

Is VAT the Best Way to Impose a General Consumption Tax in Developing Countries?

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Richard M. Bird and Pierre-Pascal Gendron

International Tax Program
Institute for International Business
Joseph L. Rotman School of Management
University of Toronto
Toronto, Ontario
Canada M5S 3E6

Tel: 416 978-2451

Fax: 416 978-0002

Email: iib@rotman.utoronto.ca

Website: <http://www.rotman.utoronto.ca/iib/>

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Abstract

In this paper we discuss some recent critical literature on VAT in developing countries relating to its revenue productivity, its equity, and its impact on the development of the formal economy. Illustrating our argument with reference to two recent country studies (of Ukraine and Jamaica) we conclude that while there is merit in many of the criticisms that have been made, on the whole if a country needs a general consumption tax, as most developing countries do, then VAT is the one to have in almost all cases – although this conclusion certainly does not imply that the VAT already in force in most such countries is necessarily the ‘best’ VAT for their circumstances.

Keywords: value-added tax; progressivity; informal economy; Ukraine; Jamaica.

JEL codes: H24, H22, O17

Is VAT the Best Way to Impose a General Consumption Tax in Developing Countries?

Richard M. Bird and Pierre-Pascal Gendron¹

Most analysts think that a value-added tax (VAT) is the best form of general consumption tax available. If a country needs such a tax as most developing countries certainly do, then VAT is the one to have in almost all cases. Indeed, most such countries already have a VAT, and those that have not yet leaped on the bandwagon are frequently urged to do so. But is the VAT that most developing countries already have as well designed and implemented as possible? Is it as good as it could be in economic, equity, and administrative terms? Must all 'good' VATs follow the same pattern? Can every country administer VAT sufficiently well to make the introduction of the tax worthwhile? Is VAT always the best way to respond to the revenue problems caused by trade liberalization in many developing countries? Recently, serious questions have been raised about these and other aspects of VAT, particularly with respect to its role in low-income countries.² Our aim in this paper is to discuss some of the recent critical literature on VAT in developing countries. We conclude that while there is merit in many of the criticisms that have been made, and there is certainly still much we do not know about VAT, on the whole VAT still looks good. One must be careful not to let the desire for a level of perfection seldom obtainable in this world to blind one to the considerable merits of VAT as method of imposing a general consumption tax in even the poorest developing countries.

VAT and Revenue

Recent studies have questioned the capability of VAT to replace revenues from trade liberalization, especially in lower-income countries.³ Some countries may want to retain some taxation of international trade simply because of the apparent relative inefficiency of VAT

¹ International Tax Program, Joseph L. Rotman School of Management, University of Toronto and The Business School, Humber Institute of Technology and Advanced Learning, respectively. For an extended and more general discussion of the issues raised here, see Richard M. Bird and Pierre-Pascal Gendron, "VAT Revisited: A New Look at Value Added Taxation in Developing and Transitional Countries," Study prepared for USAID project on Fiscal Reform in Support of Trade Liberalization, October 2005, available at <http://www.fiscalreform.net/research/pdfs/VATR%20Final%20Report%20181005.pdf>.

² For a useful compendium of many of these criticisms, see Scott Riswold, "IMF VAT Policy in Sub-Saharan Africa," *Tax Notes International*, 33 (4, 26 January 2004): 385-405.

³ See especially Thomas Baunsgaard and Michael Keen, "Tax Revenue and (or?) Trade Liberalization," Working Paper WP/05/112, International Monetary Fund, Washington, June 2005.

administration compared to the administration of taxes (tariffs) at the border. If VAT can be administered adequately, however, the conventional conclusion that it offers the best way for a country to make up revenue losses from trade liberalization appears generally to hold—though much more convincingly for more developed countries than for the poorer countries in which trade taxes are generally more important and alternative tax bases less accessible. The critical point is that a country must have the capacity to administer VAT adequately. Other things being equal, the average economic cost of collecting revenue is less with VAT simply because the base of VAT is invariably broader than that of the taxes (tariffs, excises or other sales taxes) that it replaces. Even if increasing the rate of an existing VAT will neither necessarily increase revenues proportionately⁴ nor be costless, it is nonetheless often the economically most sensible way to expand revenue share in developing and transitional countries.

A number of empirical studies have examined the relationship between reliance on VAT and the size of government. In the recent U.S. tax reform discussion, for example, the alleged relationship between VAT and government size was one reason for some opposition to VAT although a recent review of the evidence concludes that VAT is not “a money machine that would finance the expansion of government.”⁵ In a cross-country analysis, an IMF study in 2001 noted a number of empirical regularities with respect to trade, country size, and government size:⁶

- Countries without a VAT tend to be small, with the notable exception of the U.S. and India (prior to 2005, when a number of state-level VATs were introduced; the 2006 budget speech announced the intention to adopt a central VAT by 2010).
- Countries that have implemented a VAT have relatively higher per capita GDP levels and rely less on international trade.

⁴ Compare for example the analysis of the revenue effects of Mexican rate increases in J.A.Pagan, J.A., G. Soydemir, and J.A. Tijerina-Guajardo, “The Evolution of VAT Rates and Government Tax Revenue in Mexico,” *Contemporary Economic Policy*, 19 (4, 2001): 424-33, with the considerably less positive results for Jamaica in Kelly Edmiston and Richard M. Bird, “Taxing Consumption in Jamaica: The GCT and the SCT,” ITP Paper 0414, International Tax Program, Rotman School of Management, University of Toronto, December 2004, available at [http://www.rotman.utoronto.ca/iib/..](http://www.rotman.utoronto.ca/iib/)

⁵ Bruce Bartlett, “Agenda for Tax Reform,” *Tax Notes* 105 (12, 2004): 1536.

⁶ L. Ebrill, M. Keen, J-P. Bodin, and V. Summers, *The Modern VAT* (Washington: International Monetary Fund, 2001).

- Both income and openness (defined as the sum of exports and imports divided by GDP) are positively correlated with the ratio of taxes to GDP.
- Government consumption and importance of trade are positively correlated, but government consumption as a share of GDP is smaller in larger countries, and small countries tend to be more open to international trade.
- A relatively high ratio of trade to GDP is conducive to VAT revenue performance presumably due to the relative ease of collecting VAT at the point of import.
- Economies for which international trade is important tend to have higher tax yields whether or not they operate a VAT. Very small economies may have characteristics that facilitate tax enforcement such as social structure and remoteness.

A subsequent update of this analysis cautiously concluded that “there is some evidence that the presence of a VAT has been associated with a higher ratio of general government revenue and grants to GDP.”⁷ This study went on to note that this relationship seems stronger the higher GDP per capita and the lower the share of agriculture in GDP, though the latter relation may simply reflect the common exclusion of most agricultural activity from VAT. Similarly, the study suggested that although the revenue impact of VAT seems smaller the higher the import ratio this may simply reflect the fact that tariffs (or other taxes) may be equally effective in such countries. On the other hand, all else equal, the more important foreign trade, the more revenue can be collected from an existing VAT. The obvious interpretation, as already mentioned, is that border formalities (and, perhaps, an established customs service) make the collection of VAT on imports relatively easy. Perhaps the most important point emerging from these studies is the extreme variation across countries in the revenue performance of VAT, reflecting a very wide range of factors including differences in tax design, differences in economic environment, and different characteristics (e.g. literacy) in different economies. Definitive answers with respect to VAT’s revenue impact are, it seems, considerably more difficult to come by than the simple assertions that characterize political debate everywhere.

⁷ International Tax Dialogue (ITD) “The Value Added Tax: Experiences and Issues,” Prepared for the ITD Conference on the VAT, Rome, March 15-16, 2005, p. 11, available at <http://www.itdweb.org/VATConference/Documents/VAT%20-%20EXPERIENCE%20AND%20ISSUES.pdf>.

A Case Study: Ukraine

As in many developing and transitional countries, VAT has become the workhorse of the revenue system in Ukraine.⁸ How well VAT works is a critical determinant of the performance of Ukraine's entire fiscal system. As Table 1 shows, however, Ukraine's VAT is in trouble. Revenue has declined relative to GDP. VAT's 'collection efficiency' has also declined. The 'VAT gap' – the gap between potential and actual revenue – remains large.

Table 1
Ukraine's VAT is in Trouble

Year	VAT as % GDP	VAT on Imports as % GDP	VAT on Domestic as % GDP	VAT Productivity (VAT as % GDP) /20
1998	7.3	1.6	5.7	.36
1999	6.4	1.0	5.4	.32
2000	5.6	1.8	3.8	.28
2001	5.1	1.8	3.3	.26
2002	6.0	3.0	3.0	.30
2003	4.7	3.5	1.2	.24
2004	4.9	3.5	1.4	.25

Source: R.M. Bird, "VAT in Ukraine: An Interim Report," in R.W. McGee, ed., *Taxation and Public Finance in Transition and Developing Countries* (New York: Springer, 2006).

The revenue yield of VAT as a share of GDP has declined steadily since the tax came into full effect in Ukraine in the late 1990s.⁹ Such a prolonged decline in VAT yields is both unusual and disturbing. As a rule VAT yield rises when GDP grows.¹⁰ In Ukraine, however, although real GDP rose by 49% from 1998 to 2004 the VAT to GDP ratio actually fell by 33%. Normally a general consumption tax such as VAT should grow at least at the same rate as GDP: its GDP-elasticity should be approximately one. But in Ukraine the arc GDP-elasticity of VAT from 1999 to 2004 was an incredibly low 0.38. In other words, for every 1000 hryvnia of

⁸ This section draws on Richard M. Bird, "VAT in Ukraine: An Interim Report," in R.W. McGee, ed., *Taxation and Public Finance in Transition and Developing Countries* (New York: Springer, 2006).

⁹ Although a 'value-added tax' was first introduced in Ukraine in 1991 it was only in 1997 that a modern VAT allowing in principle for freeing both investment and exports from tax was introduced.

¹⁰ Baunsgaard and Keen, *supra* note 3.

additional GDP generated over this period, VAT revenues rose by only 42 hryvnia.¹¹ The revenue performance of Ukraine's VAT leaves much to be desired.

Another striking fact is that the share of VAT collected at the border in Ukraine rose from less than a quarter of total VAT revenues in 1998 to almost three-quarters in 2004. The other side of this growing dependence of VAT on imports is that VAT collected on domestic consumption in Ukraine fell sharply from 5.7% of GDP in 1998 to only 1.4% in 2004. Of course, any rapid growth in imports such as Ukraine experienced in this period is likely to be reflected in an increase in the share of VAT collected from imports, but it is difficult to think of any other instance in which a country has had such a marked and rapid change in the extent to which it depends on imports for VAT revenue. For example, in 2004 two-thirds of the absolute increase in VAT revenues in Ukraine was attributable to increased taxes on imports – even though VAT import revenue actually declined from 6.5% of imports in 2003 to only 3.6% in 2004. In general increases in imports and increases in total VAT revenues go hand in hand.¹² No such relation is apparent in Ukraine: for example, although imports increased by 14% in 2003 and 16% in 2004 VAT revenues as a share of GDP actually declined in these years.

Ukraine's VAT has thus clearly become less efficient as a revenue producer. A commonly used, though crude, measure of VAT 'revenue efficiency' is simply to take the VAT share of GDP and divide by the standard rate of VAT (20% in Ukraine throughout this period). The number that results from this calculation depicts the percentage of GDP collected by each percentage point of the standard VAT rate. As Table 1 shows, this number has declined sharply in Ukraine since a 'modern' VAT was introduced in 1998, with a particularly marked decline in 2003 and 2004. Although Ukraine's VAT 'productivity' for this period (0.30) is not unusually low by international standards, the marked and continuous decline in VAT's revenue productivity that has occurred in Ukraine in recent years is striking.¹³ Something is clearly wrong in a country when both income and trade increase but VAT efficiency declines.

¹¹ The exchange rate in 2004 was 5.3 hryvnia = US\$1.00

¹² Baunsgaard and Keen, *supra* note 3.

¹³ The conceptually better measures of VAT 'efficiency' discussed in the next section are highly correlated in the case of Ukraine.

Crude calculations may also be made of the size of the ‘VAT gap’ – defined as the difference between VAT actually collected and that potentially realizable if all consumption were in fact taxed at the stated rate – in Ukraine. To illustrate, if VAT actually taxed all final household consumption at 20% it would have raised an additional 4.2% of GDP in 2004. The VAT ‘gap’ (potential less actual revenue as % of potential) calculated in this way is thus 46%. This estimate of what has been called the ‘gross compliance ratio’ takes into account both evasion and ‘erosion’ in the form of legal reductions of the tax base through exemptions and zero-rating other than for exports.¹⁴ Although a gap of this size is not out of line with that found (by more refined methods) in countries such as Italy and Uruguay, it is much larger than the gap found in countries such as Chile and the UK that are generally thought to have better VAT administrations.¹⁵

A more conservative estimate of the VAT gap may perhaps come a bit closer to estimating the extent to which the decline in VAT revenues may reflect increasing evasion. If VAT productivity as measured in Table 1 had simply remained constant at 1998 levels, VAT in Ukraine would have raised an additional 1.5% of GDP in 2004. The ‘gap’ (predicted-actual as % of predicted) measured in this way is about 16%. In other words, if there had been no significant erosion of VAT base in 2004 compared to 1998 – probably not too bad an assumption in Ukraine– VAT evasion must have increased by at least this amount over this period.¹⁶

Although there are many problems with such crude numbers, however one manipulates them the conclusion seems inescapable: something is rotten in Ukraine’s VAT. Three broad classes of explanations for such poor performance are possible: changes in economic structure, changes in tax structure, and changes in administrative effectiveness.

¹⁴ Mark Gallagher (“Benchmarking Tax Systems,” *Public Administration and Development*, 25 (2005): 125-44) calculates a similar gross compliance figure (45%) for Ukraine.

¹⁵ Data for the countries mentioned may be found in A. Gebauer, A., C.W. Nam, and R. Parsche, “Is the Completion of EU Single Market Hindered by VAT Evasion?” CESifo Working Paper No. 974, Munich, June 2003; E. Engel, A. Galetovic and C. Raddatz, “Estimación de la evasión del IVA mediante el método de punto fijo,” unpublished paper, Santiago de Chile, April 1998, available at http://www.sii.cl/aprenda_sobre_impuestos/estudios/tributarios2.htm; and P. Coba, N. Perelmuter, and M.P. Tedesco, “Evasión fiscal en Uruguay: Un análisis sobre el impuesto al valor agregado,” Montevideo, n.d., available at <http://www.bcu.gub.uy/autoriza/peiees/jor/2005/iees03j3360805.pdf>.

¹⁶ Of course there was probably a good deal of evasion already in 1998.

VAT does not (in principle) tax either exports or investment. A rise in GDP attributable to either an export-driven expansion or an investment boom may therefore result in a decline rather than an increase in VAT revenues because input credits (for exports and investment) may build up more quickly than output taxes. From 1998 to 1999, for example, exports as a share of GDP rose by 29.7% in Ukraine but VAT fell by 11.3% -- a result that seems consistent with this story. From 1999 to 2000, however, although exports rose by less (14.9%) VAT fell even more (13.9%), and from 2000 to 2001 both exports and VAT declined. The explanation for VAT's poor revenue performance cannot lie in exports.¹⁷ Similarly, investment has not expanded nearly enough since 1998 to account for the observed decline in net VAT revenues. On the whole, Ukraine's VAT performance cannot be explained by changes in economic structure.

Some of the decline in the VAT to GDP ratio before 2002 may perhaps reflect base 'erosion' in the form of increased exemptions. But no base changes occurred to explain the continued marked decline in 2003-04. In early 2005 some exemptions were eliminated following the change in government, but it seems unlikely that this policy reversal will be sufficient to reverse the trend of declining VAT yields.¹⁸ Tax structure changes cannot explain Ukraine's VAT performance.

The conclusion thus seems inescapable: the major explanation of the decline of the VAT in Ukraine lies in tax administration. There may have been a significant deterioration in the efficiency of VAT administration over this period. But what seems more likely in Ukraine is that VAT administration was never very strong to begin with and that as time has gone on its inherent weaknesses have been increasingly exploited by the growing private sector. VAT evasion, the size of the underground economy, and corruption are closely linked. A recent study, for example, found a correlation of 0.66 between the estimated level of evasion and the

¹⁷ As Bird, *supra* note 8 discusses in detail, this conclusion is especially strong because Ukraine did not, for the most part, refund most input VAT accrued on exports in this period.

¹⁸ World Bank, *Ukraine: Tax Policy and Tax Administration* (Report No. 26221-UA, World Bank, Kyiv, 2003), shows that there were no significant increases in exemptions in the 199-2002 period. The same report estimates that the cost of the regional VAT concessions (which were eliminated in early 2005) was about 3% of VAT revenues in 2001. Although this cost may have expanded a bit in later years, it seems improbable either that these exemptions account for much of the observed decline in VAT revenues or that their elimination will reverse this trend.

Transparency International (TI) index of perception of corruption.¹⁹ Of course, nothing is this simple in the policy world. For example, although the corruption index is about the same as Chile, evasion in Ukraine appears to be more than twice as great. Still, when the perceived level of corruption is as high as it is in Ukraine, a high level of tax evasion – about 38%, if one simply extrapolated the regression estimated in the study just mentioned – is only to be expected. Levels of evasion at Ukrainian levels in all likelihood reflect not just weak administration but such more systematic structural problems as the prevalence of corruption and a large underground economy.

VAT Productivity and Efficiency

It is of course dangerous to draw simple conclusions about the comparative revenue performance of VAT in any country from aggregate data such as those just discussed with respect to Ukraine. For example, differing shares of ‘informal’ activity exist in different countries and such activities may be reflected to differing extents in national GDP statistics. Attempts have therefore been made to develop more comparable measures such as those labelled ‘productivity’ and ‘efficiency’ in Table 2, which compares VAT performance in a number of Western Hemisphere countries.²⁰

¹⁹ The reference is to a study carried out under the auspices of AFIP, the Argentine tax administration, and available (in 2004) at www.afip.gov.ar.

²⁰ This discussion largely follows that in Edmiston and Bird, *supra* note 4. A variant of the ‘efficiency’ measure, called the “gross compliance ratio” and estimated as the ratio of actual to ‘potential’ VAT collections (as estimated by applying the standard rate to private consumption) is discussed by Gallagher, *supra* note 14.

Table 2
VAT Revenue Performance in the Western Hemisphere

Country	2003 Rate	VAT as % Revenues	VAT as % GDP	VAT Productivity	VAT Efficiency
Argentina	21	30.9	3.9	0.19	0.27
Barbados	15	--	--	--	--
Bolivia	14.9	37.1	5.4	0.36	0.47
Brazil*	20.5	9.9	2.0	0.10	0.16
Canada*	7	13.4	2.7	0.38	0.67
Chile	19	44.4	8.0	0.42	0.64
Colombia	16	42.3	4.5	0.28	0.44
Costa Rica	13	25.2	4.6	0.35	0.53
Dominican Republic	12	--	--	--	0.31
Ecuador	12	--	--	--	0.42
El Salvador	13	52.8	5.6	0.43	0.50
Guatemala	12	45.8	4.5	0.38	0.45
Haiti	10	--	--	--	--
Honduras	12	--	--	--	0.55
Jamaica	15	36.5	9.2	0.61	0.93
Mexico	15	26.5	3.3	0.22	0.33
Nicaragua	15	32.5	9.3	0.62	0.70
Panama	5	--	--	--	0.52
Paraguay	10	43.2	4.4	0.44	0.54
Peru	18	45.9	6.4	0.36	0.50
Suriname	10	--	--	--	--
Trinidad and Tobago	15	--	--	--	--
Uruguay	23	30.2	7.8	0.34	0.46
Venezuela	16	35.3	4.7	0.29	0.43
Average	14.1	34.5	5.4	0.36	0.49

Source: Kelly Edmiston and Richard M. Bird, "Taxing Consumption in Jamaica: The GCT and the SCT," ITP Paper 0414, International Tax Program, Rotman School of Management, University of Toronto, December 2004.
Note: *Central government VAT only. – data not available

While it is not easy to interpret these measures, as we mentioned with respect to Ukraine, 'VAT productivity' is simply the ratio of VAT revenues to GDP divided by the standard rate of the VAT. In other words, this figure shows what percent of GDP each percentage point of the standard VAT rate collects. On average, for the countries included in Table 2, one percentage point of VAT collects 0.36% of GDP, with the range being between a low of 0.10% for Brazil's (very limited) federal VAT and a high of 0.62% in Nicaragua. By this criterion, the VAT in, say, Jamaica looks very good indeed. However, this measure may be misleading since in principle VAT taxes consumption, not production and GDP measures production not consumption.

For this reason, the measure shown in Table 2 as 'VAT efficiency'—sometimes called 'C-efficiency'—has come to be used as a more reliable indicator of comparative VAT

performance. This figure is calculated as the ratio of VAT revenues as a percentage of (usually private) consumption divided by the standard rate, so it has a unit value for a uniform tax on all consumption. The actual ratios shown in the table, however, range from a low of 0.16 for Brazil's very narrow-based national VAT to a startling high of 0.93 for the VAT (General Consumption Tax, or GCT) in Jamaica. Jamaica's performance as measured by this indicator thus again appears to be well above average.²¹

Many questions may be raised about all such measures. For example, while differences between countries may be interpreted as reflecting differences in both base erosion (through reduced rates, exemptions, and zero-rating) and tax evasion, the measured differences may be inflated in some countries by measures such as limitations on input credits so that some intermediate as well as final consumption is taxed. In Jamaica, for example, input credits for some items (cars, entertainment) are limited and others (capital expenditures) are generally claimable only over a two-year tax period. Perhaps more importantly, in countries with differentiated rates the ratios may also be inflated if some rates—for example, those on vehicles (which are subject to an average GCT rate of over 55% in Jamaica)²²—are higher than the standard rate, because the revenue produced by such rates is 'scored' as though collected at the standard rate.²³ Of course, if some rates are below the standard rate the ratio is biased downwards for the same reason. For example, in Jamaica in 2002, 9.8% of total GCT liabilities were attributable to goods and services taxed at above standard rates—mainly vehicles—and only 2.6% to items taxed at below-standard rates, so the reported ratios are slightly biased upwards for this reason. Most VAT countries have more than one VAT rate. Nonetheless, it is perhaps not too misleading to compare countries using standard rates only.²⁴

²¹ One study estimated a ratio greater than one for Singapore, attributing this result largely to the considerable volume of taxes imposed on tourists and visitors (who can claim few refunds): see G.P. Jenkins, C-Y Kuo, and K-N. Sun, *Taxation and Economic Development in Taiwan* (Cambridge, MA: John F. Kennedy School of Government, 2003). Bird and Gendron, supra note 1 present a lower estimate for Singapore. All such calculations are very sensitive to the period and data used.

²² Vehicles account for 5.5% of imports and 21.5% of tariff revenue in Jamaica, considerably higher than the equivalent figures in Barbados, for example, although the latter has a higher average tariff on vehicles than Jamaica (44.5% compared to 34.6%): see Inter-American Development Bank, "Integration and Trade in the Americas: Fiscal Impact of Trade Liberalization in the Americas," Periodic Note, Washington, January 2004..

²³ In addition, if a country (like New Zealand) subjects a fair amount of public sector to consumption to VAT, its 'efficiency' ratio (if measured relative to private consumption) may exceed 100.

²⁴ For further discussion of this point, see Bird and Gendron, supra note 1.

Table 2 suggests that both ‘VAT productivity’ and ‘VAT efficiency’ in Jamaica are above average for the Americas and indeed for countries at its per capita income level more generally.²⁵ Benchmarking performance by averages based on inevitably flawed and somewhat suspect international comparisons may be misleading, however.²⁶ A more useful way to use such ‘performance indicators’ may be to view a country’s performance over time as we did in Table 1 for Ukraine. Table 3 shows that the measured performance of the VAT in Jamaica varies considerably from year to year. Until 2003, Jamaica’s performance in terms of these measures was gradually deteriorating. The figures shown in the table reflect repeated attempts to increase revenues—notably, rate increases in 1993 and 1995 and a significant reduction in exemptions in 2003.²⁷ In Jamaica, as in many developing and transitional economies, constant attention and frequent policy changes are often needed simply to prevent VAT revenue from declining.

Table 3
Jamaica: Productivity and Efficiency of the GCT over Time

Fiscal Year	GCT as % Total Taxes	GCT as % GDP	VAT Productivity	VAT Efficiency
1991/1992	11.9	2.7	0.27	0.51
1992/1993	21.4	4.9	0.49	0.80
1993/1994	28.0	7.2	0.57	0.86
1994/1995	28.6	7.2	0.58	0.85
1995/1996	31.4	8.4	0.56	0.80
1996/1997	30.6	7.5	0.50	0.71
1997/1998	30.2	7.3	0.49	0.71
1998/1999	29.2	7.4	0.50	0.74
1999/2000	26.8	7.2	0.48	0.72
2000/2001	25.7	7.1	0.47	0.68
2001/2002	25.7	6.7	0.44	0.64
2002/2003	27.3	7.4	0.49	0.71
2003/2004	27.7	8.3	0.55	0.80

Source: Kelly Edmiston and Richard M. Bird, “Taxing Consumption in Jamaica: The GCT and the SCT,” ITP Paper 0414, International Tax Program, Rotman School of Management, University of Toronto, December 2004

²⁵ To illustrate, for the 23 countries with GDP in the range US\$1,500-5,000 for which data are shown in Bird and Gendron, *supra* note 1 (Annex Table A2), the average productivity ratio is 0.36 and the efficiency ratio 0.55.

²⁶ For some discussion of the uses and limitations of ‘benchmarking’ tax administration, see Gallagher *supra* note 14.

²⁷ In 2005 the government announced that the rate would be raised from the present 15% to 16.5%.

Although all measures of VAT ‘efficiency’ have flaws, such numbers have now begun to be calculated in such abundance that they are beginning to enter into econometric analyses. The raw data suggest that there is no obvious relation between the level of economic development and the importance of VAT revenues and that there is also no clear relation between the level of economic development and VAT productivity or efficiency. On the other hand, there does seem to be a definite correlation between VAT productivity and VAT share of GDP. In general it seems to make little or no difference if one uses VAT efficiency based on total or private consumption (correlation coefficient is 0.98) or even which measure of VAT efficiency and VAT productivity (correlation coefficient is 0.91) is used.²⁸

If income levels do not explain variations in VAT efficiency, what does? Work is just beginning on this question. One early study, for example, estimated that 41% of the variability (adjusted R^2) in the ratio of VAT revenues to consumption is explained when regressed against the standard rate of VAT, a measure of the openness of the economy, the level of illiteracy, and indexes of government capacity to control corruption and the cost of registering a new business, with all independent variables except the last being statistically significant. Using a smaller sample of transitional countries like Ukraine, the same study found that an index related to the prevalence of bribery is also a significant (negative) explanatory factor. The unsurprising conclusion is that there appears to be substantial room to improve VAT efficiency in many developing and transitional countries by improving governmental institutions and tax administration.²⁹

A more detailed econometric examination focusing specifically on the collection efficiency of VAT, using an unbalanced panel of 45 countries (including a number of developed countries) for the 1970-99 period found that VAT collection efficiency increases with urbanization, trade openness, real GDP per capita, and measures of both political stability and the ‘fluidity’ of political participation, but is negatively related to the agricultural share of

²⁸ See the detailed discussion in Bird and Gendron, *supra* note 1.

²⁹ William McCarten, “The Role of Organizational Design in the Revenue Strategies of Developing Countries,” Paper presented at Global VAT Conference, Rome, March 2005, available at <http://www.itdweb.org/VATConference/documents/bill%20mccarten.doc>.

GDP.³⁰ Depending on the specifications, between 55% and 67% of the variance was explained. The most important explanatory variables were urbanization and real GDP per capita, and all results were found to be relatively robust. When high-income countries were excluded from the sample all coefficients continued to have the same sign and significance. For the high income countries alone, however, only the level of per capita GDP and the share of agriculture had explanatory power, perhaps in part because the other variables displayed relatively little variability across these countries. Finally, when the relationship between VAT efficiency and income inequality (measured by Gini coefficients) was explored in a simple cross-country ordinary least squares regression, inequality was found to have a significant negative effect. While interesting, this study is certainly not the last word on the subject. Before it becomes the launching pad for a burgeoning new industry attempting to explain the considerable variation observable in the measured revenue efficiency of VAT in different countries, it would seem advisable to spend considerably more time and effort in ensuring that the figures used to measure ‘efficiency’ are more meaningful and comparable than those currently available.

VAT and Revenue Reconsidered

Potential taxpayers have many ways to escape the fiscal system in most developing and transitional countries. They - or their tax base - may flee abroad. Or they may remain but hide in the shadow economy. Or they may secure some form of favourable treatment by exerting influence in various ways (legal or otherwise) to have changes made in tax law or its interpretation. Even if through an oversight they find themselves somehow trapped within the taxation system, they may seek forgiveness through amnesty laws or specific grants of relief. In some countries the record over the years of repeated erosion of the base of the VAT through concessions at many levels as well as outright evasion suggests that many or all of these processes have been at work.

The initial VAT legislation in most developing and transitional countries was usually close to standard international models in part because it was often been drafted in whole or part

³⁰ J. Aizenman, and Y. Jinjarak, “The Collection Efficiency of the Value Added Tax: Theory and International Evidence,” Working Paper 11539, National Bureau of Economic Research, July 2005.

with the participation of international experts.³¹ Over time, however, VAT in most countries has tended to become both more complex in structure and often somewhat ad hoc in how it is actually applied. The structure of VAT becomes littered with privileges and exemptions that minimize its revenue impact and make it difficult to manage, requiring frequent ‘tune-ups’ to keep the revenue coming in. Once concessions enter the system they are often subsequently enlarged through political lobbying and other means, thus creating more complexities and costs for both taxpayers and the tax administration. Few developing or transitional countries offer taxpayers much assistance in coping with such complexities or pay much attention to the compliance costs they impose on taxpayers. Nor do most such countries do much to guard against abuse. Most so-called VAT ‘audits’ in many countries amount to little more than simple numerical checks, for example. Widespread base erosion facilitates evasion and also – perhaps especially when taxpayers are subject to (bad) ‘audit’ - corruption.³² Those with influence often have their tax debts forgiven. VAT reality in many countries clearly fails to live up to VAT’s initial promise.

It gets worse. With the tax base being eroded in such ways, governments hard-pressed for revenues have sometimes been driven to discretionary and unpredictable enforcement efforts—collecting money where they can and keeping it when they get it whether they should do so or not.³³ Alternatively, governments sometimes resort to introducing still more legislative changes to close the very gaps that previous political and administrative decisions have opened. In some countries the result has been an almost continual cycle of changes in the effective tax structure, subsequent erosion of the tax base, and unrelenting pressure on the tax administration to meet revenue targets. The few unfortunate taxpayers who remain subject to the full rigor of the formal tax system in such countries face uncertain tax burdens. No one can say with certainty how any transaction will be taxed today let alone tomorrow. Savings and investment are deterred and misallocated. Trade may be discouraged as VAT refunds to exporters are not paid out but are

³¹ As Victor Thuronyi, *Comparative Tax Law* (The Hague/London/New York: Kluwer Law International, 2003, p. 312) noted, “while there are differences in VAT from one country to another, compared with the income tax VAT laws are remarkably similar.”

³² Taxpayers do not need to corrupt tax officials if they never see or hear from them.

³³ For a useful review of the problem of VAT refunds in many countries, see Graham Harrison and Russell Krelove, “VAT Refunds: A Review of Country Experience,” Working Paper WP 05/218, International Monetary Fund, Washington, November 2005.

instead kept in the treasury and used to meet budgetary needs. Trust vanishes, the shadow economy expands, revenues fall, tax pressure is again increased on those who cannot escape, and the cycle continues.

As we suggested above in the case of Ukraine, the underlying problem when VAT performance is this dismal seems unlikely to lie solely in poor tax design. Rather, it usually reflects one or both of two more fundamental problems. One such problem is the existence of a gap between the institutional requirements for good VAT administration and the real fiscal institutions that exists in the country. Conventional wisdom is that ‘the VAT is basically a self-assessed tax.’³⁴ In principle, this is certainly correct. But what are the prior conditions that need to be satisfied before a ‘basically self-assessed tax’ can be successfully implemented? Experts tell us that the conditions include such things as simple, clear, stable tax laws; adequate service and support to taxpayers in complying with tax obligations; simple procedures for registration, filing, payment and refund; effective collection enforcement; reasonable audit coverage; strict application of penalties; and provision for independent review.³⁵ Unfortunately, many countries with VAT do not satisfy all (or even most) of these conditions. In the circumstances, VAT as actually implemented is often a very different tax than VAT as set out in the law, let alone any ‘ideal’ VAT.

A second, less important problem is the extent to which deviations from ‘good’ VAT practice are used to reward political supporters or —the distinction is often unclear—as instruments of industrial or regional policy.³⁶ In the economic and political environments of many developing and transitional countries such policies are perhaps understandable. Unfortunately, the very instability that makes such policies attractive almost certainly ensures that they are unlikely to have good results in revenue or any other terms.

³⁴ Alan A. Tait, *Value-Added Tax: International Practice and Problems* (Washington: International Monetary Fund, 1988), p. 284.

³⁵ Ebrill et al., *supra* note 6, p. 141.

³⁶ For examples of such policies, see e.g. the references to Kazakhstan and Georgia in International Bureau of Fiscal Documentation, *Annual Report 2003-04* (Amsterdam, 2004), pp. 54-55) as well as Bird and Gendron, *supra* note 1.

VAT and Equity

As anti-VAT protests and demonstrations around the world show, there has always been considerable popular concern about the equity aspects of the VAT.³⁷ Equity is always and everywhere a central issue in taxation. Indeed, from one perspective the principal rationale for taxes in the first place may be thought of as an attempt to secure equity. Strictly speaking, governments do not need taxes to secure money: they print the money in the first place. The role of the tax system is thus in a sense to take money away from the private sector in as efficient, equitable, and administratively least costly fashion as possible. One person's conception of what is considered to be equitable (fair) may of course differ from conceptions held by others. In the end, only through the political institutions within which countries reconcile (if they do) such conflicting views and interests is the nature of an equitable tax system be defined and implemented – sometimes with results that may diverge widely from what may be considered fair or equitable in terms of outside normative standards.

However defined, equity issues may be approached at two different levels. One level focuses on the details of exactly how different taxes impose burdens on taxpayers who are in the same or different economic circumstances. At a more fundamental level, however, what matters are not such details but rather the overall effects of the fiscal system on the income and level of well-being of different people. The policy implications of these two different approaches to tax equity may be quite different. Focusing on the implications for equity of details of particular taxes leads, for example, to proposals to alter the rates and structures of particular taxes such as VAT. Such proposals may improve horizontal and vertical equity within the limited group subject to the full legal burden of the tax. At the same time, however, it is possible that inequity more broadly considered may even be worsened. Although from the perspective of social and economic inequality it is the overall impact of the budgetary system on the distribution of wealth

³⁷See e.g. M. Botes, "Regressivity of VAT – The First Decade's Experience in South Africa," *International VAT Monitor*, September/October 2001, 237-44. VAT issues have often played a prominent role in political campaigns, particularly when the tax is first introduced. A key reason for not only the defeat of a government in Canada in the early 1990s but also the virtual elimination of the governing political party was strong public resentment of Canada's new VAT—the GST (see R.M. Bird, *Where Do We Go from Here? Alternatives to the GST* (Toronto: KPMG Centre for Government, 1994)). Despite its campaign promise to abolish the GST, however, the winning party in the ensuing election soon found the revenue too hard to replace.

and income rather than the details of VAT or any other tax that matters, in practice such considerations are seldom given much weight when it comes to tax design. In the real political world, decisions invariably proceed on a tax-by-tax basis with much attention being paid to the political saleability of the alleged distributional effects of this or that particular tax feature considered in isolation.³⁸

Who Really Pays VAT?

Consider a recent analysis of the incidence of VAT in Jamaica, where the tax is called the General Consumption Tax, or GCT.³⁹ Who really pays the GCT in Jamaica? That is, who really bears the burden of this tax in the sense that the real income at their disposal is reduced? The person or company legally responsible for paying VAT (the seller) has little to do with who actually pays the tax. Suppose an item sells for \$1 before the imposition of VAT. If the seller simply charges the same price as before and adds a 15% VAT, resulting in a final selling price of \$1.15, then the buyer pays the tax because it has been shifted completely forward to him by the seller. Alternatively, the seller may lower his price to \$0.87 after a 15% VAT is imposed, yielding a final selling price of \$1.00. In this case the seller himself would pay the tax. Or the seller may lower his price partially thereby shifting part of the tax forward to the consumer and bearing the remainder of the tax himself.⁴⁰ What happens in reality depends on the relative responsiveness of sellers and buyers to changes in price—the relative price elasticities of supply and demand. We know so little about these magnitudes in most countries, however, that conventional tax incidence analysis often avoids such complexities by simply assuming that the tax is fully shifted forward from the seller to the final consumer.

Even with this simplifying assumption, it is seldom straightforward to determine whether a VAT such as Jamaica's GCT is progressive, proportional, or regressive. To analyze the distributional impact of VAT one needs to calculate the average VAT payment as a proportion of

³⁸ See, for example, the detailed account of changes in the British tax system over the last two centuries in M. Daunton, *Trusting Leviathan: The Politics of Taxation in Britain 1799-1914* (Cambridge: Cambridge University Press, 2001) and *Just Taxes: The Politics of Taxation in Britain 1914-1979* (Cambridge: Cambridge University Press, 2002).

³⁹ See Edmiston and Bird, *supra* note 4.

⁴⁰ Conceivably under some forms of imperfect competition, sellers may even be able to increase their price by even more than the amount of the tax, thus 'over-shifting' it forward.

an appropriate base for each household group. Often in developing countries the data to estimate tax burdens by income level are simply not available. In the case of Jamaica, for example, only survey data on household consumption are available. Since it can be argued that people derive well-being directly only from consumption this base of comparison seems reasonable in some ways. Still, since savings provide for future consumption income probably remains the preferred base for equity comparisons. To approximate more closely to this broader (income) base in the Jamaican case, where households were divided into deciles based on average annual per capita consumption, GCT payments were calculated as a proportion of *total expenditure* (a survey item that includes not only consumption but also some non-consumption items such as payments to pensions).

Once this and other necessary assumptions are made, it is a straightforward exercise to calculate the estimated impact of Jamaica's GCT for fully-taxed and zero-rated items.⁴¹ The final results of a recent study that did this were that the indirect tax system in Jamaica was found to be slightly progressive.⁴² Although estimated GCT incidence was roughly proportional in the bottom half of the income distribution, it increased steadily in the upper half. Total spending of the highest consumption group includes 9.0% in indirect taxes, or over 40% more than the 6.4% paid in such taxes by those in the lowest consumption group.

If income data had been available for Jamaica the calculated incidence of consumption taxes would likely have been less progressive and might even have been mildly regressive. Still, a recent survey of many similar studies in a variety of developing countries found that most recent (post-VAT) studies of the consumption tax incidence had significantly less regressive results than had been reported for similar taxes in earlier surveys.⁴³ Indeed, even in instances when VAT itself appeared regressive, the change from import and excise taxes to general sales

⁴¹One complication is that it was necessary to estimate the GCT embedded in the price of exempted items (because no credit is allowed for input tax) as the ratio of input tax to total supplies for each industry.

⁴² See Edmiston and Bird, *supra* note 4.

⁴³ Compare K. Chu, H. Davoodi, and S. Gupta, "Income Distribution and Tax and Government Social Spending Policies in Developing Countries," Working Papers No. 214, UNU/WIDER, December 2001, to R.M. Bird and L. De Wulf, "Taxation and Income Distribution in Latin America: A Critical Review of Empirical Studies," *IMF Staff Papers*, 20 (1973): 639-82.

taxes such as VAT motivated largely by trade liberalization appeared in general to have made tax incidence a little more progressive in most poor countries.⁴⁴

Beyond Partial Incidence Studies

But are such attempts to put quantitative flesh on the structure of incidence theory the end of the story? Another concept of equity often invoked in tax analysis is horizontal equity. A tax system is said to be horizontally equitable if taxpayers with equal capacities to pay taxes pay approximately the same in taxes. One way that a tax system may be horizontally inequitable is by excluding a significant portion of taxpayers from the system. In many countries activities taking place in the so-called informal sector of the economy generally escape the direct tax system. Since such activities are less able to escape indirect taxes – even thieves must sometimes buy things -- it has often been suggested that one way to impose an appropriate tax burden on those in the informal sector is through indirect taxes.

There are several versions of this story.⁴⁵ Some argue that with the exception of services there is a decent tax ‘handle’ for taxes on retail trade. Most such trade is carried out by large organized firms in Jamaica, for instance. An indirect tax such as VAT can thus be used to tax an important part of the informal sector such as the non-reporting plumbers and other home repair enterprises that buy supplies at a registered taxpayer. Indirect taxes may also potentially reach the informal sector via shifting of the taxes into wages, returns to capital, or consumer prices. Small tax-avoiding manufacturers, for example, may be effectively taxed via indirect taxes if the tax is capitalized in some way that affects the return to capital or labour, which in turn is a function of such factors as capital-to-labour ratios and price elasticities of demand. Even illegal and criminal activities -- a not inconsiderable part of the informal sector in some countries -- will thus be subject to at least some taxes. Heavier reliance on indirect taxes, no matter what form such taxes may take, will of course not bring tax-dodging businesses into the formal sector. But

⁴⁴N. Gemmell and O. Morrissey, “Tax Structure and the Incidence on the Poor in Developing Countries,” Centre for Research on Economic Development and International Trade Research paper No. 03/18, University of Nottingham, October 2003, reach a similar conclusion.

⁴⁵ See R.M. Bird and S. Wallace, “Is It Really So Hard to Tax the Hard-to-Tax? The Context and Role of Presumptive Taxes,” in J. Alm, J. Martinez-Vazquez and S. Wallace, eds. *Taxing the Hard-to-Tax: Lessons from Theory and Practice* (Amsterdam: Elsevier, 2004).

it may increase both the equity of the relative tax treatment of the formal and informal sector and the efficiency of resource allocation in general. In any case, regardless of theoretical considerations, in reality the larger is the informal economy the more reliance countries put on indirect taxes.⁴⁶

Such issues are important in Jamaica, for example, where the ‘shadow economy’ has been estimated to be 36.4% of GNP - almost twice the size of this sector in Chile and larger than that in some neighbouring countries such as the Dominican Republic.⁴⁷ Although such estimates are at best rough approximations all evidence supports the common idea that there is a relatively large hidden or informal economy in Jamaica. The same is true in most developing and transitional countries where estimates of the size of this sector commonly range from 30% to 60% of GDP.⁴⁸

When much of the economy is effectively not subject to direct taxation one may assess the role and effects of consumption taxation differently. For example, in some instances a well-designed VAT might even be more progressive than a personal income tax if the latter in practice burdens only a limited group of wage-earners. An increase in the role of indirect taxes in such circumstances may make a tax system more horizontally equitable. It may also make it less allocatively distorting by reducing the pressure on market-based activities to move into the less-taxed informal sector. VAT may thus to at least some extent level the competitive playing field to some extent. On one hand in principle VAT grants relief from taxes on business inputs to

⁴⁶J. Alm, J. Martinez-Vazquez and F. Schneider, “ ‘Sizing’ the Problem of the Hard-to-Tax,” in Alm, Martinez-Vazquez and S. Wallace, eds., *Taxing the Hard-to-Tax* (Amsterdam: Elsevier, 2004). Of course, the limited role of income taxes in such countries is also an important factor: see R.M. Bird and E. Zolt, “Redistribution through Taxation: The Limited Role of the Personal Income Tax in Developing Countries,” *UCLA Law Review*, 62 (6, 2005):1627-96.

⁴⁷ F. Schneider and R. Klinglmair, “Shadow Economies Around the World: What Do We Know?” Working Paper No. 0408, Department of Economics, Johannes Kepler University of Linz, April 2004.

⁴⁸ Such estimates do not necessarily mean that the measured GDP is understated by such percentages since GDP itself is not independent of the ‘hidden economy’ issues. Double counting must be eliminated from the hidden economy estimate to be comparable to GDP. In addition, some illegal activities (e.g. drug smuggling) usually included in the informal sector estimates are generally not included in GDP. An estimated underground economy of, say, 40% may imply an understatement in measured GDP of, say, 20% -- or more, or less -- depending upon the nature of the informal sector (e.g. the importance of illegal activities), the extent of double counting in the estimate of that sector, and the extent to which the activities measured are included in the measure of GDP. As such factors may vary over time, demonstrably do vary over the business cycle, unquestionably differ from country to country, and may also have very different implications with respect to tax evasion in different circumstances, even good estimates of the size of the informal sector do not necessarily provide a useful guide to tax policy.

those taxpayers who actually pay taxes on their sales. On the other hand in practice VAT imposes some tax on those businesses that are not VAT registrants. Those who operate entirely in the cash economy may remain largely unknown to the tax authorities but even they will end up paying some VAT when they purchase consumer goods and services (or inputs for their productive activities) from the taxed sector.⁴⁹ From this broader perspective, VAT as a component of the tax system as a whole may be even less regressive than suggested by studies such as those discussed in the previous section.⁵⁰

In the real policy world, however, no matter what the calculations of researchers may suggest, most people think consumption taxes are regressive. For instance, academics may argue that taxes on consumption are less regressive from a lifetime than an annual perspective.⁵¹ But such refinements carry little weight in the political arena, given the relatively short life expectancies in many developing countries and the subsistence level at which many people in such countries live daily. It is thus not surprising to find that reduced VAT rates or exemptions for certain ‘basic’ items such as some foods, passenger transport, medical services, and cooking fuel are common, particularly in countries in which substantial differences exist in consumption patterns between income groups. The common expert riposte to such policies is that whatever small degree of progressivity they may achieve could be more effectively attained by making small changes in the income tax or by adjustments in transfer payments. Such principles can and should become practice when countries are sufficiently developed.⁵² But in countries in which the poor as a rule neither pay income tax nor benefit from transfer payments such observations are seldom very relevant.

⁴⁹ S. Fedeli, “The Effects of Interaction between Direct and Indirect tax Evasion: The Cases of VAT and RST,” *Public Finance*, 53 (3-4, 1998), 385-418, shows that a VAT offers more opportunity for administrative actions to reduce evasion (e.g. penalties are more effective) and is on the whole less conducive to the growth of the informal economy than other forms of consumption taxation.

⁵⁰ And, of course, as M. Warlters and E. Auriol, “The Marginal Cost of Public Funds in Africa,” World Bank Policy Research Working Paper 3679, August 2005, show in a recent comparative general equilibrium study of 38 African countries VAT almost invariably scores well in efficiency terms even in the poorest countries.

⁵¹ D. Fullerton and G. Metcalf, “Tax Incidence,” in A. Auerbach and M. Feldstein, eds., *Handbook of Public Economics*, vol. 4 (Amsterdam: North-Holland, 2002).

⁵² Even then, however, perceptions may rule in the policy arena. Canada is an interesting example. When it introduced its GST, it simultaneously introduced a refundable ‘GST credit’ under the income tax that offset fully any impact of the new VAT on lower-income groups. Nonetheless, political pressure forced the government of the day to provide a ‘double dip’ in the form of an extensive zero-rating system for so-called ‘basic’ foods (see Bird, *supra* note 35).

The conventional argument that there is unlikely to be much gain in imposing differential ‘luxury’ rates under a VAT seems strong even in developing countries, however, in view of the efficiency and administrative costs to which such differentiation gives rise. If more ‘consumption’ progressivity is desired, it can better be achieved through well-designed excise taxes.⁵³ The case for imposing VAT at a uniform standard rate and on as broad a base as possible in such countries seems less convincing, however. As has long been known, a uniform VAT is likely to increase the price of many goods essential to the poor.⁵⁴ Because the poor may consume a relatively small amount of such products, it is undoubtedly true that much of the benefit of such exemptions will go to the non-poor.⁵⁵ Nonetheless, in view of both the relatively heavy tax burden of such taxes on the poor and the general inability of governments in many developing countries to provide offsets to such tax burdens through other fiscal adjustments, building some relief into VAT design may often be justifiable.⁵⁶

Of course, to relieve any good or service completely from VAT it must be ‘zero-rated’. Domestic zero-rating is a bad idea in countries already facing problems with VAT refunds as do many developing and transitional countries.⁵⁷ On the other hand, exemptions not only increase cascading but, by breaking the VAT chain, also make effective enforcement more difficult. A compromise position may sometimes be to impose a reduced rate on some items although careful analysis is needed of exactly what level and form of relief may be best for the particular circumstance of a particular country. There are too many countries in which the items taxed (or not taxed) in different ways seem to have been chosen arbitrarily by fiat rather than in a reasoned

⁵³ S. Cnossen, “VAT in South Africa: What Kind of Rate Structure?” *International VAT Monitor*, January/February 2004, 19-24.

⁵⁴ E. Ahmad, E. and N. Stern, “Alternative Sources of Government Revenue: Illustrations from India, 1979-80,” in D. Newbery and N. Stern, eds, *The Theory of Taxation for Developing Countries* (New York: Published for the World Bank by Oxford University Press, 1987).

⁵⁵ For example, S. Muñoz and S. S. Cho, “Social Impact of a Tax Reform: The Case of Ethiopia,” IMF Working Paper No. 03/232, November 2003, note that most benefits from exemptions (e.g. of utility services) accrue to the rich in Ethiopia and hence are regressive.

⁵⁶ For an earlier detailed analysis of this point in Jamaica, see R. M. Bird and B.D. Miller, “The Incidence of Indirect Taxation on Low-Income Households in Jamaica,” *Economic Development and Cultural Change*, 37 (1989): 393-409. A more rigorous analysis for Tunisia along similar lines, although not with special reference to VAT, may be found in S. Bibi and J-Y. Duclos, “Poverty-Decreasing Indirect Tax Reforms: Evidence from Tunisia,” CIRPEE Working Paper 04-03, January 2004.

⁵⁷ See Harrison and Krelove, *supra* note 33.

fashion to make one comfortable with the state of knowledge on this issue.⁵⁸ Even if a country works out sensibly what is best at a point in time such issues inevitably need to be revisited from time to time, both because of ‘exemption creep’ and because in the nature of development circumstances change and when circumstances change what is sensible usually changes also.

VAT and the Formal Economy

An important recent study suggests that in the presence of a substantial ‘informal’ sector any general tax such as VAT that falls on the formal sector deters the growth and development of the economy as a whole.⁵⁹ Another recent study concludes that increasing consumption taxes will definitely foster the expansion of the hidden economy if (as seems plausible in developing countries) the labour-intensity of production in that sector is greater than in the formal sector.⁶⁰ On the other hand, yet another recent study suggests that even governments that are fully aware of such problems may still rationally choose to impose higher taxes (including VAT) on the formal sector of the economy.⁶¹ The reason is essentially because, given the relatively weak tax administrations in many developing countries, the best way to raise revenue may sometimes be to increase barriers to entry to the formal sector – e.g. by increased taxes - thus creating ‘rents’ that may then be taxed. Such arguments about the interaction between VAT and the development of the formal economy are just beginning to be explored empirically.⁶² As yet, what, if any, message such analyses have for the ‘practical’ men engaged in implementing more and better VATs around the world is far from obvious.

⁵⁸ Even approaches that may seem sensible and empirically based may prove faulty. Some years ago, for example, the Philippines considered a system that would exempt from its then sales tax items that were most widely consumed by low-income groups, as reported by extensive household surveys. However, when it was found that certain types of cosmetics appeared to be more widely used by even very poor groups than many ‘basic’ foods the idea was quickly dropped. ‘Everyone’ (i.e. those who make policy decisions) ‘knows’ that cosmetics cannot possibly be ‘essential’ even if ‘everyone’ (i.e. the populace) persists in buying them.

⁵⁹ M. S. Emran and J.E. Stiglitz, “On Selective Indirect Tax Reform in Developing Countries,” *Journal of Public Economics*, 89 (2005): 599-623.

⁶⁰ J. R. Hines, Jr., “Might Fundamental Tax Reform Increase Criminal Activity?” *Economica*, 71 (2004): 483-92.

⁶¹ E. Auriol and M. Warlters, “Taxation Base in Developing Countries,” *Journal of Public Economics*, 89 (2005): 625-46.

⁶² See also R. Gordon and W. Li, “Tax Structure in Developing Countries: Many Puzzles and A Possible Explanation,” Working Paper 11267, National Bureau of Economic Research, Cambridge MA, April 2005, and J. Aizenman and Y. Jinjark, “Globalization and Developing Countries – A Shrinking Tax Base?” Working Paper 11933, National Bureau of Economic Research, January 2006.

Much recent discussion of taxation in developing and transitional countries has focused on the so-called ‘shadow’ (underground, informal) economy. In at least some countries recent studies suggest that the informal sector has been becoming more, not less, important over time. In addition, evidence in some countries suggests that persons and enterprises at all income (and size) levels are engaged to varying extents in the informal sector.⁶³ Many businesses appear to operate in the formal and informal sectors at the same time. As we noted earlier, firms that operate in the shadow economy may escape VAT liability on their sales but in principle they are also not able to reclaim credit for any VAT paid on inputs. It has thus been suggested that one way to impose an appropriate tax burden on those in the informal sector may be precisely by imposing a VAT. On the other hand, as mentioned in the previous paragraph, it can equally be argued that thus increasing taxation of the formal sector may expand rather than reduce the amount of hidden economic activity as some activities now taking place in the market may disappear into the shadow sector.⁶⁴

As often is the case when theoretical arguments are inconclusive we need better information on both the relative magnitudes of various elasticities and the size of various relevant responses at the margin in order to assess the relevance of such arguments in any particular country. A recent study of 38 African countries makes a promising start on this task, although as the authors properly stress there remains considerable uncertainty about the key parameter in their analysis—the elasticity of substitution between taxed and untaxed activities.⁶⁵ An interesting conclusion from this study is that, while the size of a country’s informal economy is generally considerably more important than its tax structure in determining the marginal cost of public funds, within the formal tax system general taxes on goods (notably VAT) are always more efficient than taxes on factors (such as income or payroll taxes). Despite this finding, however, the most efficient way to increase taxes (ignoring distributional issues) is always to increase taxes on untaxed goods. Even though it is presumably costly to impose taxes on firms operating in the informal economy, as a rule it is more efficient to do so than to increase taxes on

⁶³ M. Chen, “Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment,” WIDER Research Paper No. 2005/10, April 2005.

⁶⁴ This argument is elaborated in Bird and Wallace, *supra* note .

⁶⁵ See Warlters and Auriol, *supra* note .

the formal sector. If one's goal is a more efficient revenue system in poor countries the key step is to reduce the size of the informal sector, for instance by lowering such barriers to 'formality' as the high compliance costs that the tax system often imposes on small businesses.⁶⁶ Since it has long been known that such costs are relatively high in the case of VAT⁶⁷, this study suggests strongly that it may be undesirable to attempt to dig too deeply into the economy with VAT. Arguments such as these lend additional weight to the case recently made for relatively high VAT thresholds, especially in poorer countries.⁶⁸

Under any form of consumption tax, those who operate entirely in the cash economy may remain largely unknown to the tax authorities. Even these 'ghosts', however, will pay some tax to the extent they purchase either consumer goods and services or inputs for their productive activities from the taxed sector. To the extent formal-sector entities trade with similar firms they are of course within the VAT system. If informal-sector enterprises trade only with other non-registered entities (including, of course, final consumers) they are obviously outside the system. To the extent non-registrants purchase inputs from registered firms, however, they will bear some VAT. Both theory and experience suggest on the whole that a VAT is – other things such as 'entry levels' to the system being equal -- more likely than other forms of general sales tax to reduce than increase tax evasion. Indeed, if non-registrants wish to sell to registered firms their customers may prefer them to become registered so that the 'tax' part of their price would become 'legal' and hence creditable. Over time, the result may be expansion of the (formal) 'VAT sector.' All this is fine. But the lesson of recent analysis and experience is that it is likely to be a mistake to push such expansion too hard in developing countries since (like any tax imposed directly on formal sector entities) VAT may discourage 'formalization' and hence development to some extent.

Nonetheless, since every developing country needs some form of general taxation and VAT seems likely to have less bad effects than would obtaining similar revenues from other

⁶⁶ World Bank, *Doing Business in 2006: Creating Jobs* (Washington: World Bank, 2005) contains some pioneering comparative information on this issue.

⁶⁷ S. Cnossen, "Administrative and Compliance Costs of the VAT: A Review of the Evidence," *Tax Notes International*, June 20, 1994: 1649-68.

⁶⁸ M. Keen and J.M. Mintz, "The Optimal Threshold for a Value-added Tax," *Journal of Public Economics*, 88 (2004): 559-76.

forms of general consumption (let alone income) taxation, the case for VAT remains strong in developing countries. To the extent VAT systems in practice have discouraged ‘formalization’—and there is evidence that they have done so in some instances—as a rule the fault seems to lie more in specific features of the design and implementation of the tax (such as unwieldy registration and filing requirements) than in the tax itself.⁶⁹ Much more attention definitely needs to be paid to such devilish details in both tax design and especially tax implementation to avoid such undesired outcomes. On the whole, however, while there is certainly considerable need for further theoretical and especially empirical research on the effects of VAT in developing and transitional economies, the case for VAT in most such countries remains solid.

⁶⁹ For example, numerous studies have found that the tax registration process is in many countries one of the major barriers to formalization (S. Djankov et al., “The Regulation of Entry,” *Quarterly Journal of Economics*, 118 (1, 2002): 1-37.)