws, often contradicting each other, with roles, rights and responsibilities of taxpayers and tax authorities often not clearly established.

There have been many efforts underway over the past decade and a half to define ideal or model tax codes. For instance, the IMF has developed a model tax code that it calls ‘taxastan’. In addition, the Inter-American Center for Tax Administrations (CIAT) in Panama has produced a model tax code.

Table 7. Tax administrations with large taxpayer units

Country	Exists
Guatemala	Yes
El Salvador	Yes
Nicaragua	Yes
Egypt (as of 2003)	Yes (experimental)
Bosnia (Republica Srpska)	Yes
Bosnia (Federation)	Yes
Hungary*	Yes
Latvia*	Yes
Lithuania*	No
Slovenia*	Yes
Bulgaria*	Yes
Armenia*	Yes
Azerbaijan*	Yes
Georgia*	Yes
Kazakhstan*	Yes
Kyrgyzstan*	Yes
Moldova*	Yes
Russia*	No
Turkmenistan*	No
Ukraine*	No

*These observations are from Bird and Banta (1999).

Existence of tax fraud felony

Tax administrators in many countries are stymied in their enforcement activities by the lack of a tax fraud law. Such a law should impose appropriate sanctions for fraudulent declarations and preparation of purposely false documentation. While a tax fraud law is not a panacea, tax enforcement without such a law is very difficult and will not lead to voluntary compliance, the cornerstone of modern taxation.

Application of the tax felony authorities

The idea of voluntary compliance is that taxpayers will comply with tax laws for a number of reasons, one of which is their desire to not have tax fraud punishments applied to them. This means that for voluntary compliance to be effective, tax authorities must from time to time impose the criminal sanctions that are in tax fraud felony legislation. Too many such applications of this law mean that something is wrong, probably that the tax fraud laws are being used for reasons other than to encourage compliance, such as for prosecution of political enemies.

On the other hand, too little application of the tax fraud law, especially in light of open fraud, means that the tax authorities have little power and the law is without teeth. It is very difficult to encourage voluntary compliance under these circumstances.

In developed countries, the tax fraud felony is only applied sporadically and often its application is given high profile in the news media. In many countries in the developing world, tax fraud has only recently been made a criminal offence, still its application is very weak, limited and in some cases, these sanctions have never been applied despite having the law on the books.

Two Central American cases are illustrative. In El Salvador, which enacted its tax fraud felony legislation about 10 years ago, only a handful of cases have been brought to courts for enforcement. Usually, however, the threat of imposing the weight of the tax fraud law is enough to force corrections to forms and declarations, and renewed compliance from fraud committing tax filers. On the other hand, since its enactment in the mid-1990s in Guatemala, the tax fraud law has not once been applied.

The Government of Egypt has recently submitted a revamped sanctions law for enactment by its Parliament. This sanctions law includes large and escalating financial penalties for tax fraud, but its structure indicates that the application of jail time for tax fraud, although contemplated, will never transpire.

Appeals tribunal

Most countries of the world have an appeals process where taxpayers are able to dispute the decisions of tax authorities. This is an important institutional arrangement that helps to ensure the protection of taxpayer rights, lends credibility to the overall tax system and helps to keep tax authorities under external review.

Enforcement

This section discusses a number of indicators related to enforcement of the tax laws.

Current account

A current account is an accounting of all the taxes that a taxpayer is responsible to file and pay. The current account always shows on a current basis the taxes that a person owes and the monies that may be owed by the taxpayer, say as a rebate on VAT payments. The current account is an easily conceived instrument, but its implementation and maintenance are not easy to set up. A current account requires an automated payments or receipts system, an up-to-date taxpayer registration system and careful monitoring of taxpayer liabilities.

Automated audit selection

Audit selection, whether for income tax, VAT or customs duties should be based on unbiased risk assessment based on statistically determined parameters. Such a system will help to select for audit those firms and individuals that are more likely concealing information and therefore under-declaring their tax obligation.

An automated selection process is also useful for reducing the discretion of tax authorities and should be an integral part of any tax modernisation programme, and especially any programme that seeks to reduce politicisation of the governmental institutions and to reduce corruption.

Auditors as percent of administrative staff

Obviously, the entire professional staff of the tax administration cannot be dedicated to audits. Staffs are needed for recording and information technology, legal analysis and other administrative processes. However, an appropriate portion of the staff should be dedicated to audit. The international benchmark indicates that about 30% of professional, administrative staff of the tax administration should be dedicated to audit.

Use of external data

For tax enforcement to function efficiently, tax authorities need to have access to information on taxpayers about such things as their ownership of other companies, vehicle registrations and land or real estate holdings. This type of information provides an important source for determining when a tax declaration seems inconsistent with other assets. The international benchmark is that this type of information is usually available to tax authorities on-line.

'Stop filers' as percent of active filers

In many developing countries, seemingly unexplainable drops in fiscal revenues have resulted solely due to the fact that taxpayers have found that they can simply stop filing their monthly VAT declarations with impunity. Tax administrations should have automated notification systems that immediately remind taxpayers of their responsibility to file and pay their tax obligations. Keeping a lid on stop filers cannot be overemphasised.

Crossing information among taxes

Many tax administrations in developing countries miss the opportunity to improve their understanding of their taxpayers by simply not having immediate and useful crossing of information among the different types of taxes that their taxpayers are paying and declaring. Such information might include: VAT paid in customs and VAT paid on domestic transactions; real estate taxes and income taxes; import duties and VAT.

Number of tax administrators per 1,000 of the national population

This is merely an indicator of the size of the tax administration and its extension into the overall population. The international benchmark, or norm, is about one tax administrator per 1,000 population. In Central

Table 8. Public employees in the national tax administration institution

County	Number of tax staff per 1,000 of national population
United Kingdom	2.36
Germany	2.10
Belgium	1.98
France	1.79
Canada	1.49
Egypt	1.00
United States	0.92
Bosnia (Federation) (2004)	0.82
Bosnia (Republica Srpska) (2004)	0.67
Spain	0.66
Uruguay	0.55
Armenia	0.53
Argentina	0.50
El Salvador	0.32
Costa Rica	0.27
Nicaragua	0.22
Colombia	0.19
Chile	0.15
Guatemala (2001)	0.17
Guatemala (1994)	0.15
Bolivia	0.14
Ecuador	0.13
Peru	0.13
Brazil	0.11
Dominican Republic	0.11
Tanzania	0.10

Source: Some of these data are from Piza (1994). Data from Guatemala are from the Ministry of Finance (1994) and the Superintendencia de la Administracion Tributaria (2001). Data from Nicaragua are from the Ministry of Finance in 1995. Data for Tanzania were collected from the Tanzania Revenue Authority in 1998. Data for Bosnia are from records of the respective tax administrations in 2004.

America the benchmark is only 0.27 tax administrators per 1,000 population. In Guatemala it is even lower, at only 0.17

Table 8 presents this indicator for a number of countries. These data, for the most part, date to the mid-1990s, although the data for Guatemala are from 2001.

Active taxpayers per tax administrator

For Central America, in general, the number is 81 per tax administrator, and in Guatemala, it is only 51. In El Salvador, there are about 200 taxpayers per tax and customs official, while in Tanzania the ratio is about 100 to 1. For Egypt, there are 71 taxpayers per tax official. In the U.S., the number is about 1,000 taxpayers per Internal Revenue Service employee.

Table 9 presents some observations on the number of taxpayers per tax official.

The ratio of taxpayers to tax administration staff varies very widely. This has to do mainly with four factors. First, many countries do not actually register all those individuals who are incorporated in their income tax systems. For instance, if tax is withheld from wages and the wage earner does not have multiple sources of income that taxpayer is not required to prepare a tax declaration and probably need not be included in the tax registry. In addition, tax systems that rely heavily on VAT and VAT registration are only required for relatively large firms, then registration will be very low. For example, in the mid-1990s, there were only 29 firms registered in the Mongolian VAT system.

Table 9. Active taxpayers per tax official

Country	No. of taxpayers per official (approximate)
US	1,000
Armenia*	616
Moldova*	520
Bosnia (Republica Srpska)	462
Ukraine*	327
Hungary*	308
Uzbekistan*	208
El Salvador	200
Tanzania	100
Lithuania*	100
Egypt	71
Guatemala	51
Bosnia (Federation)	50
Kazakhstan*	36
Georgia*	34
Bosnia (Republica Srpska)	33
Latvia*	22
Kyrgyzstan*	20

*These observations are from Bird and Banta (1999).

Second, many tax administrations have made less effort to incorporate tax registrants in their tax rolls. A case in point, in Bosnia the Republica Srpska has registered all those individuals with incomes, including pensioners, regardless of their tax liabilities. This compares with the Federation in Bosnia, where tax authorities have decided not to register taxpayers who are only subjected to local taxes (these are collected by the tax departments in both Republica Srpska and the Federation.)

Third, many tax authorities have simply not made adequate effort to extend their presence into their societies. For instance, comparing Guatemala to El Salvador, which have similar tax systems, legal systems and socio-economic structures, it becomes pretty clear that Guatemalan officials have ample room to increase the number of tax registrants.

Performance Indicators System for Audit and Auditors

The international best practice, although not very widespread, is to evaluate the tax administration's audit and its auditors by developing performance monitoring systems. These can have many different forms and no one way is necessarily superior to another.

Such performance indicators might include comparisons of *ex ante* and *ex post* valuation of income tax revenues that would be generated by a specific audit case. Systems for such valuation are based on statistical analyses and good databases. Monitoring audit cases per auditor or team can be developed to assess overall performance.

The international benchmark is that tax administrations should have such performance indicator systems for their audit function. Such systems have been worked on in Costa Rica and El Salvador, but they are not fully developed and cannot be considered the norm. The Guatemalan tax administration, in 2001, had begun to develop the statistical systems that could be developed for audit selection and analysis, but this is very much lagging in its development. Tanzania had not developed such a system nor had El Salvador, as of 1995, although it was in the stages of designing such a system.

Clean taxpayer registry

One of the very first efforts in tax modernisation is the cleaning up of the taxpayer registry. This registry should be a directory of all taxpayers in the country, along with their addresses, economic activities and links to other asset ownership, such as vehicles and bank accounts, and legal residence. The taxpayer registry is the backbone of all tax administrations.

It should be automated, easy to enter data and to register taxpayers, and easy for the rest of the tax administration to link to.

Per cent of taxpayers subject to annual audit

Too much auditing implies inefficiency and harassment. Too little calls into question the enforcement efforts of the tax administration. In developed countries about 1% of taxpayers are subject to audits in any given year. In Central America the audit rate has reached to about 2% of the taxpayer population. Audit data were not available to the benchmarking team for Guatemala. In some countries, such as Bosnia and Egypt today or Tanzania a few years ago, the attempt at 100% audit is actually not audit at all, but rather official tax assessment. Such assessment is completely inconsistent with the concepts of 'voluntary compliance' and is not generally recommended.

Bird (1999) shows audit at 45% of taxpayers in Kyrgyzstan, and 50% in Moldova and Turkmenistan.

Unified audits

An old shibboleth is 'do not audit the tax, audit the person'. A unified audit, for our purposes, combines the audit of companies for their VAT or sales tax, income tax and taxes on imports. This is an important international trend, though not widely practiced yet. It is not done in Guatemala or Central America, or Egypt or Bosnia, or Tanzania, yet.

Receipts and collection

The payment of taxes should be as simple and low cost as possible. Keeping this compliance cost down is an important way to encourage voluntary compliance. It is also necessary that the tax authorities have a payment system that will provide accurate data on a very timely basis and that this information directly feeds into the other information management systems of the tax authorities, such as the revenue tracking system and the taxpayer current account.

Bank system payments

An important innovation over the last 10 years in many developing countries has been the move to tax payment through the banking system. Compared to payment at government offices, banking system payment can be substantially more efficacious. It is usually more convenient for taxpayers, provides fewer errors since it is often introduced with effective automation systems and is often at lower cost for the tax or treasury administrations.

Per cent of large taxpayers paying via the internet

In both developed and developing countries payment of tax obligations via the internet is a very important step in reducing compliance costs and improving tax accounting.

Improved tax administration, especially with lower corruption and compliance costs, can come about by reducing the opportunities for direct, face-to-face contact between taxpayers and tax administrators. This is one reason why bank or internet payment systems are preferred to payment at government collection offices or cashiers. Of course, in developed countries, where the banking system functions well, cheque payment by mail has long been the preferred means for payment of taxes, although more and more taxpayers have been opting to file and pay their taxes via the internet in rich countries.

Late payments as per cent of total domestic tax receipts

The management of delinquent taxpayers is a key function of any tax administration. Tax administrations need to make every effort to keep these delinquents under control. The Guatemala benchmarking team set a five per cent standard, although this is based on the experience of only one of the team members and no readily available international data are available.

Systems and resources

Internal procedures and manuals

All public entities need to clearly specify in terms of internal regulations or rules the procedures that are to be followed in carrying out their functions. Manuals are the handbooks that explain how these procedures are to

be carried out. These manuals should cover basic organisational functions, such as personnel policies and financial control, as well as document and explain the requirements for the implementation of all of the tax administration processes, such as audit, document receipt and handling, archiving, and the other main tax administration business processes.

While internal procedures and manuals are generally well documented in developed countries, many developing countries have not documented their internal procedures or their documentation of these procedures has lagged the changes in these procedures. By the same token, many developing countries have only inadequate manuals or handbooks, if they have any at all.

Planning and monitoring systems

Developed country tax departments generally have a corporate planning department that sets performance targets, monitors the attainment of these targets, plans for capital programmes and leads the overall direction of the development of the tax department. In most developing countries the planning and monitoring systems are very rudimentary and usually not paid much attention.

Coordinate information with ministries and others in government

Of course, the rights of taxpayers must be respected. However, certain information should be shared that will not violate these rights. The tax department should have information sharing arrangements with the central bank, the Ministry of Finance, customs and local governments. Information to be shared can include, total revenue receipts by type of tax, macroeconomic and sectoral economic data, public investment, imports, exports and international capital flows, data related to criminal behaviour and data related to international transfer pricing.

General use of automation

All modern tax administrations employ automated systems for most major processes, such as document receipt and management, issuance of notices, filing and imaging, taxpayer services-related information sharing and so on.

Interconnectivity between headquarters and local revenue offices

In many developing countries information is shared with considerable lag. In some countries information is not included into modern technological systems and paper trails, and physical transfers and photocopying are the order of the day. In other countries, data transfer may take place either with the physical delivery of data disks or tapes. Still, in other countries, taxpayer and tax payment information is transferred, usually on a one-way basis, between the local office and the headquarters, on a batch basis a few times per day. All of these methods lead to errors, untimely delivery of information, and may leave information loopholes that fraudulent taxpayers can exploit.

Data and systems backups

All modern public institutions should ensure that their data and computer systems are backed-up on a daily basis. Such backups are particularly important for the tax administration as the taxpayer database they manage is the absolute core of the tax system. The value of this database and its daily backups cannot be overstated. Such backup systems are routine in industrialised countries, but in many emerging market countries, the effort and expense for backing up these systems is just not sufficiently appreciated, leaving these tax administrations at great risk.

The next indicators relate to the quantity and quality of human resources of the tax administration.

Percentage of employees with university degrees

University graduates tend to have a much higher representation among tax administration staff in developed countries compared to emerging market countries.

Ratio of 'director' level salaries to that of tax auditors

Generally, in industrialised countries the top paid person in the tax administration may have about twice the salary as does the average tax auditor. This seems to vary considerably among emerging market countries.

Ratio of average tax administrator's salary to average GDP per capita

In industrialised countries the average tax administrator's salary may be equivalent to about twice the average per capita income in the country. This is not a particularly high salary, per se, but it is enough to attract sufficient professional staff to operate the tax administration. In emerging market countries tax administration staff salaries are several multiples of the average per capita income, yet these salaries are still too low to attract high calibre professionals.

NEXT STEPS

Bird (1999) lists a number of criticisms of the Bird and Banta (1999) indicators. Some of these criticisms have some validity and could apply to this set of international benchmarks as well. In particular, the most appropriate criticism was that these tax systems are complex and (1) they cannot be represented by simplifying indicator systems and (2) they should not be represented in this way. Since Bird and Banta (1999) specifically were presenting a set of indicators for fiscal sustainability that were meant to be used in international comparisons, perhaps the critique has some relevance. For this benchmarking exercise, however, this must be rejected. The point of establishing benchmarks is to help counsel tax authorities on what needs to be done to improve their tax administrations and international comparison information is a useful, but not the only, point of departure.

That said, Bird (1999) paid the critique in the following comment.

> . . . life is complex and there is not and cannot be any perfect way to attempt such a task. All that can be done is take as comprehensive and consistent approach as possible, to set out the evidence and methodology as fully and clearly as possible, and to be as open as possible to comments, corrections, criticisms, and suggestions for change.
>
> Page 234 in Shapleigh, Andic, and Banta

Future work on this benchmarking system should include broader and a more comprehensive application to other countries, comparative case applications and a systematic data collection effort.

This system has been developing over a number of years. Every year an indicator or two has been added, corrected or removed from the overall system. Application of the methodology to other countries, as well as follow up applications in the countries that have already been studied, would help to validate the indicators used, demonstrate their usefulness as performance or target indicators and incorporate ever more useful indicators.

Performing a number of comprehensive benchmarking studies in specific regions and around the world would be useful to enrich the system and provide better guidance to individual countries with regard to their own performance enhancement and tax organisation and administration efforts. Regional comparisons are useful since tax administrators, at least in my experience, seem to want to compare their own systems with those of neighbouring or regional competitors.

A broader set of comparative studies can be helpful since there is much that can be learnt about innovation and reform from outside of a particular region. An example of this is the so-called trend towards the creation of autonomous revenue agencies, when in fact, this is only a trend in Africa and Latin America. In the Asia Pacific region, for example, only New Zealand and Singapore have established autonomous revenue authorities, while the Philippines government has been studying the case of Peru in the design of its own autonomous revenue authority. Clearly, lessons can be got from outside of one's own backyard.

Finally, in an ideal situation, data for all the benchmarking indicators would be collected for a large number of countries, regional and taxonomic groupings, and averages or norms could be calculated, and a book produced, perhaps on a periodic basis.

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ANNEX: THE BENCHMARKS AS DEVELOPED IN THE GUATEMALA STUDY

Indicator	International Benchmark	Central America Benchmark	Guatemala in 2001
Tax Structure			
Number of taxes making up 75% of collections	6	4	4
Broad tax base with limited exemptions	Yes	No	No
Percent of all taxpayers that pay the top 75% of revenues	5%	1%	1%
Limited number of tax rates	Yes	Yes	Yes
Domestic VAT as percent of VAT on imports	n.a.	100%	70%
Indirect taxes as % of total tax revenues	50%	70%	76%
VAT collection as percent of total tax take	35%	45%	44%
VAT rate	16%	13%	12%
Tax ratio: high income countries	40%	n.a.	10%
Tax ratio: middle income countries	25%	n.a.	10%
Tax ratio: low income countries	18%	14%	10%
Enforcement			
VAT evasion	10%	25%	33%
VAT productivity	0.58	0.39	0.41
VAT Gross Compliance Rate	69%	46%	49%
Use of performance indicators for audits and auditors	Yes	No	No
Number of tax administrators per 1000 national population	1.00 to 2.00	0.27	0.17
Ratio of active taxpayers to tax administrators	150 to 250:1	81:1	51:1
Audited taxpayers as % of total taxpayers, per year	1%	2%	n.a.
Unified domestic and import audits	Trend	No	No
Ex post customs audits	Trend	No	No
Separation of taxpayers by size or nature	Yes	Yes	Yes
Payments and Collections			
Banking system payments	Yes	Yes	Yes
Percent of large taxpayers declaring via Internet	100%	n.a.	In process
''Stop-filers'' as % of active taxpayers	5%	n.a.	n.a.

Indicator	International Benchmark	Central America Benchmark	Guatemala in 2001
Late payments as % of total tax receipts	5%	n.a.	n.a.
Administrative cost as % of total receipts	1%	1.5%	3%
Share of adjustments and fines collected	80%	n.a.	n.a.
Business days for VAT refunds	25	30 to 90	30 to 90
Institution that establishes revenue targets	Ministry	Ministry	Ministry
Automated Systems			
Use of automated systems for daily use	Yes	Yes	Yes
Interconnectivity between HQ ad local tax offices	Yes	Yes	Yes
Backup systems for all uses	Yes	Limited	Almost all
Operating taxpayer current account (also under enforcement)	Yes	Yes	In preparation
Clean and operating taxpayer registry	Yes	Yes	In preparation
Automated audit case selection	Yes	Yes	In preparation
Tax declaration entry with automatic error correction	Yes	Yes	n.a.
Use of exogenous information (filers > vehicles > real estate	Yes	Trend	No
Use of third party databases	Yes	Trend	In preparation
Data crossing among taxes	Yes	Trend	In preparation
Late or stop filers system	Yes	Trend	No
Planning and Coordination			
Appropriate use of planning, monitoring, and evaluation systems for tax organization	Yes	Limited	No
Coordination of data flows among tax administration, Ministry, and other agencies	Yes	Trend	No
Human Resources			
% of employees with university or college degrees	70%	40%	40%
Ratio between director and auditor salaries	2:1	4:1	5:1
Ratio between average tax administrator's salary and average GDP per capita	2:1	5:1	5.5:1
Existence of administrative career plan	Yes	Trend	In preparation
Existence of formal retirement plan	Yes	Trend	No
Sanctions and Penalties			
Tax code	Trend	Some, new	Yes
Tax fraud felony	Trend	Some, new	Yes
Application of tax fraud felony sanctions	Little	Very little	No
Appeals tribunal	Yes	Yes	Yes
Organisation, Institutional Credibility and Public Confidence			
Stability of top-level leadership	Fixed appointment	Variable	Variable
Professionalism of top-level staff	Excellent	Good	Good
Tax fraud unit in tax administration	Yes	n.a.	No
Unit for investigation of internal corruption	Yes	n.a.	No
Diversity and quality of taxpayer services	Yes	Limited	Limited but improving
Internal regulation	Yes	Trend	n.a.