

# Shifting Tax Burdens through Exemptions and Evasion

Tax burdens vary for firms of different sizes due to their variable tendency to seek exemptions or evade taxes.

## An Empirical Investigation of Uganda

*Bernard Gauthier*

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## Summary findings

Gauthier and Reinikka look at how prevalent tax exemptions and evasion are among businesses in Uganda, how they translate into actual tax burdens for firms of different sizes, and how the tax administration attempts to ensure compliance.

Despite tax reforms undertaken in 1995–97 to increase the efficiency and equity of the tax system and its administration, exemptions and evasion during this

three-year period remained widespread and the dispersion of the tax burden did not decrease.

The analysis shows that tax evasion is more prevalent among smaller firms, that tax exemptions are more common among larger firms, and that medium-size firms tend to shoulder a disproportionate share of the total tax burden.

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# **Shifting Tax Burdens through Exemptions and Evasion**

## **An Empirical Investigation of Uganda**

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## I. Introduction

Many low-income countries have adopted selective tax incentives for enterprises to attract private investment. At the same time, the need to maintain (or increase) public revenue, coupled with a smaller tax base due to exemptions, has meant higher tax rates and consequently stronger incentives to evade them. The resulting tax burdens tend to be very unequal among firms, creating distortions in the allocation of resources. To level the playing field for firms, recent tax reforms have focused on widening the tax base, for example, by reducing selective exemptions and lowering tax rates.

The evolution of Uganda's tax system in the past decade has generally followed this path. Its tax reforms in mid-1990s indeed attempted to shift the tax system from high rates and selective treatment of firms with the expectation of more equal tax burdens. These reforms are, however, complicated by opportunism that ensued during the long period of economic mismanagement in the 1970s and 1980s when taxation was highly predatory, creating a general mistrust of government (Chen, Matovu, and Reinikka 2001).<sup>1</sup> As a result, tax reforms have been mired by large-scale evasion and by firms continuing to seek exemptions, as well as by tax administration resorting to intrusive collection methods.

A priori, one would expect larger firms to receive discretionary exemptions for several reasons. First, specific investment incentives favor large investments in Uganda. Until recently tax incentives were project-based, with a relatively high minimum investment (US\$300,000 for foreign firms and US\$50,000 for domestic firms). Second, large firms are often in a stronger bargaining position vis-à-vis bureaucrats or politicians who grant exemptions. Third, since the absolute size of the tax bill for large firms tends to be larger, the incentive to seek exemptions is greater. Tax administration efforts that disproportionately target larger firms in terms of enforcing compliance may, however, mitigate these effects by making it harder to evade taxes that are not exempted. By contrast, small firms often do not qualify for tax exemptions and are not positioned to influence those who grant them. Instead, small firms may find it easier to slip out of the tax collector's net as enforcement costs could easily exceed the potential tax revenue collected.

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<sup>1</sup> Tirole (1992) shows how societies that are either high-opportunism or low-opportunism can be locally stable equilibria. The shortening of horizons and breakdown of contract enforcement mechanisms, for example, during the period of civil disorder or war, can shift the society from a low-opportunism to a high-opportunism equilibrium. The restoration of peace may itself be insufficient to bring the society back to the low-opportunism equilibrium even though, had peace been maintained throughout, the society would have remained in the low-opportunism equilibrium.

In this paper we provide an empirical test of these hypotheses using Ugandan enterprise survey data. We show that tax exemptions and evasion were widespread among businesses in 1995–97 and that their prevalence indeed varies by firm size. Tax evasion is especially prevalent among smaller firms, while tax exemptions are more common among larger firms, leaving medium-sized firms shouldering a disproportionate share of the total tax burden. If anything, the pattern changed slightly for the worse during the survey period, despite the tax reforms aimed at reducing dispersion. When measured in terms of imports and sales value, the importance of exemptions actually increased, and the dispersion of tax burdens, especially due to indirect taxation, also appears to have increased.

Regarding the role of tax administration, over 40 percent of the firms surveyed reported audits for corporate tax, while as many as 75 percent of value added tax-paying firms reported audits. These are extremely high shares when compared to other countries. We find that firms audited for corporate tax and the VAT are typically larger and that firms audited for corporate tax typically do not have access to exemptions. Furthermore, half of the firms challenged their tax assessments. The difference between the authority's assessment and the firm's self-declaration was, on average, 83 percent. The analysis shows that the probability of firms' own assessment being different from that of the tax administration's is significant and negatively correlated with tax exemptions. Tax exemptions appear to be an effective way to avoid dealings with the revenue authority, which otherwise appears more likely to target larger firms in its effort to reduce evasion.

The rest of the paper is organized as follows. Sections 2 and 3 describe the tax statuses and reforms in Uganda, as well as the characteristics of the firm-level data and sample. Section 4 examines the level of tax evasion among various categories of firms and how this changed during 1995–97. Section 5 explores the relationship between tax burdens and tax exemptions and evasion among various categories of firms. Section 6 examines tax burdens and their dispersion. Section 7 highlights the behavior of the tax administration, and the last section concludes.

## **II. Tax Statuses and Tax Reforms in Uganda**

Tax revenues had fallen to a low of 5 percent of GDP by the mid-1980s. An essential feature of Uganda's economic recovery was to rebuild government's revenue base. Institution-building for tax administration resulted in the establishment of the semiautonomous Uganda Revenue Authority (URA) in 1991, inspired by Ghana's example. Because the URA is not part of the civil service, it can attract more qualified staff with higher pay. The early tax policy measures aimed at removing the massive explicit taxation on exports. The simultaneous need for public spending on social services and infrastructure was great, which led policymakers to increase revenue collection by

one percentage point of GDP per year. They relied on import taxation and ad hoc increases in tax rates—particularly fuel taxes—to achieve the revenue target.

Although consumers and firms in Uganda face a wide array of national and local taxes, we focus our empirical analysis on three important taxes paid by businesses: the corporate income tax (CIT), the sales tax/value added tax (VAT), and the National Social Security Fund (NSSF) levy.<sup>2</sup>

#### *Sales Tax and the Value Added Tax*

In 1995 businesses were taxed at a rate of 12–30 percent on sales of goods and selected services. Services carried a transaction levy. Educational material, equipment, machinery, and medical goods were not taxed. The sales tax was replaced in 1996 by a single-rate 17 percent value added tax. A minimum sales threshold amount of Ush 20 million was initially set, and then raised to Ush 50 million a few months later. The VAT was considered important for the effort to broaden the tax base and improve compliance, and thus increase revenue collection. A separate department of the URA administers the VAT. All registered VAT taxpayers have to file a VAT return and pay their liabilities each month and request a refund if they have more tax credits than output liabilities in a tax period.

#### *Corporate Income Tax*

In 1995 businesses faced a corporate income tax (CIT) of 30 percent (35 percent for foreign firms) on reported profits, applicable to all firms operating under a common regime. In 1997 a minimum tax based on turnover was introduced for small firms with sales below Ush 50 million. According to the 1997 Income Tax Act firms with sales under Ush 20 million had a tax obligation of Ush 100,000; those with sales between Ush 20 and 30 million had an obligation of Ush 250,000 or 1 percent of gross turnover, whichever was lower; those with sales between Ush 30 and 40 million had an obligation of Ush 350,000 or 1 percent of turnover; and those with sales between Ush 40 to 50 million had an obligation of Ush 450,000 or 1 percent of turnover. As was the case in 1995, firms with sales above Ush 50 million were taxed at a rate of 30 percent on profits (now also including foreign firms).<sup>3</sup>

#### *National Social Security Fund Levy*

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<sup>2</sup> Other taxes include import duties, the withholding tax, the presumptive tax on small businesses, and the local property tax (see Chen, Matovu, and Reinikka 2001).

<sup>3</sup> Two types of deductions from the CIT are allowed: the initial investment allowance and the annual depreciation allowance. Investment in machinery and plant is strongly encouraged through tax incentives; such investments are entitled to both the initial allowance and the annual depreciation allowance available to all taxable firms.

Businesses employing more than 5 workers must contribute to the National Social Security Fund (NSSF), which finances pensions and other forms of worker benefits. Since 1985 the social security contribution for employers has been 10 percent of wage payments (excluding allowances) with no ceiling, with employees contributing 5 percent of their gross salary. Rates remained unchanged in 1997. The NSSF is viewed as an inefficient organization providing little service, making compliance with this levy more difficult.

### *The 1991 Investment Code*

In addition to the general Tax Code, the principal source of tax exemptions has been the 1991 Investment Code. Until the income tax reform of 1997, it provided firms undertaking investment projects with full or partial exemption from CIT and dividend tax for 3 to 6 years.<sup>4</sup> As mentioned above, the minimum threshold for the project investment was established at \$50,000 for domestic investors and \$300,000 for foreign investors. Exemptions also included import duties and sales taxes on plant and machinery until 1995 when they were discontinued and replaced by zero rating of capital goods for all investors.

### *Ministry of Finance's Statutory Instrument*

The Minister of Finance has powers to grant tax exemptions to businesses and nongovernmental organizations on an ad hoc basis (that is, following no specific rules or criteria for granting exemptions) through the use of statutory instruments. On a case-by-case basis selected firms received exemptions from CIT, import duties, and domestic sales taxes. Due to the negative effect of special regimes on equity, tax administration efficiency, and lost tax revenues, attempts have been made to curtail the extent of such exemptions since 1993. Budget speeches from 1993 to 1996 included initiatives aimed at reducing the extent of tax exemptions, but without effective enforcement measures (Reinikka 1997, Short 1995). Enactment provisions were finally included in the 1997 budget, but many enterprises still continue to pressure policymakers for tax exemptions.

### **III. Data: Enterprise Survey and Sample**

This study uses detailed information on taxes and firm characteristics from a survey of 243 firms in Uganda conducted by the World Bank and the Ugandan Private

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<sup>4</sup>Another set of tax exemptions applicable to the government, public bodies, and privileged organizations and individuals rather than to businesses, is governed by the 2<sup>nd</sup> Schedule of the Finance Statute (no. 9, 1994, supplement no. 6, September). This schedule lists 19 categories of conditional exemptions and 15 international organizations receiving exemptions from import duties, sales tax, and export taxes.



Sector Foundation. Firms were interviewed in 1998 on their activities in 1995–97, including physical investment, exports, infrastructure services, taxation, policy credibility, regulation, and corruption. Because the survey requested confidential information—costs, sales, and tax payments—interviews were carried out by the Uganda Manufacturers Association to obtain maximum cooperation. In addition to quantitative data, the survey also collected firms’ perceptions on various constraints to investment.

The latest complete industrial census in Uganda was taken in 1989. A partial industrial census update from 1996 included only 8 out of the 39 districts. Despite its limited geographical coverage, the 8 districts in the 1996 update actually represent 80 percent of value added in the private industrial sector and 70 percent of employment, based on the 1989 census. The sampling frame of the survey was based on the 1996 update for that reason as well as to capture the dramatic increase in the number of new enterprises since 1989. Based on the 1996 update, 37 percent of the firms active in 1996 were established since 1990. Although the district of Mbarara was not included in the census update, it was added to the survey because of its importance as a regional business center today.

A stratified random sample for the survey was constructed using the following criteria:

- The sample should be reasonably representative of the population of establishments in the five specified industrial categories.
- The establishments surveyed should account for a substantial share of national output in each of the industrial categories.
- The sample should be sufficiently diverse in terms of firm size.
- There should be enough representation outside Kampala to draw conclusions about industrial activity in Uganda as a whole.

Businesses from five major economic sectors were interviewed. The manufacturing sector, including agroprocessing, accounts for the largest percentage of firms in the sample, with 66 percent. The other three sectors are commercial agriculture (13 percent), tourism (12 percent), and construction (9 percent). As for size categories, large firms represent less than 20 percent of the sample, while firms with less than 21 employees represent 47 percent. Although the sample was drawn randomly from the 1996 updated industrial census, it tends to over-represent larger, more visible firms. This point may be important when considering the tax evasion data.

Five different geographical areas covered included Kampala, Jinja-Iganga, Mbale-Tororo, Mukono, and Mbarara. The first four account for 98 percent of total employment in the five selected sectors reported in the 1996 census update. In terms of ownership (not

a criterion for sample selection), 70 percent of firms were Ugandan-owned, 16 percent foreign-owned, and 14 percent jointly owned. Table 1 presents the basic characteristics of the businesses, including age, size and ownership.

**Table 1. Basic Business Statistics, 1997**

<i>Variable</i>	<i>Number of observations</i>	<i>Mean</i>	<i>Std. deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Age	242	13.9	12.5	1	74
Number of workers	242	124	259	2	2,000
Sales	225	2,730	1,040	0.900	98,000
Sales/worker	225	17	46.40	0.0357	611
Dom. Tax/sales	200	0.058	0.073	0	0.389
Comp. Tax/sales	216	0.007	0.017	0	0.127
Sales tax/sales	206	0.043	0.057	0	0.232
NSSF/sales	210	0.006	0.015	0	0.150
Foreign-owned	243	0.161	0.368	0	1
Joint venture	243	0.139	0.348	0	1

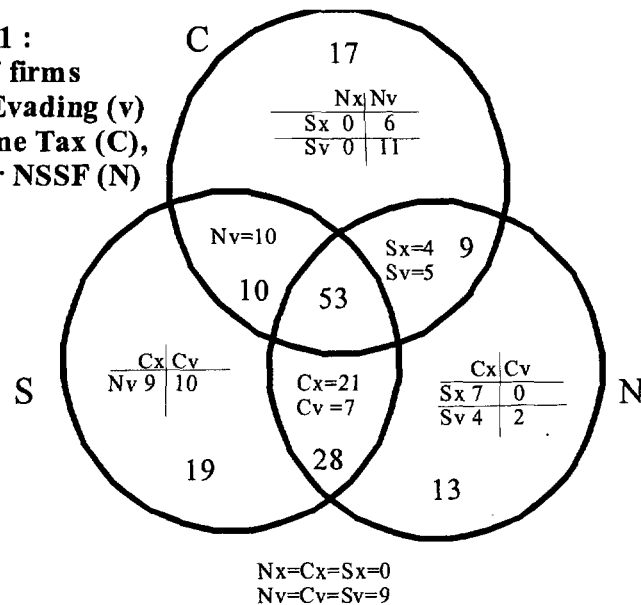
*Note:* Age is in years in 1997. Workers include permanent and temporary workers. Sales and sales per worker are in millions of Ush. Domestic tax/sales includes company income tax/sales, sales tax VAT/sales and NSSF/sales, and are fractions. Foreign owned and jointly foreign and domestic owned are fractions.

*Source:* Uganda Enterprise Survey (1998).

#### **IV. The Importance of Tax Evasion**

This section examines the extent of tax evasion among sample firms during 1995–97. In particular, we examine evasion patterns by type of tax and category of business. Our definition of evasion comes from the sample firms' own declarations of tax payments and exemptions. A business that said it did not pay a tax or group of taxes and reported no full exemption was considered to evade. More specifically, for years 1995 and 1997, the firms were asked if they paid the three main business taxes (corporate income tax, sales tax /VAT, and the NSSF tax), and if so, how much. If they said they did not pay one or more of these taxes, we examined their specific exemptions under the general Tax Code and special tax regimes. In accordance with the general Tax Code, a firm with no taxable profit in 1995 and 1997 was not liable for the CIT. Firms with no sales in 1995 and sales under 50 million Ush in 1997 were not liable for the sales tax and the VAT. Firms employing fewer than 5 workers or reporting no wage payments in both years were not liable for the NSSF tax.

**Figure 1 :**  
**Number of firms**  
**Exempt (x) or Evading (v)**  
**Company income Tax (C),**  
**Sales Tax (S) or NSSF (N)**  
**1995**

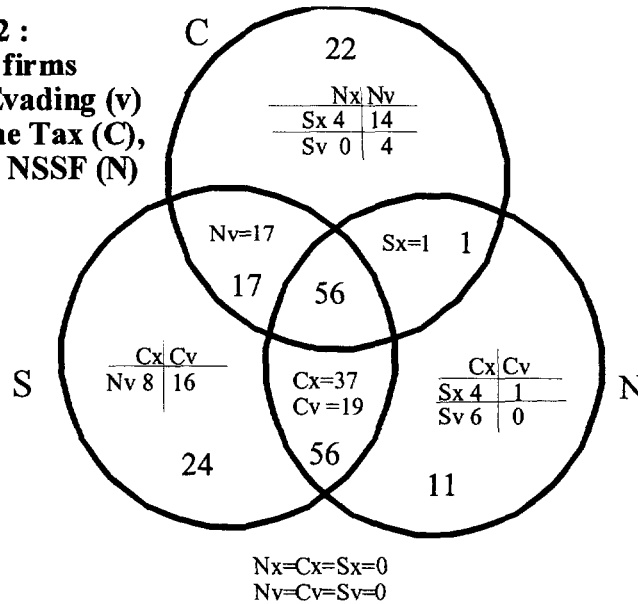


The Venn diagrams in Figures 1 and 2 show the amount of tax paid, exemptions, and evasion for each of the three main taxes in 1995 and 1997, respectively. Each circle shows the number of firms paying one of the three taxes. Overlaps represent firms paying more than one tax. In each area, a firm that does not pay a tax is classified either as an exemption or an evasion. When a firm does not pay more than one tax, a cross tabulation of exemptions and evasion is given.

As Figure 1 shows, of the 158 firms for which we have information on tax payments and exemptions, 73 evaded at least one of the three taxes (46 percent). The least evaded tax is the CIT, with 28 cases, while the most evaded tax is the NSSF, with 55 cases (35 percent). Figure 1 also shows that 9 firms (outside the circles) did not pay any of the 3 taxes in 1995.

Figure 2 presents the Venn diagram for tax payments, evasion, and exemptions in 1997. It shows a relative decline in the number of tax evaders during the period, as 44 percent (83 firms out of 187) are estimated to evade at least one tax. As in 1995, the most evaded tax is still the NSSF (55 firms out of 187), while the least evaded tax is now the VAT, which only 9 firms (5 percent) said they did not pay. This reduction in evasion is probably due to the introduction of a minimum VAT threshold of 50 million Ush in sales for 1997 (for there was no minimum sales tax threshold in 1995), and also to the introduction of a minimum CIT income tax for small businesses in 1997.

**Figure 2 :**  
**Number of firms**  
**Exempt (x) or Evading (v)**  
**Company income Tax (C),**  
**Sales Tax (S) or NSSF (N)**  
**1997**



Our calculations underestimate the real level of evasion for at least four reasons. First, it is based on the firms' own declarations of tax payments, and some firms may not have been honest when answering questions about evasion. The reverse could also be true, as truthful taxpayers may have said they evaded taxes that they in fact paid. Second, exemption figures are also based on the firms' own reports, and some firms may have over-represented their prevalence. Third, evasion activities may be underestimated because our sample, as pointed out in section 3, over-represents larger, more visible firms. Lastly, our definition of evasion is complete tax evasion for at least one category of tax, and we did not attempt to determine whether the firm paid the legally required amount.

Comparative figures for Cameroon, where a similar study was conducted in fiscal year 1993/1994, showed that 96 out of a total sample of 197 firms were identified as evading at least one of the three main business taxes in 1993/1994 (Gauthier and Gersovitz 1997). Interestingly, the evasion rate of 49 percent in Cameroon is the same as that observed in Uganda in 1995, despite the different social, political, and colonial/historic conditions in the two countries. The next section examines in more detail the prevalence of evasion and exemptions by category of firm, and their impact on effective tax burdens.

## V. Exemptions, Evasion, and Tax Burdens

We now turn to the relationship between evasion, the distribution of special tax privileges, and their impact on effective tax burdens by category of firm. Tax burden is measured by the amount paid for the three main domestic taxes divided by sales values. Our sample is smaller than the one used in section 4, because some firms that were willing to say whether or not they paid a specific tax were unwilling to say how much they paid.

As Table 1 shows, the domestic tax burden represented by the three main domestic taxes (CIT, sales tax/VAT, and NSSF) is 6 percent of sales value. The distribution of tax rates shows a large standard deviation of 7 percent in 1997. Table 1 also presents the ratio of payments of each of the three main taxes relative to sales. The single most important tax is clearly the sales tax, with a ratio of 4 percent. This corresponds to a third of the minimum general sales tax rate of 12 percent.

Table 2 presents the average domestic tax burden for five categories of firm size. Firm size categories are based on the number of employees (permanent and temporary) in both 1995 and 1997. We observe that, for both years, the domestic tax ratio first rises and then falls with size. While the smaller category (2–5 employees) faces a tax burden of 3 percent, firms with 26–75 employees support an average burden of 7 percent and the largest category (>200 employees) has a burden of 2 percent. A similar inverted U-shaped relationship between size and tax burden is obtained for 1997, despite the fact that the tax burden for larger firms increased to 6 percent, up from 2 percent in 1995.

Table 2 also shows the prevalence of various exemptions and evasions by firm size category. The most frequent tax privilege is the CIT exemption, reported by 36 percent of firms in 1995 (see last column). Larger firms benefit disproportionately from this privilege (71 percent) compared with smaller firms (20 percent). Sales tax exemption is the second most prevalent exemption within the sample, reported by 26 percent of respondents. Overall, half the firms in the sample said they benefited from at least one of the three special programs, although the figure rose to 79 percent among large firms. Despite the tax reform objective of curtailing special tax regimes, the level of exemptions was still very high at the end of the three-year period. Indeed, the prevalence of exemptions actually increased from 50 percent in 1995 to 54 percent in 1997. The increase was particularly noteworthy for CIT exemptions, which rose from 36 percent in 1995 to 44 percent in 1997, and for import duties, which rose from 20 percent in 1995 to 25 percent in 1997.

As Table 2 also shows, smaller firms appear to reduce their tax payments mainly by evasion, while larger firms tend to reduce their tax obligations through official tax incentive programs. Indeed, smaller and larger firm size categories tend to support a lighter tax burden than medium-sized firms, which tend to shoulder a heavier tax burden.

This pattern remained unchanged in 1995 and 1997. A similar pattern was observed in Cameroon, where medium-sized firms faced a disproportionately heavy tax burden compared with smaller and larger firms. These findings seem to suggest that the inverted U-shaped relationship between taxes and size derives from the relationship between tax erosion patterns and firm size. Annex Figures 1 and 2 investigate this relationship through nonparametric regressions.<sup>5</sup>

**Table 2. Variation in Tax Erosion by Firm Size**

<i>Variable</i>	<i>Number of employees</i>					<i>All</i>
	<i>2-5</i>	<i>6-25</i>	<i>26-75</i>	<i>76-200</i>	<i>200 &gt;</i>	
<b>1995</b>						
Domestic tax / sales ratio	0.031	0.052	0.074	0.069	0.021	0.057
<i>Exemptions</i>						
CIT	0.200	0.313	0.294	0.381	0.714	0.361
Import duties	0.200	0.271	0.118	0.143	0.214	0.197
Sales tax/VAT	0.200	0.375	0.177	0.010	0.357	0.262
At least one exemption	0.200	0.500	0.471	0.429	0.786	0.500
<i>Evasion</i>						
Evader	0.800	0.813	0.324	0.571	0.286	0.574
Evade all	0	0.063	0.029	0.048	0.071	0.049
Sample size	5	48	34	21	14	122
<b>1997</b>						
Domestic tax / sales ratio	0.021	0.052	0.078	0.082	0.059	0.065
<i>Exemption</i>						
CIT	0.250	0.273	0.353	0.522	0.722	0.407
Import duties	0.250	0.227	0.206	0.217	0.222	0.220
Sales tax/VAT	0.500	0.318	0.235	0.261	0.222	0.276
At least one exemption	0.500	0.455	0.471	0.478	0.722	0.504
<i>Evasion</i>						
Evader	0.750	0.773	0.412	0.391	0.222	0.520
Evade all	0	0	0.029	0	0	0.008
Sample size	4	44	34	23	18	123

*Note:* Domestic tax/sales includes CIT, sales tax-VAT and NSSF/sales value. All figures except sample size are fractions.

As noted in Table 2 and Annex Figures 1 and 2 (and as observed also in Cameroon), the fact that medium-sized firms support the heaviest tax burden in proportion to sales suggests that they have a competitive disadvantage relative to smaller and larger firms. As noted by Gauthier and Gersovitz (1995), all other things being equal, medium-sized firms would tend to be less numerous than if the tax system were neutral

<sup>5</sup> The figures for both 1995 and 1997 were obtained using the Lowess option of the KSM procedure of STATA 6.0 with a bandwidth of 0.99.

with regard to size. Indeed, if this tax pattern proves to be prevalent in poor countries, it may contribute to the phenomenon of the missing-middle, or a tendency for medium-sized firms to be under-represented in poor countries.<sup>6</sup>

We further examine the relationship between tax level and firm size through regression analysis in Table 3. All regressions were run using a Huber-White correction for heteroskedasticity. The first regression in column 1 simply examines the relationship between tax rates and firm size. We observe that in 1995 firms with 6–200 employees pay a significantly higher tax ratio than the smallest category. The second regression examines the relationship between tax rates and various exemption programs and evasion behavior. It shows that the most important privilege is the sales tax exemption, and that evasion also has a significant impact in reducing a firm's tax burden. The third regression shows that only the firms with 6–25 employees remains significant when the erosion variables are taken into account. This suggests that the main phenomenon behind the inverted U-shaped relationship between tax ratio and firm size is the evasion and exemption pattern.

As shown in the bottom part of Table 3, similar results were also obtained for 1997. All firm size categories shoulder a heavier tax burden than the small category (regression 1). Again, sales tax exemptions are the most significant tax incentive program and tax evasion also considerably reduces tax burdens (regression 2). Firms with 26–75 employees have a significantly heavier tax burden than the small category. Again, the U-shaped relationship is explained by erosion patterns among size categories (regression 3).<sup>7</sup>

Table 4 shows the variation in tax ratios, evasion, and exemption by sector. The smallest tax ratios are observed in the construction (3 percent) and agriculture sectors (4 percent), while the other manufacturing sector has the highest ratio (7 percent). The construction sector also has the lowest level of overall exemptions and evasion, while agriculture has the highest evasion level (79 percent), as well as a relatively high exemption rate (58 percent). The second-lowest exemption rate (42 percent) was reported by the other manufacturing sector.

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<sup>6</sup> For a discussion of the missing-middle phenomenon see Steel and Webster (1992).

<sup>7</sup> Regressions were also run with size and size squared variables. Both variables had a correct sign but were not statistically significant. However, the use of size dummies allows focusing on specific segments of the size distribution and for the results to be comparable with those obtained in Cameroon (see Gauthier and Gersovitz 1995, Table 4).

**Table 3. Regressions of Taxes Paid as Ratio of Sales**

Tax rate	(1)		(2)		(3)	
	Coeff.	t	Coeff.	t	Coeff.	t
<b>1995</b>						
S2	.030**	2.33			.028*	1.83
S3	.042**	2.91			.014	0.83
S4	.041**	2.37			.017	0.85
S5	.030	1.35			-.012	0.49
CIT exemption			.008	0.56	.015	0.94
Import duties exempt			-.0002	0.01	-.005	0.22
Sales tax/VAT exempt			-.049**	2.33	-.051**	2.56
Evader			-.045**	3.45	-.053**	3.56
Constant	.018**	2.12	.095**	8.14	.082**	4.73
Level of joint significance						
S2-S3 & S4-S5	0.026		--		0.277	
S2-S3	0.009		--		--	
S4-S5	0.044		--		--	
R square	0.02		0.18		0.20	
Sample size	169		124		124	
<b>1997</b>						
S2	.032**	2.77			.023	1.19
S3	.051**	2.39			.043*	1.79
S4	.048**	3.21			.033	1.45
S5	.049**	3.05			-.013	0.51
CIT exemption			.007	0.40	.009	0.47
Import duties exempt			.016	0.64	.014	0.58
Sales tax/VAT exempt			-.058**	4.40	-.058**	4.33
Evader			-.034**	2.79	-.032**	2.31
Constant	.020**	2.34	.093**	9.19	.064**	3.04
Level of joint significance						
S2-S3 & S4-S5	0.001		--		0.347	
S2-S3	0.001		--		--	
S4-S5	0.001		--		--	
R square	0.04		0.18		0.20	
Sample size	202		143		143	

Note: \* Significant at the 10 percent level, \*\* significant at the 5 percent level. S2: Dummy for size 2 category (6-25 employees), S3: Dummy for size 3 category (26-75 employees), S4: Dummy for size 4 category (76-200 employees), S5: Dummy for size 5 category (200> employees). The omitted category is S1: Dummy for size 1 category (2-5 employees).



**Table 4. Variation in Tax Erosion by Sector**

<i>Variable</i>	<i>Sector</i>				
	<i>Agriculture</i>	<i>Agroprocessing</i>	<i>Other manufacturing</i>	<i>Construction</i>	<i>Tourism</i>
<b>1995</b>					
Domestic tax / sales ratio	0.037	0.043	0.074	0.025	0.056
<i>Exemptions</i>					
CIT	0.158	0.480	0.415	0.000	0.389
Import duties	0.158	0.120	0.208	0.286	0.278
Sales tax/VAT	0.526	0.280	0.208	0.143	0.167
At least one exemption	0.579	0.640	0.415	0.286	0.556
<i>Evasion</i>					
Evader	0.790	0.560	0.528	0.429	0.556
Evade all	0.053	0.080	0.038	0	0.056
Sample size	19	25	53	7	18
<b>1997</b>					
Domestic tax / sales ratio	0.034	0.040	0.093	0.039	0.067
<i>Exemption</i>					
CIT	0.191	0.520	0.481	0.222	0.375
Import duties	0.191	0.120	0.269	0.222	0.250
Sales tax/VAT	0.619	0.280	0.192	0	0.250
At least one exemption	0.571	0.640	0.442	0.333	0.500
<i>Evasion</i>					
Evader	0.571	0.560	0.481	0.444	0.563
Evade all	0.048	0	0	0	0
Sample size	21	25	52	9	16

Similar patterns are observed for 1997, with the agriculture and construction sectors still reporting the lightest tax burdens, along with the agroprocessing sector. Again, the agroprocessing and agriculture sectors benefited from the highest level of exemptions (64 and 57 percent, respectively), and the manufacturing and construction sectors from the lowest level (42 and 33 percent, respectively). Evasion was highest for the agroprocessing and tourism sectors (56 percent).

Table 5 examines the variation in tax ratios, evasion, and exemptions by ownership category. Domestic-owned firms tended to shoulder half the tax ratio (4.5 percent) of foreign firms (8.3 percent) or joint-ownership firms (8.2 percent) in 1995. The lighter burden of domestic firms was due mainly to the difference in evasion behavior, with 64 percent of domestic firms classified as evaders compared with just 40 percent of foreign-owned firms and 44 percent of joint-owned firms.

**Table 5. Variation in Tax Erosion by Ownership Type**

<i>Variable</i>	<i>Sector</i>		
	<i>Domestic</i>	<i>Foreign</i>	<i>Joint</i>
<b>1995</b>			
Domestic tax / sales ratio	0.045	0.083	0.082
<i>Exemptions</i>			
CIT	0.345	0.400	0.389
Import duties	0.226	0.200	0.056
Sales tax/VAT	0.321	0.200	0.056
At least one exemption	0.524	0.500	0.389
<i>Evasion</i>			
Evader	0.643	0.400	0.444
Evade all	0.048	0.050	0.056
Sample size	84	20	18
<b>1997</b>			
Domestic tax / sales ratio	0.045	0.116	0.093
<i>Exemption</i>			
CIT	0.378	0.524	0.400
Import duties	0.220	0.333	0.100
Sales tax/VAT	0.354	0.143	0.100
At least one exemption	0.512	0.571	0.400
<i>Evasion</i>			
Evader	0.634	0.333	0.250
Evade all	0.012	0	0
Sample size	82	21	20

During 1995–97, the tax ratios of domestic firms remained stable at 4.5 percent, while tax rates of foreign firms increased to an average of 11.6 percent from 8.3 percent, and those of joint-owned firms increased to 9.3 percent from 8.2 percent. Furthermore, evasion levels among domestic firms remained high and stable at 62 percent. Evasion among foreign and joint-owned firms actually declined.

## **VI. Tax Burdens and Dispersion**

As discussed earlier, tax reform programs have been initiated since the mid-1990s with the objective of widening the tax base and increasing domestic tax revenues. Reform initiatives have included the introduction of a VAT and attempts to curtail the special tax regimes in order to level the playing field. Were these objectives achieved?

We examine the changes in tax rates for different categories of firms at the beginning and the end of the period. Table 6 presents the distribution of exemptions in

1995 and 1997 and their importance in terms of sales and value of imports within the sample. The sample is slightly smaller than in section 3, because some firms did not report information on import value for both years. The firms are grouped as follows: in addition to the firms with reductions or exemptions of CIT, import duties and sales tax/VAT, we also distinguish firms benefiting from at least one of these three special tax regimes. As noted in Table 2, almost half the firms in the sample enjoyed at least one special tax privilege, and the overall proportion remained stable during the period examined. There was some variation among categories, however. In particular, the CIT exemption increased to 38 percent in 1997 from 34 percent in 1995. When measured in terms of sales, however, the trend is somewhat different. Businesses enjoying special tax regimes represented 56 percent of sales value in the 1995 sample, and 73 percent in 1997. Furthermore, the increase in the importance of special regimes is also apparent when measured in terms of imports, since firms receiving at least one special tax privilege accounted for 76 percent of import value in 1997 compared with just 62 percent in 1995. Some of these changes can be attributed to the dramatic increase in private investment following the 1994–95 coffee boom.

**Table 6. Evolution of Exemptions**

	<i>1995</i>	<i>1997</i>
Percentage of firms under special regimes		
Corporate income tax	33.9	37.7
Import duties	18.9	19.8
Sales tax/VAT	26.4	27.4
At least one exemption	47.2	47.2
Privileged firms' sales as a percentage of total sales	56.1	72.6
Privileged firms' imports as a percentage of total imports	62.1	75.7
Sample size	109	109

This evidence suggests that the tax reform programs during the 1995–97 period were not effective in curtailing special tax regimes, widening the tax base, or increasing revenues. On the contrary, it appears that the prevalence of exemption regimes actually increased during the period, particularly when measured in terms of sales value and imports.

The effects of the change in tax regimes during the period are quantified in Table 7, which presents the reported tax burden in each fiscal year. Average domestic tax payments are presented as a proportion of sales (CIT, sales tax/VAT and NSSF) together with a breakdown of direct and indirect taxes. The figures show how the different business categories were affected by tax system and tax administration changes during this period.

**Table 7. Average Tax Rates for Different Categories of Firms Based on Their Status in 1995 and 1997 (percent)**

	1995	1997
<b>Domestic Tax/Sales</b>		
<i>Privileged firms</i>		
CIT	4.06	5.05
Import duties	2.21	3.03
Sales Tax/VAT	0.76	2.17
At least one exemption	3.26	4.15
No privileges	6.10	6.90
<b>Direct tax/Sales</b>		
<i>Privileged firms</i>		
CIT	0.80	0.58
Import duties	1.33	1.09
Sales tax/VAT	0.75	0.45
At least one exemption	0.79	0.67
No privileges	1.15	1.23
<b>Indirect tax/Sales</b>		
<i>Privileged firms</i>		
Company tax	3.26	4.46
Import duties	0.88	1.93
Sales tax/VAT	0	1.72
At least one exemption	2.47	3.48
No privileges	4.59	5.68
<b>Sample size</b>	109	109

*Note:* Domestic tax: CIT, sales tax/VAT and NSSF; direct tax: CIT and NSSF; indirect tax: sales tax/VAT.

The firms benefiting from at least one special tax regime in 1995 reported an average domestic tax ratio of only 3.3 percent, almost half that of firms not benefiting from special regimes (6.1 percent). In 1997, this gap, although slightly smaller, was nevertheless 40 percent, with special status firms paying 4.2 percent of their sales in taxes, compared with 6.9 percent for nonprivileged firms.

The direct tax ratios of special status firms fell from an average of 0.7 percent from their 1995 level of 0.8 percent, while those of common law firms increased to 1.23 percent from 1.15 percent.

With respect to indirect tax, and in line with the reform program objectives, the new VAT has led to an increase in tax levels among categories of firms, and a reduction in the gap between privileged and non-privileged firms. However, the gap between the two groups was still 62 percent in 1997, down from 86 percent in 1995.

**Table 8. Taxes Paid as a Percentage of Value Added**

	1995	1997
<i>Domestic Tax / VAT</i>		
Mean	5.86 (9.34)	9.17 (11.54)
Weighted mean	7.33	7.32
<i>Direct tax / VAT</i>		
Mean	2.91 (5.36)	2.63 (4.26)
Weighted mean	2.77	1.57
<i>Indirect tax / VAT</i>		
Mean	2.96 (6.16)	6.54 (9.61)
Weighted mean	4.56	5.75
Sample size	114	114

*Note:* Firm gross output is used as weights. Domestic tax: CIT, sales tax/VAT and NSSF; direct tax: CIT and NSSF; indirect tax: sales tax/VAT. Standard deviation in parenthesis.

### *Dispersion in Tax Burdens*

Given the tax reform's objective of increasing efficiency and equity in the tax system, it is relevant to ask whether the reform has in fact moved the tax structure toward more uniformity in tax payments. Indeed, if we assume that an ideal tax system is a neutral value added tax, the variance in tax burdens as a ratio of value added could be seen as a crude indicator of deviation from this ideal system (Tybout and others 1997).

Table 8 presents unweighted and weighted averages and variance in tax payments for both 1995 and 1997, with domestic tax expressed as a ratio of value added. Tax ratios are also broken down into direct and indirect tax payments.

On average, tax rates (unweighted) increased from 5.9 percent to 9.2 percent during the period, but contrary to the objective of leveling the playing field, dispersion also increased (see standard deviations in parenthesis). This was due mainly to an increase in the dispersion of indirect tax following the introduction of the VAT. Furthermore, there was little change in the tax burden by size category during the period, with weighted average tax rates remaining stable at 7.3 percent. However, the large size categories paid more indirect tax (VAT) at the end of the period, but offset by a lighter direct tax burden. Overall, the indirect tax burden increased to 6.5 percent, from 3.0 percent. The evidence suggests that the reforms were successful in directing the tax burden toward production-based taxes, but not in leveling the playing field, since the importance of special regimes increased, as did the dispersion of tax burdens among businesses.

## VII. The Role of Tax Administration

In order to assess the characteristics of the Ugandan tax administration, firms were asked about various forms of contacts with the URA. For example, they were asked whether they had been audited by the URA, if there were any differences between the firm's self-declaration and the revenue authority's assessment over the last three years (that is, in 1995–97), and if so, the percentage of the difference. They were also asked if they had to pay bribes to public officials, including tax collectors, and if so, how much. Table 9 presents information on these contacts by size category.

The sample firms were also asked to rank a number of constraints, including tax administration and tax burdens. Tax administration was perceived as the sixth most binding constraint overall (out of 24). Table 9 shows the percentage of firms reporting moderate to severe constraints (score between 3 and 5 on the scale of 1 to 5). On average, 64 percent of the respondents ranked tax administration and tax burdens as a major constraint (score 4). With regard to customs, 32 percent of respondents felt they represented a major constraint. Customs-related constraints increased with firm size, reflecting the fact that large firms are often importers.

**Table 9. Tax Administration**

<i>Variable</i>	<i>Number of employees</i>					<i>All</i>
	<i>2–5</i>	<i>6–25</i>	<i>26–75</i>	<i>76–200</i>	<i>&gt; 200</i>	
<i>Audit</i>						
CIT	0.313 (16)	0.227 (88)	0.539 (52)	0.525 (40)	0.636 (33)	0.415 (229)
VAT	0.188 (16)	0.524 (84)	0.623 (53)	0.800 (40)	0.719 (32)	0.600 (225)
<i>Assessments</i>						
In the last 3 years	0.200 (15)	0.528 (89)	0.536 (560)	0.575 (40)	0.500 (32)	0.513 (232)
If yes, difference in assessment in (%)	0.867 (3)	0.979 (96)	0.885 (28)	0.723 (21)	0.430 (15)	0.832 (113)
<i>Bribe</i>						
Amount	0.067 (8)	0.678 (63)	5.583 (43)	11.2 (36)	23.7 (26)	7.40 (176)
Bribe/sales	0.394 (7)	2.72 (63)	3.59 (41)	1.57 (33)	0.124 (24)	0.240 (168)
Bribe/workers	9.57 (7)	55.63 (63)	121.11 (43)	92.32 (36)	62.78 (26)	78.49 (175)
Frequency tax*	12.5 (16)	42.7 (89)	35.04 (57)	53.49 (43)	59.38 (32)	43.04 (237)
Frequency Custom*	10.00 (10)	29.17 (72)	29.55 (44)	55.00 (40)	58.06 (31)	38.07 (197)
<i>Constraint**</i>						
Tax	56.3 (16)	58.89 (94)	67.85 (56)	69.77 (43)	66.66 (33)	63.87 (238)
Custom	20 (15)	19.55 (87)	28.3 (53)	44.18 (43)	59.37 (32)	31.74 (230)

*Note:* Number of firms in parenthesis; bribe amounts in million Ush; \* percentage of firms having to pay bribes occasionally to always (between 3 and 5 on the scale of 1 to 5) when dealing with taxes and tax collection; \*\* percentage of firms ranking the constraint from moderate to severe obstacle (between 3 and 5 on the scale of 1 to 5).

## *Tax Audits*

The URA frequently makes use of tax audits, in the form of desk or field operations, or a mixture of both. Predetermined audit criteria do not exist, but factors such as the firm's compliance record, the quality of its returns and its size are said to be important. Indeed, the frequency of audits tends to increase with firm size. Overall, 41 percent of firms said they had been audited for the CIT, while as many as 60 percent had been audited for the VAT. The latter figure is equivalent to 75 percent of all VAT-paying firms. The number of audits in Uganda is high compared with other countries. For example, in Canada all large corporations (about 1,000) are audited, while for the rest (about 13,000) face audit rates of 5 percent or less. The high auditing frequency indicates a serious lack of voluntary compliance and a low level of mutual trust between the tax authority and the taxpayer (Chen and Reinikka 1999).

A probit analysis of the firm survey data reveals features of the auditing practice (Table 10). The dependent variable is a dummy that takes the value one if the firm was audited and zero otherwise. With respect to corporate income tax, there are noticeable

**Table 10. A Probit Model for the Incidence of Tax Audits**

<i>Equation</i>	<i>AuditCIT</i>	<i>AuditVAT</i>
Constant	-1.255 (-3.75)	-1.184 (-3.098)
Log(size)	0.301 (3.757)	0.291 (3.654)
Profit	-1.13E-11 (-1.486)	-1.08E-11 (-1.497)
Construction	0.151 (0.416)	0.238 (0.656)
Manufacturing	-0.382 (-1.488)	0.338 (1.291)
Tourism	0.301 (0.867)	0.931 (2.419)
Agriculture	-0.423 (-1.243)	-0.447 (-1.304)
Kampala	0.612 (2.951)	0.353 (1.676)
CIT exemption	-0.255 (-2.294)	
Exemptions		0.242 (1.478)
Number of observations	200	197
Ln (likelihood)	-116.39	-110.31

*Note:* All variables except dummies are averages over a three-year period (1995–97). t-values in parenthesis.

differences between the firms that were audited and those that were not audited in the previous three years. Three explanatory variables are significant. First, as might be expected, the firms avoiding tax audits were typically smaller. Second, firms located outside the capital city Kampala were also less likely to be audited. Third, firms that had been granted corporate tax exemptions were less likely to face a corporate tax audit. Consequently, the firms that reported audits for corporate tax were typically larger, located in Kampala, and did not have corporate tax exemptions. However, profitability of the firm or the sector does not appear to affect the incidence of corporate tax audits. There are some differences in the profile of firms audited for the VAT. As was the case for the CIT, the firms audited for the VAT were typically larger, but in their case location of the firm did not matter (Table 10). Interestingly, firms in the tourism sector were much more likely to be audited for the VAT than firms in other sectors. As we saw above, tax evasion was highest in tourism (and agroprocessing).

#### *Assessments*

When the URA “assesses” the tax returns submitted by businesses, the firm’s own tax assessment may be accepted, or the tax officer may determine a higher assessment requiring an additional tax payment. As Table 9 shows, about half of the firms in the sample had disagreed with the URA over their tax assessment during 1995–97. The difference in the assessment averaged 83 percent of the firm’s tax payments, which is a high share. While the difference in tax assessment as a percentage of tax payment decreases with firm size, there appears to be a clear relationship between the frequency of differences in tax assessments and the size of the firm.

A probit analysis of the probability of a disagreement with the URA over a tax assessment during 1995–97 shows that this probability is significant and negatively correlated with tax exemptions, and significant and positively correlated with corporate tax audits, but not with VAT audits (Table 11). The size of the firm is not significant, however, when we control for exemptions and audits.



**Table 11. A Probit Model for the Incidence of Disagreements about Tax Assessments**

<i>Equation</i>	<i>Assessment</i>
Constant	-0.149 (-0.579)
Size	-0.001 (1.606)
AuditCIT	0.668 (3.243)
AuditVAT	0.095 (0.445)
Profit	-6.98E-13 (-0.084)
Construction	0.351 (1.015)
Manufacturing	0.229 (0.889)
Tourism	0.095 (0.274)
Agriculture	-0.258 (0.769)
Exemptions	-0.375 (-2.348)
Number of observations	196
Ln(likelihood)	-122.97

*Note:* All variables except dummies are averages during 1995–97. t-values in parenthesis.

It seems quite obvious that the more exemptions a firm has, the less likely it is to disagree over its tax assessment. Similarly, since a tax audit is often carried out if the initial (desk) assessment by the revenue authority differs from the taxpayer's own declaration, it is not surprising that the audit becomes significant and positive in the regression. The VAT audit might also be expected to be significant, but it is not. Other factors, such as sector, location, size and the profitability of the firm are not significant either, suggesting the absence of a clear firm profile in the incidence of disagreements over the tax officer's assessment.<sup>8</sup>

<sup>8</sup> To examine the extent to which the tax assessment differed from a firm's own declaration, we use the same explanatory variables, i.e., sector, location, size and profitability of the firm, access to tax exemptions, and whether or not the firm has been audited. The regression results, adjusted for selectivity as only those firms that had disagreements were included, shows that none of these variables is significant.

## *Bribes*

Firms were also asked if they usually paid special amounts or bribes to tax and customs officers, and if so, the amount. Bribe payments to tax officials are a means of gaining favors, and especially of reducing tax obligations or payments. As emphasized by Shleifer and Vishny (1993), bribe payments to public officials lead to inequities and inefficiencies in tax administration, since they result in a transfer to private agents of a public resource, thus reducing government revenues. They also constitute a major impediment to equitable and efficient tax administration, placing firms that do not engage in such practices at a competitive disadvantage. It is therefore important to assess the extent of the practice. As Table 9 shows, 102 of 237 firms (43 percent) reported paying bribes to tax officials occasionally to always, while 75 out of 197 (38 percent) reported having to pay bribes to customs officials. The frequency increases with firm size, since 60 percent of large firms said they paid bribes to tax officials (occasionally to always) compared with just 13 percent of smaller firms. The average amount of bribes paid to public officials was Ush 7.4 million or 0.24 percent of annual sales (see also Svensson 2001). The actual burden of bribe extraction by public officials, which falls in absolute terms on larger firms, is in fact heavier for medium-sized firms, which pay larger bribes. Indeed, in terms of the ratio of bribe payments to sales value and the ratio of bribe payments per worker, medium-sized firms again pay more, at 3.5 percent of sales for the 26–75 employee category. This is 29 times more per unit of sales than larger firms, and 9 times more than smaller firms.

## *Accounting*

Another difficulty associated with effective tax administration and the resulting tax evasion problems is the failure of many businesses to keep tax records. Radian (1980), for example, reports that some smaller businesses may not keep accounts of their own operations because their owners, managers or operators may be illiterate.

The behavior of our sample firms in Uganda (as in Cameroon) does not support this assertion. As Table 12 shows, 91 percent of firms actually kept accounts. There were significant differences between size categories. Only 38 percent of small firms (less than 6 employees) kept books. However, as many as 89 percent of firms with between 6 and 76 employees said they kept accounts, and all firms with more than 76 employees said they did. While almost all the firms that did not keep accounts were evaders (94 percent), over half of the evaders kept accounts. Some 13 percent of the firms evading all three taxes (corporate tax, VAT, and NSSF) did not keep accounts. Similar behavior was observed in Cameroon.

**Table 12. Variation in Evasion and Keeping Accounts (1997)**

	<i>Keep accounts</i>	
	<i>Yes</i>	<i>No</i>
All firms	91.1	8.9
Evader	51.2	93.8
Evade all taxes	0.6	12.5
Sample size	164.0	16.0

*Source:* Uganda Enterprise Survey (1998).

### VIII. Conclusion

Tax administration and tax system reforms have been important components in Uganda's economic reform program since the early 1990s. The main objectives of these government initiatives have been to increase public revenue and level the playing field by enlarging the tax base, curtailing special tax regimes, introducing a VAT, and attempting to increase tax administration's efficiency, in particular by reducing corruption and evasion.

Based on firm-level data collected from 243 businesses in a survey conducted by the World Bank and the Private Sector Foundation, this paper investigated the prevalence of tax evasion and exemptions among businesses in Uganda and their effects on the distribution of tax burdens during 1995–97. We observed that, despite the reforms, tax evasion and exemptions were widespread and their prevalence actually increased during the period studied. Exemptions increased in prevalence and importance as a proportion of sales and import value, while evasion continued to be significant, affecting almost half the firms in the sample. The evidence indicates that tax exemptions benefit larger businesses to a disproportionate degree, while tax evasion is more common among smaller businesses. This creates a situation in which medium-sized firms shoulder a disproportionate tax burden. The inverted U-shaped relationship between tax burden and firm size places medium-sized firms at a competitive disadvantage compared with smaller and larger firms.

Furthermore, the dispersion of tax burdens (that is, the spread of tax payments among firms) increased during 1995–97, which did not meet at least initially the stated reform objective of leveling the playing field. This is explained mainly by the increased variance of indirect tax burdens associated with the VAT. Indirect tax levels and total tax levels, however, increased during the period studied, in accordance with the objective of increasing government revenues.

Finally, firms audited for corporate tax and the VAT by tax administration are typically larger and do not have access to (corporate tax) exemptions. Half of the

Ugandan firms challenged their tax assessment carried out by the revenue authority. The difference between the authority's assessment and the firm's self-declaration was, on average, 83 percent. The probability that the firms' own assessment is different from that of the tax administration's is significant and negatively correlated with tax exemptions. Indeed, tax exemptions appear to be an effective way to avoid dealings with tax administration, which otherwise appears more likely to target larger firms in its effort to reduce evasion.

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Annex Figures

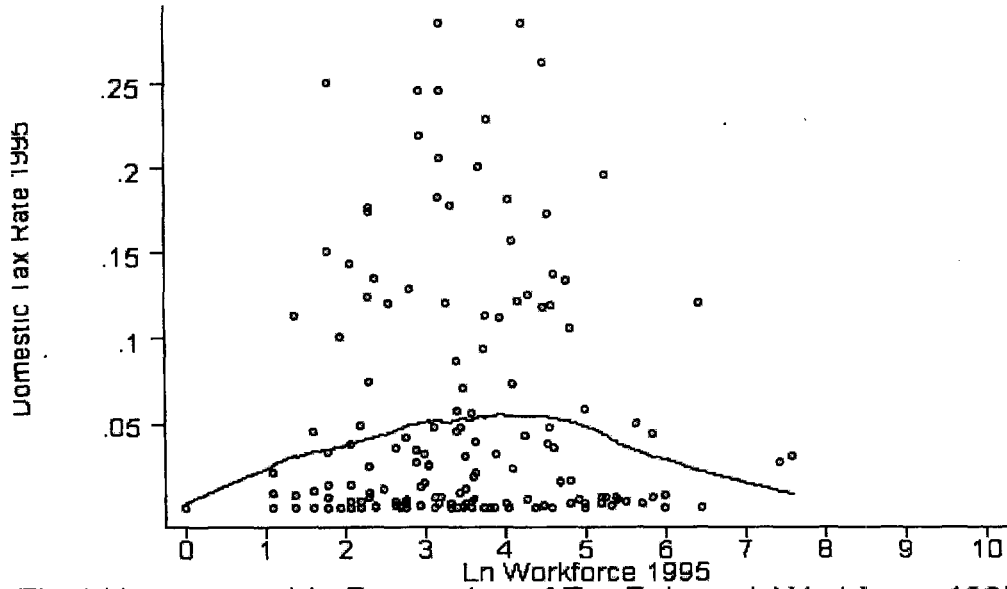


Fig 1 Non-parametric Regression of Tax Rate on InWorkforce 1995

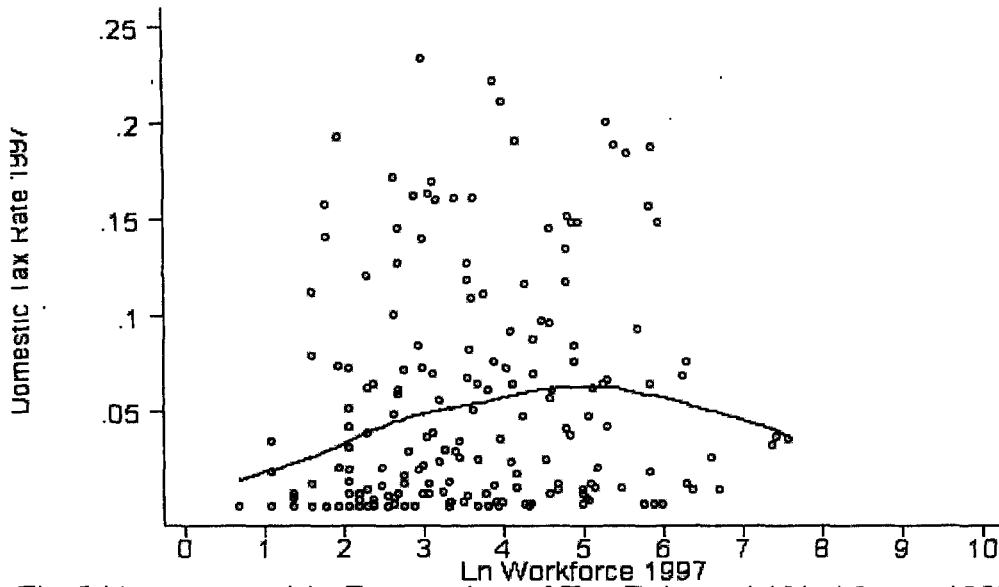


Fig 2 Non-parametric Regression of Tax Rate on InWorkforce 1997

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